E 17/D1

1 PLAN

RAY L. HARRISON & ASSOCIATES
CONSULTING ENGINEERS

1517-A GIRARD BLVD. NE
ALBUQUERQUE, NEW MEXICO 87106
(505) 265-4276

DRAINAGE PLAN
LOT 5 A, UNIT 1
INTERSTATE INDUSTRIAL TRACT

This site will be developed as a warehouse facility. The Drainage Report of Gordon Herkenhoff and Associates dated March, 1974 required that all drainage be diverted to the street, because of the natural grade of this lot that is not possible. The drainage will be retained in a pond with a 3" pipe drain to the drainage easement at the back of the lot. The drainage calculations are shown on the Grading and Drainage Plan.

Ray L. Harrison
Ray L. Harrison
P. E. & L. S. 2198
State of New Mexico

RICHARD E. LEONARD
EXECUTIVE ENGINEER

B. H. SWINBURNE, CHAIRMAN
WILLIAM V. HEREFORD, VICE-CHAIRMAN
FRANCES McCOY, SECRETARY-TREASURER
VERNON DOAK, DIRECTOR
LESTON LAWS, DIRECTOR

Albuquerque
Metropolitan
Arroyo
Flood
Control
Authority

2600 PROSPECT AVE. N.E.
P. O. BOX 25851 - ALBUQUERQUE, N. M. 87125
TELEPHONE 344-3516

F17-01

July 15, 1980

To: Albuquerque/Bernalillo County Planning Division

From: R. Leonard, AMAFCA REL

Subject: S-1512-1, Subdivision of Tract D, Unit III
Interstate Industrial Tract

This comment is in addition to AMAFCA's comment of June 30th.

Plat approval should be contingent on one of the following:

a. Agreement by landowner to construct an improved channel for the Pino Arroyo plus dedication of sufficient ROW for the channel and a maintenance road.

b. Dedication of 100-year floodplain plus provisions for protecting property along south side of Pino Arroyo.

cc: J. Davenport
R. Heller
H. Leach
J. Clifford

RSH	RSH	ADM	
HRO	RSH	SUR	
CDS		COUN	
DES	GK	SEC	
INSP		FILE	
HYDRO		RETURN	

copy in Acad Read file

JACK M. CLIFFORD & COMPANY
TWO SAN PEDRO PARK, SUITE 201
2201 SAN PEDRO DRIVE NE
ALBUQUERQUE, NEW MEXICO 87110
PHONE (505) 884-5573

February 8, 1980

C 16

E17-D1a

Mr. Richard Heller
City Engineer
City Hall
400 Marquette St., NW
Albuquerque, New Mexico 87102

Dear Mr. Heller:

This letter requests a follow-up interview to our meeting of January 18, 1980 which concerned drainage problems west of I-25 between Richfield Road and Los Angeles Avenue, NE. We are especially appreciative of the spirit of cooperation evidenced during that meeting, and wish to thank you for your action of January 24, 1980 which allows us to proceed with final platting of a portion thereof.

At our next meeting, whose date we ask that you establish, we are asking for your help in resolving the following problems:

1. The handling of drainage at the west end of Hawkins, NE

   Lacking a final determination on the location of an outflow into the AMAFCA north diversion channel, owing to a problem with a City-approved and engineered drainage plan, sale of Lot 17 at the west end of Hawkins, NE has been held up for over one year.

   Accordingly, since the City engineered and gave us approval for the plan now being objected to by AMAFCA, we believe it is the City's responsibility to resolve the problem quickly without expense to our Company. The market value of this property is $170,319, and we request your urgent concern.

2. The handling of drainage improvements for lands draining north to Richfield Road, between San Mateo Blvd., NE and the 200-foot wide easement property bordering the east boundary of the City landfill site.

   In regard to the above, we will be requesting definitive answers to the following questions:

Please respond to the questions below. Clifford Co will be [illegible] 2/20 to [illegible]

RSH ____ ADM ____
HRO ____ SUR ____
CDS ____ COUN ____
DES ____ SEC ____
INSP ____ FILE ____

a. How does the City Engineer's Office propose handling flows generated in the above drainage area?

b. What total costs do you anticipate will result from installation of the drainage facilities which you will be proposing?

c. What area and properties do you propose share responsibility with the City for costs of required drainage improvements?

