

INDEX

BARRETT DAM

DRAWINGS.

*Note Books*

LEVEL BOOK

330

W140

**MICROFILMED**

JAN 8 1965

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Barrett Dam Drawings

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Note Books

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BARRETT DAM DRAWINGS

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103	Water Resources - Sweetwater Drainage Basin Runoff.	
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119	Water Resources Morena
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123	Location + Sections of Borings
124	Plan
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126	Elevations
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129	Barrett Reservoir Photographs
130	Barrett Reservoir Topography
131	Crusher Foundation
132	Crusher Layout
133	Belt Conveyor Layout
134	Belt Conveyor Details

No	Subject	
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136	Mixing Plant + Bin Foundations.	
137	Measuring Hopper.	
138	Hydraulic Control - Mixer feed	
139	Chuting System for Concrete Placing	
140	Water Resources - Comparative Drainage Basins	Runoff of Morena - + Morena - Barrett
141	Water Resources Comparative	Runoff of Morena - + Morena - Barrett Systems
142	Water Resources Comparative	Runoff Sweetwater + Lower Otay
143	(Outlet Tower) Superseded	
144	Barrett Dam Hauling Road	
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No

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- 148 Superintendents Bunkhouse.
- 149 Cement House 1000 Barrels
- 150 Temporary Diversion Flume.
- 151 Conduits Walkers House
- 152 Guest House
- 153 Blacksmith Shop
- 154 Toilet + Washhouse Married Quarters
- 155 Topography - Interval 5'
- 156 Belt Conveyor #1
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- 158 Construction Plant Conveyor #2

159 Construction Plant Automatic Feeder  
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160 Hauling Road Right of Way

161 Hauling Road right of way  
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Tracing  
162 Lyons Valley County Highway

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163 Star Drill Bit

Tracing  
164 Construction Plant Timber Tower For  
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Tracing  
164A Construction Plant chuting plant  
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Tracing  
165 EL CAPITAN DAM  
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Tracing  
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Tracing  
167 Outlet Tower 30" Pipe Assembly

Tracing  
168 Curtain Wall Conservation 1920-21 Runoff

Tracing  
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173 Reliner for Insley Concrete Chute

