

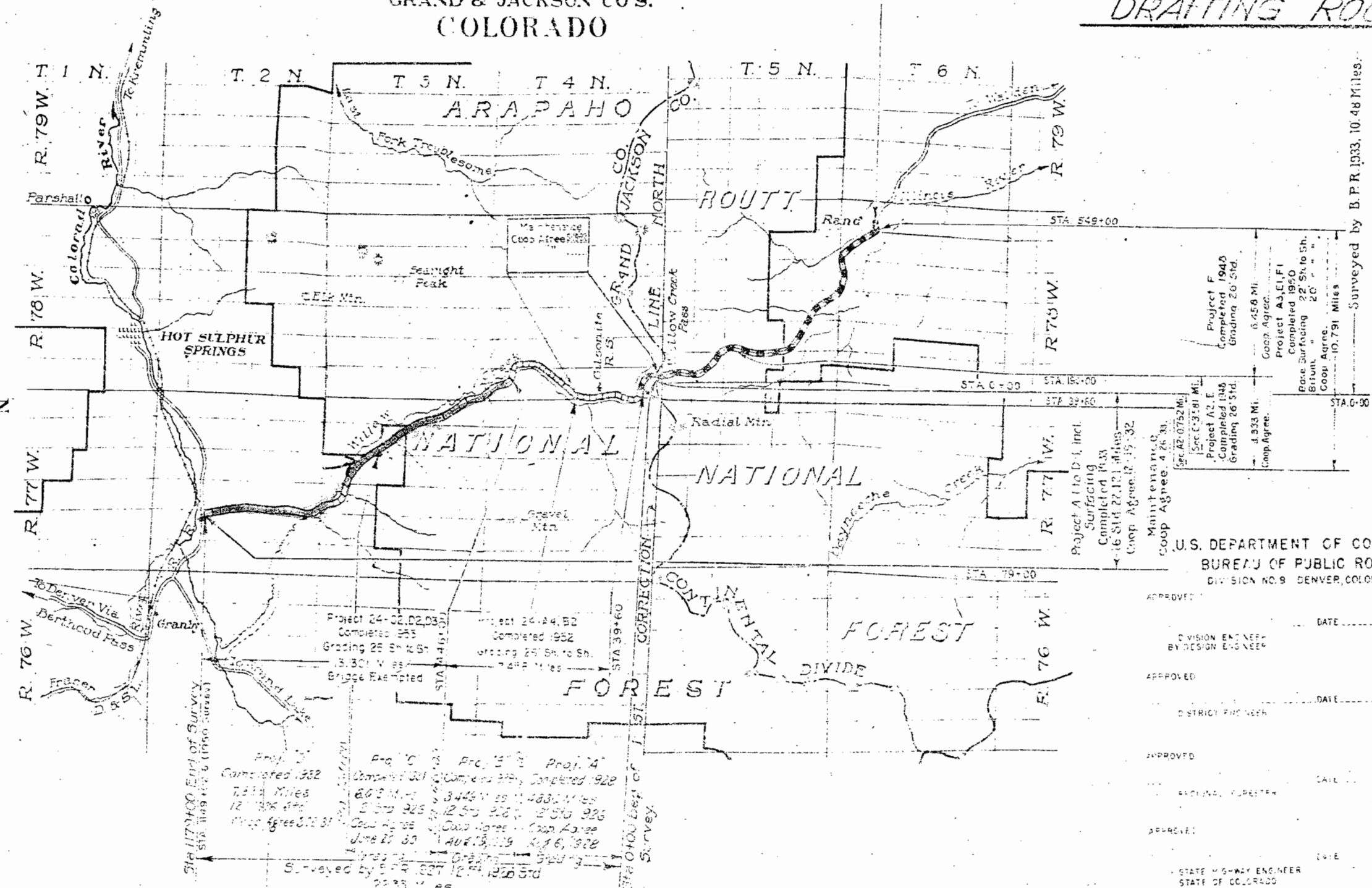
U.S. DEPARTMENT OF COMMERCE BUREAU OF PUBLIC ROADS