Our position in this regard is that all property owners receiving benefits should share pro rata in such costs?

d. What guidelines will determine how costs will be levied among responsible properties, and how must such costs be paid?

e. Can a subdivision in the area be approved for sale prior to actual installation of required drainage facilities?

The helpful attitude and prompt assistance you have rendered following our meeting on January 18, 1980, convinces us that your help is key to any real progress on drainage discussions for the area in question. Incidentally, these discussions now date from September 1979, without any discernible progress being made on most drainage problems of real concern. The sole exception has been your action of January 24, 1980.

At some later date we may also ask your aid in familiarizing the City Attorney with the facts of our joint drainage problems. Our attorney may well want to establish a legal position regarding our responsibility for drainage installation costs, before we can respond to the definitive proposals from your office which we have requested.

We will be calling you in the near future, requesting a meeting on the earliest date which makes possible your firm response to the questions we have noted.

Again, our appreciation for your past consideration and help.

Yours Sincerely,

Jack M. Clifford

Jack M. Clifford

JMC/cai
Enclosure

City of • Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

November 6, 1978

Mr. Phillip Ruby
900 Griegos Road, NW
Albuquerque, New Mexico 87107

Dear Mr. Ruby:

The drainage report prepared by Gordon Herkenhoff & Associates for Academy Parkway does not require ponding areas in this development. This letter is to confirm my verbal indication that I have no objection to the elimination of the ponds which have been constructed along Academy Parkway.

Very truly yours,

Bruno Conegliano
Asst. City Engineer-Hydrology

BC/gw

cc: Dwayne Sheppard, Acting City Engineer
Richard Leonard, AMAFCA
Drainage File

945-Misc.-78

GORDON HERKENHOFF & ASSOCIATES, INC.
302 Eighth Street, N.W.
Albuquerque, New Mexico 87102
(505) 247-0295

October 20, 1978

Mr. Bruno Conegliano
City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103

RE: GRADING PLAN FOR 6717 ACADEMY PARKWAY N.E.

Please be advised that on this date I have personally reviewed the grading and drainage plan for the above referenced location. I find that it is in compliance with and follows the intent of the Drainage Report For Unit 1 and Tracts B, D, E, and F of Interstate Industrial Tract, dated March 18, 1974 and prepared by Gordon Herkenhoff and Associates, Inc.

Very truly yours,

Wain Cooper

Wain Cooper, P.E.
WC:bk

letters Revised

GATHMAN · MATOTAN ARCHITECTS · PLANNERS INC.

August 18, 19 78

Bruno Conegliano
City Engineering Department
400 Marquette NW
Albuquerque, New Mexico

SUBJECT: Warehouse for W.W. Grainger, Inc.

Dear Mr. Conegliano:

This is to confirm the information we discussed in our meeting on August 17, 1978, in which we determined the following:

No ponding shall be required for the W.W. Grainger, Inc. warehouse and site improvements (parking, sidewalks, etc.) located in Academy Park NE, Albuquerque, New Mexico.

Sincerely,

James W. Rende

James W. Rende

enclosures: Zone Map E-17
Legal Description of Site

230 TRUMAN N.E., ALBUQUERQUE, NEW MEXICO 87108 TELEPHONE (505) 265-8329

LEGAL DESCRIPTION

LOT 7 OF A CERTAIN TRACT OR PARCEL OF LAND SITUATED IN SECTI ON 25 (AS PROJECTED) T.11N., R.3E, N.M.P.M., AND BEING A PORTION OF BLOCK C, UNIT 1 INTERSTATE INDUSTRIAL TRACT, CORRECTED AND AMENDED MARCH, 1975 AS FILED WITH THE BERNALILLO COUNTY CLERK ON APRIL 8, 1975.

see page e-17 of zoning atlas.