174 Reliner for Lakewood " 9'-11 1/2" section

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175-A Pin for Hoist bucket

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Pencil Drawing

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Pencil Drawing

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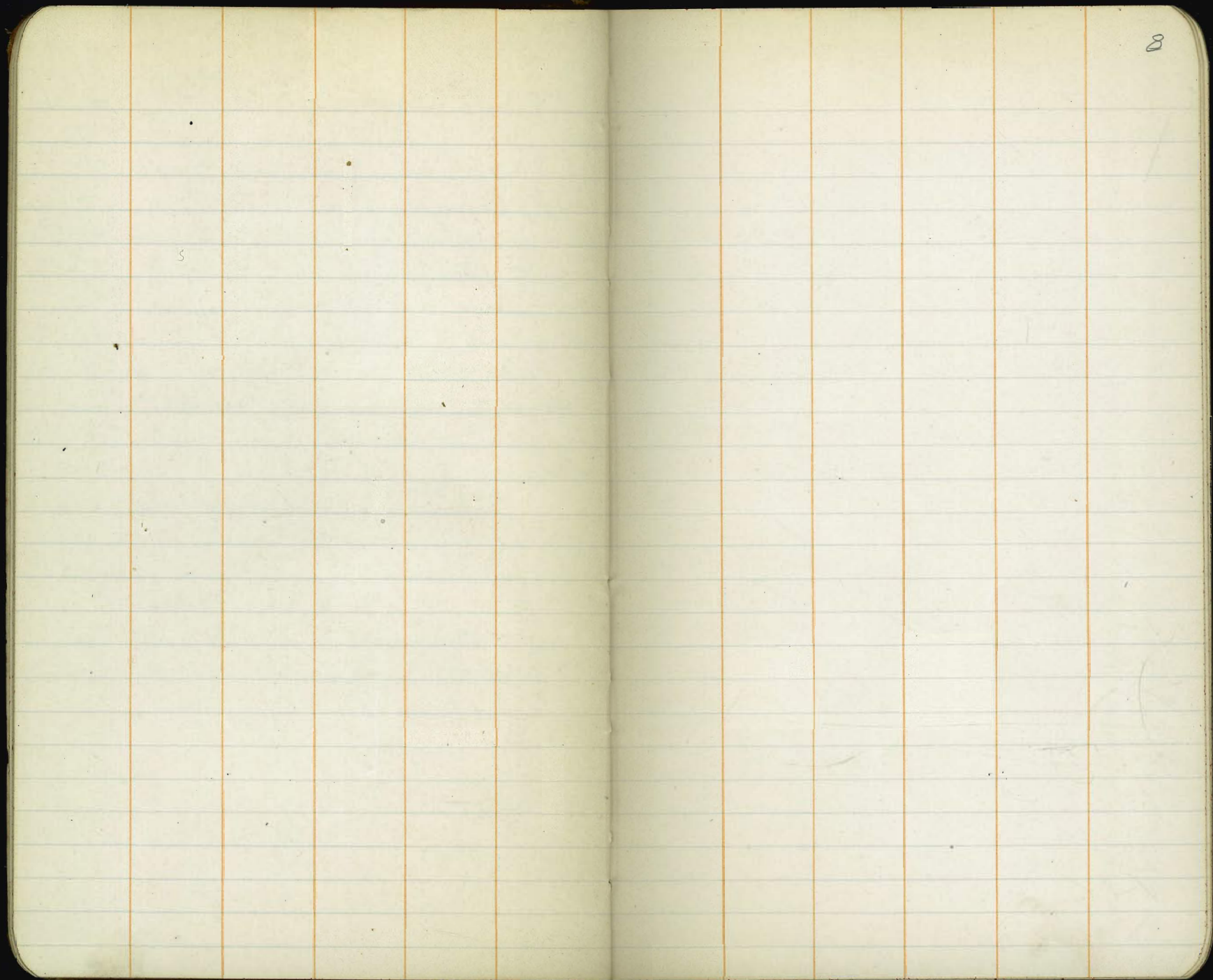
186 Pencil Standard Size Hoist & Motor Base Tower # 2

187 Pencil Small Standard Car Wheels

188 Pencil Small - Reliner for Permanent Concrete  
Chute.

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- 5189 Barrett Dam Sand Recovery Loading Bin  
5125A Barrett Dam Sections  
5190 Barrett Dam Outlet Tower 30" Flap Valve  
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5-194 Tracing from BP General Electric Co. Connections of I.G. Rheostat  
5-193 - Barrett Dam - 3" x 12" Horizontal Slit <sup>Fall</sup> West Tower  
5-194 - " " Alleyway Tail Poles numbered members  
5-195 - " " Water Supply Pipe for Hauling Road  
5-196 " " Skaff for #2 Tower Hoist  
5-125A Barrett Dam Sections Tracing  
5-197 Barrett Dam Overflow Section Bridge  
5-198 " " Out Let Tower Operating floor  
5199 Small Pencil drawing <sup>Barrett Dam</sup> Spillway Forms  
5200 Large Tracing Overflow Section Rib Form  
5201 Cromwell's Spillway Automatic Flash Gate  
    — Sheets one & 2.  
5202 Paper Pencil 1/4" Eye Bolt.  
5203 Tracing Stop Flank Groove of Section