AS CONSTRUCTED PROJECT 24-C2,D2,D3 ROUTE 24 WILLOW CREEK PASS HIGHWAY JUNCTION U.S. 40 TO RAND 33 MILES CLASS 2 COLORADO FOREST HIGHWAY SYSTEM ARAPAHO & ROUTT NATIONAL FOREST GRAND & JACKSON CO.'S. COLORADO

INDEX TO SHEETS

NO.	DESCRIPTION	STA.
1	Summary	
2	Profile	446+00 to 450+00
3	Std. C.R.M. Hdw's for C.M.P. Culverts	
4	Std. Miscellaneous Structures	
5	Std. Maintenance Posts	
6	Std. Barbed Wire Fence	
7	Typical Construction Signs	
8	Strutting Detail for large Dia. C.M.P. Culverts	
9	Assembled Cattle Guard	
10	6' x 6' x 16' Ext.	850+15
11	Wye Connection	749+00
12	Cross Sections	446+00 to 450+00

DRAFTING ROOM



U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
DIVISION NO. 9 DENVER, COLORADO

APPROVED: _____ DATE: _____ 19__

DIVISION ENGINEER BY DESIGN ENGINEER

APPROVED: _____ DATE: _____ 19__

DISTRICT ENGINEER

APPROVED: _____ DATE: _____ 19__

NATIONAL FORESTER

APPROVED: _____ DATE: _____ 19__

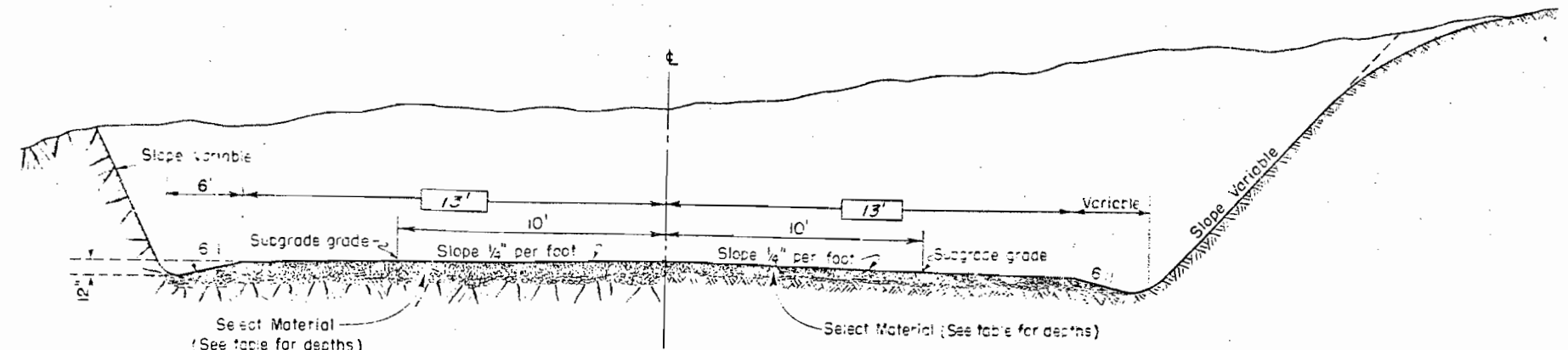
STATE HIGHWAY ENGINEER STATE OF COLORADO