RECEIVED
AUG 03 1987
HYDROLOGY SECTION

OF COUNSEL
DON L. DICKASON
WILLIAM A. SLOAN
JACKSON G. AKIN
RAY H. RODEY

PEARCE C. RODEY (1889-1958)

JOHN D. ROBB
CHARLES B. LARRABEE
JAMES C. RITCHIE
WILLIAM C. SCHAAB
ROBERT M. ST. JOHN
JOSEPH J. SULLINS
DUANE C. GILKEY
MARK K. ADAMS
ROBERT G. McCORKLE
PETER G. PRIMA
BRUCE HALL
JOHN P. SALAZAR
WILLIAM S. DIXON
JOHN R. BURTON
REX D. THROCKMORTON
JONATHAN W. HEWES
GENE C. WALTON
RICHARD C. MINZNER
W. ROBERT LASATER, JR.
MARK C. MEIERING
VICTOR R. MARSHALL
PAUL D. BARBER
JAMES S. STARZYNSKI
CATHERINE T. GOLDBERG
PAUL A. COOTER
DIANE FISHER
TRAVIS R. COLLIER
JO EARTON BRAYER
S. I. BETZER, JR.*
EDWARD RICCO
W. MARK MOWERY
PATRICK M. SHAY
NANCY J. APPLEBY
DEBRA ROMERO THAL
ELLEN G. THORNE
WAYNE G. CHEW
HENRY M. BOHNHOFF
SHANNON L. DONAHUE
WILLIAM B. KIRLEY
TRACY E. McGEE
MATTHEW N. SPANGLER
DAVID C. DAVENPORT, JR.
CAMERON PETERS
CHARLES E. STUCKEY
NEAL W. HARDIN
DEBORAH A. PEACOCK
CHARLES R. PEIFER
JOSEPH B. ROCHELLE
SCOTT D. GORDON
MICHAEL J. CONDON
SUSAN L. SNYDER
ROBERTA M. PRICE
CHARLES R. PURCELL
JANE F. ARMSTRONG
JOEL F. JACOBSEN
JAMES P. FITZGERALD
ANGELA M. MARTINEZ
PATRICIA M. TAYLOR
OGDEN M. REID
ANDREW G. SCHULTZ

*LICENSED TO PRACTICE CA AND OK ONLY

RODEY, DICKASON, SLOAN, AKIN & ROBB, P. A.
COUNSELLORS AND ATTORNEYS AT LAW
20 FIRST PLAZA, SUITE 700
P. O. BOX 1888
ALBUQUERQUE, NEW MEXICO 87103
TELEPHONE 765-5900
AREA CODE 505
TELECOPIER 768-7395
TELEX 660401

SANTA FE OFFICE:
MARCY PLAZA, SUITE 101
123 EAST MARCY STREET
P. O. BOX 1357
SANTA FE, NM 87501-1357
TELEPHONE 984-0100
AREA CODE 505

WEST SIDE OFFICE:
SUITE 203 A
JEMEZ PROFESSIONAL BLDG.
3615 N. M. STATE RD. 528
P. O. BOX 1888
ALBUQUERQUE, NM 87103
TELEPHONE 765-5900
AREA CODE 505

WRITER'S DIRECT NUMBER

July 30, 1987
HAND-DELIVERED

Richard Dineen, Chairman
Development Review Board
City of Albuquerque
One Civic Plaza, N.W.
Albuquerque, New Mexico 87102

Re: DRB 87-0468 - Minor Subdivision by Clifford Partnership of Tract D-1, Interstate Industrial Tract

Dear Richard:

This firm is representing Jack Clifford & Company, the applicant with respect to the minor subdivision matter referenced above. On June 30, 1987 the DRB granted preliminary plat approval and delegated final plat approval to the City Engineer subject to the applicant's "guarantee to AMAFCA for the Channel improvements".

On behalf of Jack Clifford & Company, we request clarification of the above-quoted condition for final plat approval. We request that this clarification matter be placed on the DRB's August 4, 1987 Agenda. We are not requesting, at this time, a change to the approved preliminary plat and therefore we do not believe that the DRB's consideration of this matter requires submittal of a new application for subdivision approval.

Thank you for your consideration of this matter. If there is any problem with this request please do not hesitate to contact me.

Sincerely,

RODEY, DICKASON, SLOAN, AKIN & ROBB, P.A.

By
James P. Fitzgerald

JPF/ssg

cc: Robert Wharton
Jack Cloud
Fred Aguirre
Richard E. Leonard
John P. Salazar, Esq.