2/15-21  
Bud

# Barrett Dam Tracings

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No	Subject		
124	Barrett Dam-		Plan
125	"	"	Sections
128	"	"	Construction Plant <i>General layout</i>
143	"	"	Outlet Tower
144	"	"	Hauling Road
145	"	"	Construction Camp
146A	"	"	" Plant
152	"	"	" Camp
153	"	"	" Plant
154	"	"	" Camp
164	"	"	" Plant
164A	"	"	" " " " " " " "
168	"	"	Curtain Wall for
S-169	"	"	Outlet Tunnel
S 170	"	"	Plan of Sections
S-170	"	"	" " "
S 176	"	"	Outlet Tower
S-184	"	"	Cement Conveyor
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Guest House.  
 Blacksmith Shop  
 Toilet + Wash house Married Quarters  
 Timber Tower for Boom Suspended 16" chuting Plant.  
 " " " " " " " "  
 Conservation 1920-21 - Runoff.  
 Forms for Arch Lining  
 To El. 1617- Syphon Spillways  
 " El. 1622 " "  
 Pipe + Valve Supports.  
 30" Flap Valve  
 30" Saucer Valve.

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2/15-21  
Bub

Standard Size  
Detail Paper Pencil Drawing.

S-123	Barrett Dam	Location and	Sections of Borings
S 125	" "	Sections	Preliminary
S-125-A	" "	Sections	
S-130	" "	Reservoir	
S-135	" "	Crushed Rock Bins	+ Mixing Plant
S-137	" "	Detail-Measuring	Hopper - Mixing Plant.
S-143A	" "	Outlet Tower	
S-145	" "	Construction Camp	
S 146	" "	" Plant	
S 146-A	" "	" Plant	
S 149	" "	" "	Cement House - 1000 barrels
S-152	" "	Guest House	
S-153	" "	Construction Plant	Blacksmith Shop
S-156	" "	" "	Conveyor # 1
S 156-A	" "	" "	" 1
S-158	" "	" "	" 2
S-158-A	" "	" "	" 2
S-159	" "	" "	2 Automatic Feeder
S-159-A	" "	" "	" 2 " "
S 160	" "	Comparative - Right of Way	through Wilbur Grigsby's Ranch.
S 162	" "	Lyons Valley	County Highway.
S-164	" "	Construction Plant	Timber Tower, for Boom Suspended 16" Chuting Plant-
S 164-A	" "	" "	" " " " " " " " C
S-165	El Capitan	Location and	Sections of Boring.
S 165-A	" "	" "	" " "
S-165 B	" "	" "	" " "

Standard Size  
Detail Paper Pencil Drawings.

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S-167	Barrett Dam.	Outlet Tower	30" Pipe + Valve Assembly
S-167A	"	"	"
S-168	"	Curtain Wall	Conservation 1920-21 - Runoff.
S-169	"	Outlet Tunnel	Forms for Arch Lining.
S-170	"	Plan + Sections	
S-176	"	Outlet Tower	Pipe + Valve Supports.
S-184	"	Construction Plant	Cement Conveyor
S-184-A	"	"	"
S-189	"	Sand Recovery -	Loading Bin.







2/15/21  
Sub

Auxiliary File

Barrett Dam Drawings

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A-0	U.S.G.S. Index Sheet by Leitz.	
A-1	U.S.G.S. Sheet San Luis Rey	Quadrangle
A-2	U.S.G.S. Sheet Ramona	--
A-3	U.S.G.S. Sheet La Jolla	-1
A-4	U.S.G.S. Sheet Cuyamaca	--
A-5	U.S.G.S. Sheet India	"
A-5 1/2	U.S.G.S. Sheet Campo	"
A-6	Barrett Dam - Operating Department	Conduits Walker's house.
A-8	" " Preliminary Crushed	Rock Bulkhead
A-9	Original Sections Outlet Tunnel	below Lining
A-10	Section of Curtain Wall and	Preliminary estimate of excavation
A-13	Rock Chutes from Screen and	Crushers to belt conveyors.
A-14	Blue Print Insley Gravity 2	Tower Plant proposed by Garfield.
A-14 1/2	" " " " 3	" " " " "
A-15	" " Blaw-Knox proposed	Traveler
A-16	Sand Bin and Cableway to	Mixing Plant
A-17	Sand Box for Cableway.	
A-18	Wilson Creek Water Supply, Land	Ownership with traverse & elevations as far as fire place
A-19	Profile of Roads near Dam site	c
A-20	El. Capitan Dam site - Land	Ownership & flow line from Map by Sackett c
A-21	Barrett Dam Road Location + Profile	c
A-21-A	Comparative Routes for Hauling	Road. c
A-21-B	Barrett Dam Road Locations.	c
A-22	" " Location of Roads near	Dam site c
A-22 1/2	Profile Barrett Hauling Road - Barrett	Saddle East to Culvert. c