INDEX MAP



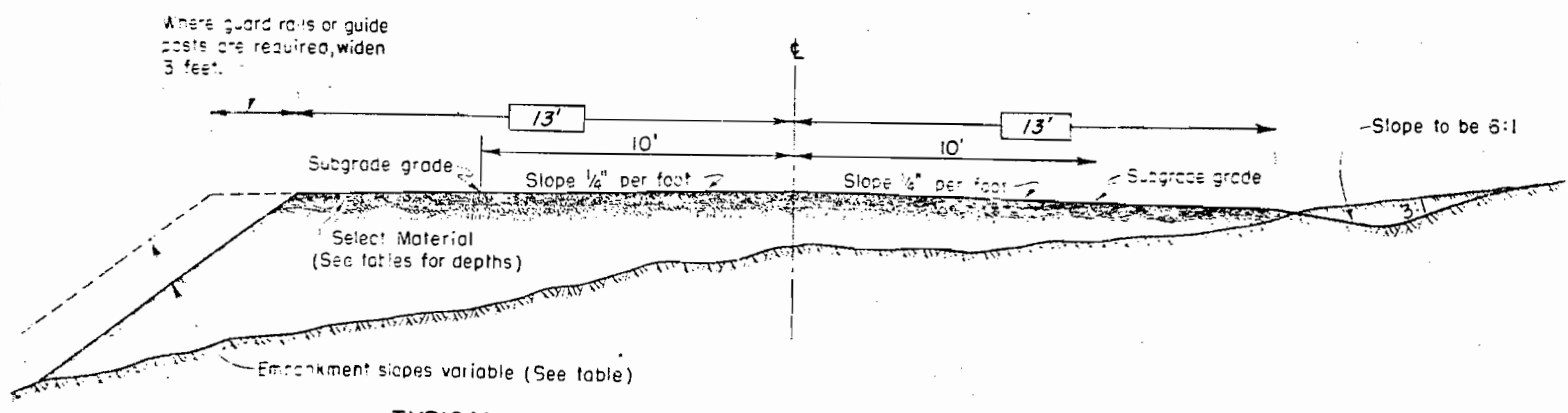
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1925	W. H. HARRIS	2
1926	W. H. HARRIS	3
1927	W. H. HARRIS	4
1928	W. H. HARRIS	5
1929	W. H. HARRIS	6
1930	W. H. HARRIS	7
1931	W. H. HARRIS	8
1932	W. H. HARRIS	9
1933	W. H. HARRIS	10
1934	W. H. HARRIS	11
1935	W. H. HARRIS	12
1936	W. H. HARRIS	13
1937	W. H. HARRIS	14
1938	W. H. HARRIS	15
1939	W. H. HARRIS	16
1940	W. H. HARRIS	17
1941	W. H. HARRIS	18
1942	W. H. HARRIS	19
1943	W. H. HARRIS	20
1944	W. H. HARRIS	21
1945	W. H. HARRIS	22
1946	W. H. HARRIS	23
1947	W. H. HARRIS	24
1948	W. H. HARRIS	25
1949	W. H. HARRIS	26
1950	W. H. HARRIS	27
1951	W. H. HARRIS	28
1952	W. H. HARRIS	29
1953	W. H. HARRIS	30
1954	W. H. HARRIS	31
1955	W. H. HARRIS	32
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1957	W. H. HARRIS	34
1958	W. H. HARRIS	35
1959	W. H. HARRIS	36
1960	W. H. HARRIS	37
1961	W. H. HARRIS	38
1962	W. H. HARRIS	39
1963	W. H. HARRIS	40
1964	W. H. HARRIS	41
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2012	W. H. HARRIS	89
2013	W. H. HARRIS	90
2014	W. H. HARRIS	91
2015	W. H. HARRIS	92
2016	W. H. HARRIS	93
2017	W. H. HARRIS	94
2018	W. H. HARRIS	95
2019	W. H. HARRIS	96
2020	W. H. HARRIS	97
2021	W. H. HARRIS	98
2022	W. H. HARRIS	99
2023	W. H. HARRIS	100