DRAINAGE REPORT

for

UNIT I & TRACTS B, D, E & F

of

INTERSTATE INDUSTRIAL TRACT

APPROVED FOR DRAINAGE

3 Apr 74

J. Kulick ACE

SIGNATURE DATE

ENGINEER'S

GORDON HERKENHOFF and ASSOCIATES INC.
ENGINEERS
albuquerque
PLANNERS
santa fe

DRAINAGE REPORT

for

UNIT I & TRACTS B, D, E & F

of

INTERSTATE INDUSTRIAL TRACT

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR No. 243 NEW MEXICO G. E. HERKENHOFF

I certify that this drainage report and plan was prepared under my direction, conforms to the Drainage Resolution (1972-2) and is true and correct to the best of my knowledge.

Gordon Herkenhoff 3-18-74

GORDON HERKENHOFF Date
P.E. AND L.S. # 242

ENGINEER'S STUDY ON STORM DRAINAGE
UNIT I & TRACTS B,D,E & F
OF
INTERSTATE INDUSTRIAL TRACT

PURPOSE AND SCOPE: The purpose of this study is to present the results of a drainage analysis performed and to make general recommendations for conveying storm water runoff from the subject area into the North Diversion Channel on the West and a smaller inlet channel on the North running along the base of the proposed AMAFCA South Pino Arroyo inlet embankment.

STUDY AREA: The study area is bounded on the South by the North R/W of Osuna Blvd.; on the West by the North Diversion Channel; on the North by a 200' Public Service Company Easement; and on the East by the East line of the Interstate Industrial Tract.

GENERAL: The Jack M. Clifford Company is currently developing the study area into an industrial complex, which will have tract sizes of 2 acres and up. This report consists of determining the peak runoff that can be expected from a 100 year storm, establishing minimum street grades that will handle the runoff, locating and sizing any required channels and in setting basic criteria for the platting of new tracts in the area as platting relates to storm runoff.

HYDROLOGY: The rational formula, $Q = AIR$, is used in determining the runoff with Q = peak flow, A = area in acres, I = intensity of rainfall (in. 1 hr.) and R = runoff factor. The 100 year storm curve from the intensity duration frequency curves from the Master

Plan Drainage for the City of Albuquerque and Environs, as prepared by Gordon Herkenhoff and Associates, 1963, is used to determine the rainfall intensity. The runoff coefficient is 0.85, which is the weighted average of the runoff coefficient for roof areas (1.00), paved parking areas (0.90), paved streets with curb and gutter (0.90), and unimproved areas (0.35). The initial time of concentration has been determined with the accumulated time based on travel time for the runoff in the streets.

The drainage areas, as they would appear after development, are delineated on a 1" = 200' scale map included with this report. This map was traced directly from a Orohophoto Topographic Map which is available from AMAFCA. No offsite runoff is significant, due to the existing streets which intercept the runoff. The hydraulic analysis for all storm water carriers is based on Mannings Formula, $Q = \frac{1.486}{N} S^{\frac{1}{2}} R\ 2/3\ A$. The values of "N" are 0.015 for paved sections, 0.030 for earth sections. Included with this report are two charts, which were taken from the Master Plan of Drainage for Albuquerque. These two charts were used as design aids in checking the carrying capacity of the streets and the small earth channels. The area immediately East of tracts B, D & E will have some runoff, but can be carried north ward by small drainage carriers located in the easement in the back of the tract. In the event this storm water should end up in Washington, the channel at the end of the Cul-de-sac has sufficient size to handle it.

SITE DEVELOPMENT: Site development will be accomplished in two stages. The first will be the area adjacent to Washington Street

and the second will include all the undeveloped area between the Channel on the West and the tracts on the West side of Washington. The first area currently has several tracts already in a stage of development; with tracts B, D, E and F yet to be platted. All runoff that will be collected in Washington Street will be carried to the North and taken out through a 20' drainage easement at the end of the cul-de-sac and emptied into the South Pino Channel. This channel is currently under design by others and any future street grades of Washington will have to allow the storm water to flow north to the end of Washington, into the drainage easement and to the new channel. Particular emphasis should be placed on the grading of the cul-de-sac so as not to allow any standing water which will allow the street to become silted.