Auxiliary Files  
Barrett Dam Drawings

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A-23	Blue Print	Insley Erection Diagram	of Q.S. Wood Tower Boom Plant	C
A-24	Barrett Dam - Profile	Outlet Tunnel		C
A-25	"	" " under	Cableway	C
A-26	"	" " and	Cross section of Quarry Road	C
A-27	"	" " on Center	Line of Plant, Quarry to Mixing Plant	C
A-28	"	" " Rating Curve	Temporary Diversion Flume	C
A-29	"	" " Proposed Garage		C
A-30	"	" " Mixing Plant Cement Platform, Conveyor for Cement House		C
A-31	"	" " Hydrograph Runoff	Feb 22 1920	C
A-32	"	" " Flood	March-19-30-1920	C
A-33	"	" " Location Upper	Spoil track	C
A-34	"	" " Topography Sand	Storage Site below Conduits Walkers House	C
A-35	"	" " Hydrograph Flood	March 8-13 1920 7" x 10"	C
A-36	"	" " " "	" 19-30 1920 7" x 10"	C
A-37	"	" " Section Tia Juana River	at National Ave Bridge Flood Feb. 20-22-24-29 1920	C
A-38	"	" " Excavation Estimate	Computed Distances between Sections	C
A-39	"	" " White Print Dams +	Reservoir Site El Capitan	C
A-40	"	" " Computations for	Safe Gravity Section	C
A-41	"	" " Proposed chute +	Hoist for Conveyor #1	C
A-42	"	" " Topography Barrett	Reservoir	C
A-43	"	" " Quarry Blast	Holes	
A-44	"	" " S.D.A. Ry Track	Ties in Section 10-T18-R-5E.	C
A-45	El Capitan	Damsite Profile	of Section A- + Log of borings	C

Auxiliary Files  
 BARRETT DAM DRAWINGS.

A-46	Barrett Dam	Inspection Gallery	Profile	
A-46.A	"	"	"	
A-46-B	"	"	"	
A-47	Blue Print	Barrett Dam by	O'Shaughnessy	C
A-48	"	Detail Standard	Sewer Connections - 671 L - City Engr Office	C
A-49	"	Upper Otay Dam	Southern Calif Mountain Water Co. 1900	C
A-51	"	Chicago Pneumatic	Tool Co. Compressor Foundation	C
A-52	"	Proposed Silica Grinding	Plant - (Collins + Webb)	C
A-52.A	"	"	"	C
A-53	Pencil Sketch 18x30"	Ore Bin	Gate for Barrett Dam	C
A-54	Barrett Reservoir	Capacity	Curve	C
A-55	Barrett Dam	Crusher + Sand	Conveyor, Preliminary Details	C
A-56	Tracing	Barrett Dam Plan	O'Shaughnessy	C
A-57	Hydrograph	Sweetwater -	Morena - Barrett	C
A-58	Barrett Dam	Comparative	Runoff - Sweetwater	C
A-59	Barrett Dam	Sewer Profile		C
A-60	Brown Line Print -	Bear Canyon	Reservoir, Southern Calif. Mountain Water Co.	C
A-61	Blue Print -	Location S. D. A.	Ry. along Campo Creek	C
A-62	White Line Prints	Bear Canyon	Reservoir Southern Calif. Mountain Water Co.	C
A-63	Barrett Reservoir +	Dulzura	Conduit details.	C
A-64	Daily Hydrograph	Cotton Wood	Creek at Barrett Dam Site. 1920	C
A-65	Right of Way +	Track Map	S.D. + A Ry - Tia Juana to San Diego.	C
A-66	North Chollas	School Plans		C
A-67	Barrett Dam	Polar	Coordinates + Reference Pts	C
A-68	Chollas Heights	Reservoir	Southern Calif Mountain Water Co.	C