Colo 24-02, 02, 03 Willow Creek Pass
Typical Sections
Sheet No. 2



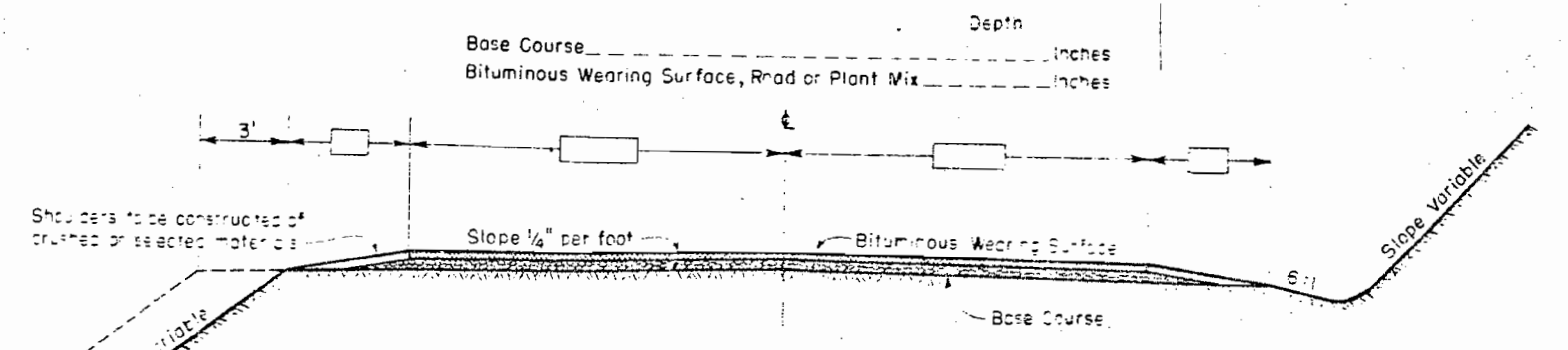
TYPICAL HALF CUT SECTION IN ROCK

TYPICAL HALF CUT SECTION IN COMMON

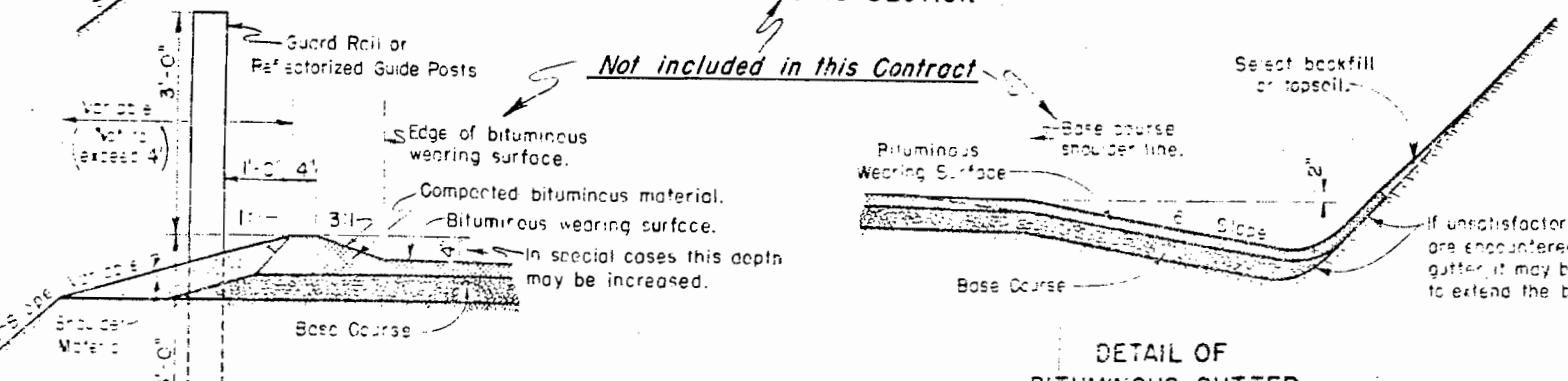


TYPICAL HALF EMBANKMENT SECTION

TYPICAL HALF SHALLOW EMBANKMENT SECTION



TYPICAL SURFACING SECTION



DETAIL OF RAISED BITUMINOUS SHOULDER ON WIDENED SECTIONS

DETAIL OF BITUMINOUS GUTTER

APPROVED: _____ Date: _____
Design Engineer

GENERAL NOTES

Where Borrow is specified in the contract and satisfactory material is found in the roadway excavation, the right is reserved to increase the amount of Unclassified Excavation and reduce the Unclassified Excavation for Borrow. When additional material is needed for completing embankments stabilizing the subgrade, or for selected cushion or topping, it may be required by uniformly widening thru or sidehill cuts or flattening cut slopes where satisfactory material is available. The slopes at the ends of cuts shall be flattened and fared to improve appearance.

Furrow ditches shall be constructed on approximate one percent grade following the ground contour and when possible shall be so constructed that the direction of flow will be away from the roadway.