The streets in the second area must have the minimum grades as indicated while paying particular attention to the westerly street in the loop. This street should transition from the normal crown into a super elevated street. This will allow any storm water carried in the inside of the street to pass onto the outside and into the east-west channel on the west side of the road. Until such time as the tract is fully developed, silting can be anticipated, particularly in the vicinity of the extreme northwest bend in the loop street. Such silting could reduce the effective cross section of streets and cause overflow in severe storms. We therefore recommend that particular attention be given to elevating finished floor elevations above the top of curbs on the northerly half of the west leg of the loop. There currently exists a possibility that the most westerly street of the loop will be shifted westward and be

centered on the west line of the 150' Public Service Company easement. If this occurs, the streets affected will still have sufficient carrying capacity to handle the additional runoff. The street entering the site from Osuna should have a water block to insure that no runoff in Osuna will enter the area. An additional Water Block will be required in the East-West street entering the site from Washington.

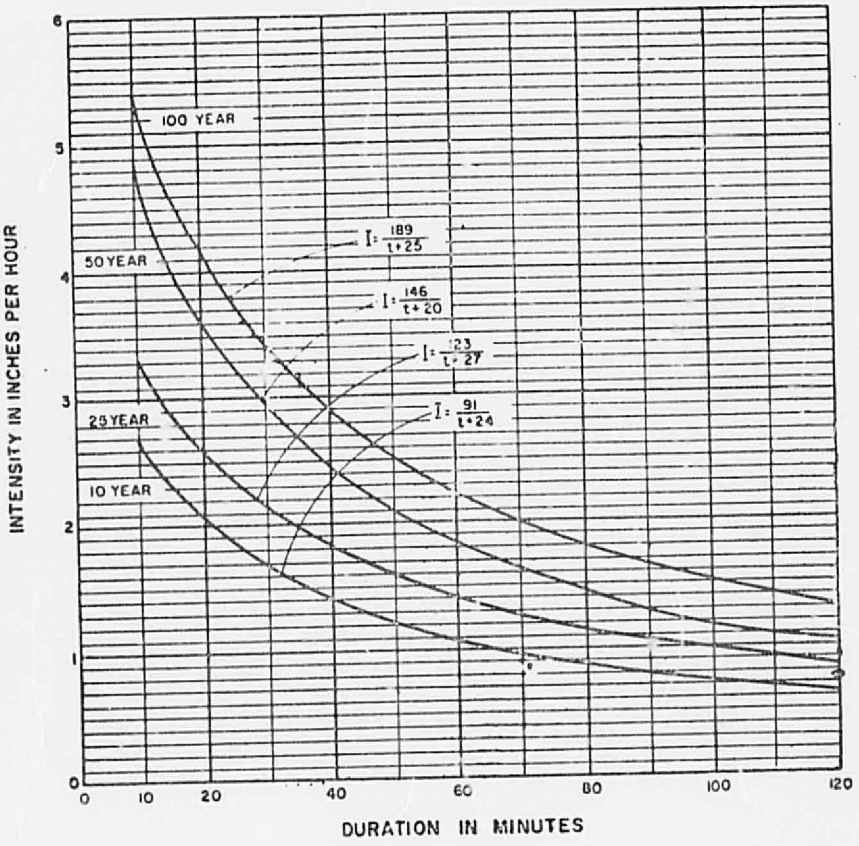
The street going into the loop from Osuna as well as lots along Osuna should have a water block to insure that no water in Osuna will enter the site. The east-west street going into the loop area from Washington should also have the same kind of water block. The runoff from the westerly side of the site will be intercepted by an existing carrier located adjacent to the main channel.

Tracts B, D and E have been provided with drainage and utility easements on the back property line to intercept the runoff from the Envirico Tract to the East. The development of Tract B should allow this water to flow through to Washington Street in the drainage easements provided. Tracts D and E can be developed so that the runoff can be intercepted by a small ditch and carried northward along the back lot line and into the proposed channel.

Finished floor elevations should be established at a minimum of 1.5 feet above the top of curb with the following exceptions: 1) 2 feet above top of curb for those structures having frontage on the west side of Washington street. 2) 2 feet for those structures having frontage on the Northerly and Westerly side of the Northwest portion of the loop (for a distance of 300' measured each way from

the centerline P.I. of the street).

RECOMMENDATION: We recommend that this drainage report and plan be adopted by the developer and that any future development follow this plan accordingly.