Auxiliary Files  
Barrett Dam Drawings

- A 69 Duplicate Plans Barrett
- A-70 Blue Print Contour Map Barr
- A 71 Barrett Dam Deminsion
- A 72 Computations - Safe Section

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Reservoir by O'Shaughnessy C  
at Damsite Mount Tecate Land + Water Co C  
Sections Scale 5' = 1" C  
for Barrett Dam Curtain Wall C















Tracings & Pencil Drawings  
Letter Size 7" x 10"

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—Tracings.—

- |       |                            |                     |  |
|-------|----------------------------|---------------------|--|
| S-157 | Barrett Dam                | Hydrograph Flood    | Discharge of Feb 20-25 1920                    |
| S-160 | "                          | "                   | Hauling Road Right of Way                      |
| S-161 | "                          | "                   | " " Right " " through M Ortega Property        |
| S-175 | "                          | "                   | Panel Forms                                    |
| S-180 | "                          | "                   | Concrete Tower Hoist #2                        |
| S-192 | Tracing from Blue Print by |                     | General Electric Co Connections of 16 Rheostat |
| S-193 | Barrett Dam                | 3" x 12" Horizontal | Strut North Tower Face.                        |
| S-194 | "                          | "                   | Cableway Tail Tower number members.            |
| S-195 | "                          | "                   | Water Supply pipe for Hauling Road.            |

Tracing + Pencil Drawing  
Letter Size 7"x10"

— Pencil Drawings —

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- |        |               |  |                         |
|--------|---------------|--|-------------------------|
| S-171  | Barrett Dam - | Shaft for Rock Bins                      |                         |
| S-173  | " "           | Reliner for 9'-11 $\frac{3}{4}$ " Insley | Concrete Chute          |
| S-173A | " "           | Pin for Concrete Hoist                   | Bucket                  |
| S-174  | " "           | Reliner for 9'-11 $\frac{1}{2}$ "        | Lakewood Concrete Chute |
| S-175  | " "           | Panel Forms                              |                         |
| S-178  | " "           | Reliner for 4' Insley                    | Concrete Chute.         |
| S-180  | " "           | Concrete Tower Hoist #2                  |                         |
| S-181  | " "           | Reliner for 5' Insley                    | Concrete Chute          |
| S-182  |               | Reliner for 5'-8" Insley                 | Concrete Chute.         |
| S-183  |               | Connecting Rod Pin                       | Automatic Feeder        |
| S-185  |               | Air Receiver                             |                         |
| S-187  |               | Standard Gauge Car                       | Wheels                  |
| S-188  |               | Reliner for Permanent                    | Concrete Chute.         |





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Barrett Drawings  
Auxiliary File

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No	Subject
1	U. S. G. S. Sheet - San Luis Rey Quadrangle
2	" " " Ramona "
3	" " " La Jolla "
4	" " " Cuyamaca "
5	" " " Indio "
5 1/2	" " " Campo "
6	Condots Walkers House
7	Employees Collage Class A.
8	Crushed Rock Bulkhead
9	Guest House.
10	Section of Curtain Wall + Preliminary estimate of Excavation.
11	Toilet + Wash House Married Quarters.



- | No | Subject  |
|----|--|
| 12 | Toilet + Wash House Laborers.  |
| 13 | Rock chutes from screen + Crushers to Belt Conveyors.                                    |
| 14 | Insley Gravity Plant proposed by Garfield.   |
| 15 | Blaw Knox Proposed Traveler.   |
| 16 | Sand Bin + Cableway to Mixing Plant.   |
| 17 | Sand Box for Cableway  |
| 18 | Wilson Creek Water Supply as far as fireplace, Land Ownership with Traverse + Elevations |
| 19 | Profile of Road near Damsite   |
| 20 | El Capitam Damsite. Land Ownership + flow line from Map by Sackett.                      |
| 21 | Hauser Creek Morena Dam Road Location  |
| 22 | Location Roads near Barrett Damsite.   |
| 23 | Guest House Fire place.  |

No	Subject
24	Topography Barrett Damsite O'Shaughnessy.
25	Profile under Cableway.
26	Profile + Crosssections of Quarry Road.
27	Profile on Center Line of Plant Quarry to Mixing Plant.
28	Rating Curve for Temporary Diversion Flume.
A 29	Garage
A-30	Mixing Plant, Cement Platform, + chute - Conveyor from Cement House.
A 31	Runoff Feb 20-25-1920
32	
33	
34	
35	

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## - Note Books -

- #1 Preliminary Surveys
- #2 Road Surveys.
- #3 Core Drilling Log
- #4 Layout of Dam
- #5 Bench Marks Levels.
- #6 Topography #1
- #7 Camp + Plant Layout
- #8 Tables + Reference
- #9 Monthly Estimate.
- 10 Field Book.
- 11 Field Book
- 12 Final Topog.
- 13 Concrete Monthly Est.
- 14 Field Book.
- 15 Final Topog.
- 16 Field Book
- 17 Monthly Excavation Est.
- 18 Final Topog -
- 19 Field Book
- 20 Field Book
- 21 Field Book.
- 22 Concrete Monthly Est.
- 23









— Inventory —  
Engineering Supplies - 1-1-20

- |                  |  |                    |
|------------------|--|--------------------|
| ✓ 1              | Buff + Buff Transit #11245               | ✓ Extension Tripod |
| Water Commission | →  |                    |
| - 1              | K + F Transit 75465                      | 3 1/2 leg Tripod   |
| ✓ 1              | Lietz Dumpy level # 5140                 | Extension Tripod   |
| ✓ 1              | 100' Chicago Steel Tape                  |                    |
| ✓ 2              | 50' Dietzen-Merrimac pocket tape         |                    |
| 5                | plumb bob - 3-14oz - 1-16oz              | 1-20oz             |
| ✓ 1              | steel straight edge - 2' x 4'            |                    |
| ✓ 1              | Perlimenter # 25940 - G. Grad - Zurich   |                    |
| ✓ 1              | set Beam Compass                         |                    |
| ✓ 1              | 300' steel tape                          |                    |
| 1                | Handaxe 4#                               |                    |
| 1                | New Dietzen 13' Rod Hundreds             | ✓                  |
| 1                | old Dietzen 13' " "                      | ✓                  |
| 1                | 10' Stadia Rod Hundreds                  | ✓                  |
| 1                | 16' Stadia Rod Hundred - Home made       |                    |
| 2                | steel Pickets 6'                         |                    |
| 1                | Drafting Table - Top 8' x 3.3 - 2 horses | ✓                  |



DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder stake for any width roadway, slope  $1\frac{1}{2}$  to 1. If ground is nearly level, the cut or fill at side stake is located by the double entry method in

left column and top row. The number in body

of table in same row and column gives distance

level estimate the difference in elevation between

the side stake and slope stake, lower target by this

amount if cut, elevate if fill. Add this amount

to cut or fill and find distance in table. Set up

rod at side stake and find distance to cut or fill. If it does not make the slight adjustment

necessary.

TABLE No. 2.

To find Tangent and External for curve of

any other degree, divide by degree of curve and

add correction found in column of corrections.

Degree of curve with a given  $T$  may be found

by dividing tangent, (or external), opposite  $T$  by

given tangent, (or external).

The distance from a point on the tangent to

the curve is very nearly the square of the tangent

length divided by twice the radius.