INTENSITY DURATION FREQUENCY CURVES

STREET CARRYING CAPACITIES
(CFS)

Slope	32' Street 6" Crown at center line or 6" sidehill with no crown	32' Street Flat Cross-section	32' Street 6" Inverted crown at center line	32' Street with 8" sidehill with no crown	32' Street with 12" sidehill with no crown	40' Street 6" Crown at center-line or 6" sidehill with no crown	44' Street 6" Crown at center-line or 6" sidehill with no crown	48' Street 6" Crown at center-line or 6" sidehill with no crown
0.0025	37	78	133	25	17	47	51	56
0.0050	53	111	189	36	23	66	72	79
0.0075	65	136	231	44	29	81	89	97
0.0100	75	156	267	51	33	93	102	112
0.0125	84	175	299	57	37	104	115	125
0.0150	92	193	328	62	41	114	126	138
0.0175	99	207	352	67	44	123	135	148
0.0200	105	221	376	71	47	131	144	158
0.0225	112	235	400	76	50	139	154	168
0.0250	118	247	422	80	52	147	162	177
0.0275	124	260	444	84	55	155	170	185
0.0300	129	271	462	88	57	161	177	193
0.0325	134	282	480	91	59	167	184	202
0.0350	139	293	499	95	62	174	191	209
0.0375	145	304	518	98	64	180	199	217
0.0400	149	313	534	101	66	186	205	224
0.0425	154	322	550	104	68	192	211	231
0.0450	158	332	566	107	70	197	217	237
0.0475	163	341	582	110	72	203	223	244
0.0500	167	350	598	113	74	208	230	251

Coefficient of Roughness = n = 0.015 for all streets.
Carrying Capacity Given in Cubic Feet per Second (C.F.S.)
Arterial Design (Stage & Final) has a +2% Slope from the Top of Curb to the top of Median Curb.
Curb Height = 8"

CARRYING CAPACITIES OF LINED AND UNLINED CHANNELS

In CFS

	25' Easement				30' Easement			
	Earth		Gunite or Asphalt Macadam		Earth		Gunite or Asphalt Macadam	
Slope	B=10' T=15' W=13' D=0.75' H=1.25' SS=2:1 CY=0.58	B=1.6' T=15' W=11.6' D=2.5' H=3.35' SS=2:1 CY=1.02	B=10' T=15' W=13' D=0.75' H=1.25' SS=2:1 CY=0.58 P=17.61	B=1.6' T=15' W=11.6' D=2.5' H=3.35' SS=2:1 CY=1.02 P=18.6	B=10' T=20' W=18' D=2.0' H=2.5' SS=2:1 CY=1.39	B=2.12' T=20' W=15.12' D=3.25' H=4.47' SS=2:1 CY=1.43	B=10' T=20' W=18' D=2.0' H=2.5' SS=2:1 CY=1.39 P=23.36	B=2.12' T=20' W=15.12' D=3.25' H=4.47' SS=2:1 CY=1.43 P=24.12
0.0025	16	49	22	67	90	98	123	134
0.0050	23	69	31	94	128	139	175	189
0.0075	28	84	38	115	157	170	214	232
0.0100	32	97	44	133	181	196	247	268
0.0125	36	109	49	149	202	220	277	300
0.0150	39	120	54	164	222	241	304	329
0.0175	42	128	58	176	238	259	326	353
0.0200	45	137	61	188	255	277	348	377
0.0225	48	146	65	199	271	294	370	401
0.0250	51	153	69	210	285	310	390	423
0.0275	53	161	72	221	300	326	410	444
0.0300	55	168	75	230	312	339	426	463
0.0325	58	175	78	239	325	353	444	482
0.0350	60	182	82	249	338	367	462	500
0.0375	62	189	85	257	350	381	478	519
0.0400	64	195	87	266	362	392	494	535
0.0425	66	200	90	274	372	404	508	551
0.0450	68	206	92	282	383	416	523	567
0.0475	70	212	95	290	394	428	538	583
0.0500	72	218	98	297	404	439	552	599

Coefficient of Roughness = n=0.030 (Earth), n=0.022 (Gunite)

Carrying Capacity given in cubic feet per second

CY = Cubic Yards of excavation per lineal foot of channel

P= Square Feet of Paving per lineal foot of channel with one foot of blanket on top of side slope.

Note: The first column under each the earth and gunite channel presents data for that most easily constructed with standard mass excavation equipment. The second column shows data for the most hydraulically efficient section. Portland cement concrete or asphaltic concrete smooth finishes will have twice the carrying capacities designated under earth channels.