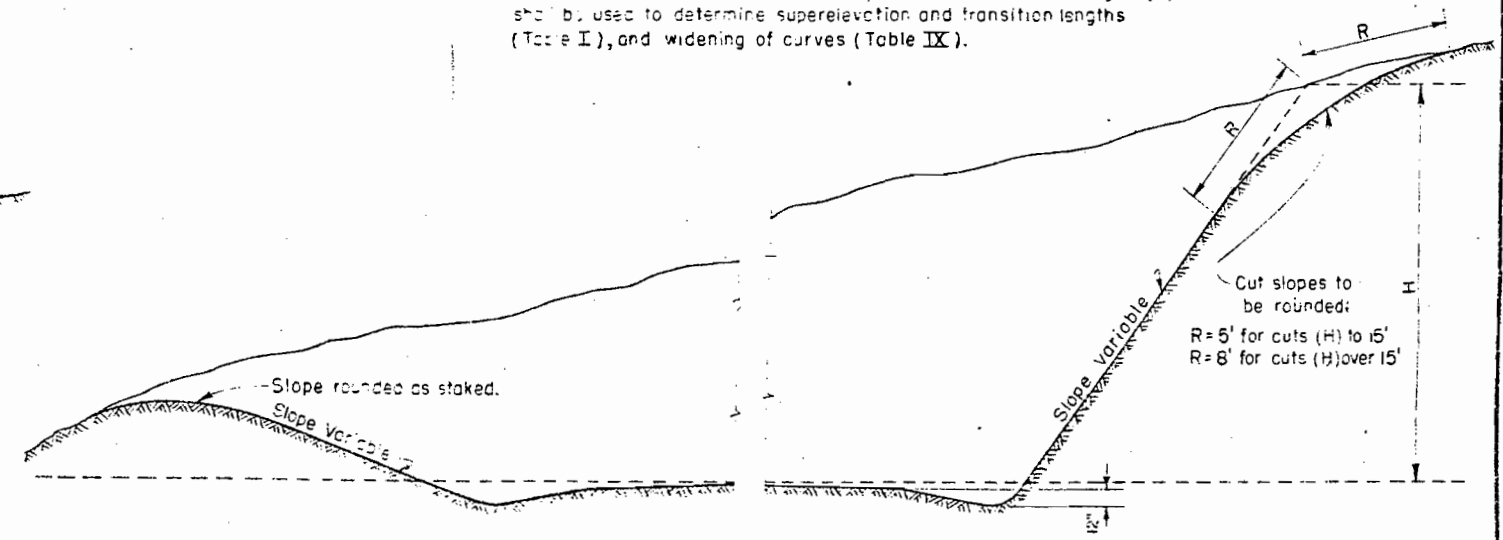
Topsoil shall be conserved and either placed in stockpiles or spread over cut and embankment slopes as directed and in accordance with the specifications.

Roadway ditches at the ends of cuts shall be constructed so as to carry the flow away from the adjacent embankment slopes.

Embankment slopes shall be uniformly warped between one rate of slope and another. The transition shall cover a distance of not less than 100 feet.

Subgrade grade to be on the surface of stabilized graded road and located ten feet from center line on tangents and insides of curves.

Bureau of Public Roads book of "Transition Curves for Highways" shall be used to determine superelevation and transition lengths (Table I), and widening of curves (Table IX).



SLOPE TREATMENT IN EARTH CUTS

SELECT MATERIAL	
STATION TO STATION	DEPTH
446+00 to 455+50	4'
447+50 to 455+00	5'
463+50 to 467+00	5'
471+50 to 475+00	5'
478+00 to 480+50	5'
483+70 to 480+00	5'
500+50 to 508+00	5'
510+50 to 520+50	5'
524+00 to 526+50	5'
530+50 to 536+00	5'
545+40 to 553+50	5'
556+50 to 560+50	5'
563+60 to 569+00	5'
574+50 to 580+00	5'
584+25 to 588+00	5'
593+50 to 599+00	5'
609+00 to 614+50	5'
621+50 to 630+00	5'
632+25 to 646+00	5'
660+00 to 662+00	5'
777+50 to 780+50	5'
839+50 to 843+00	5'
852+00 to 854+00	5'
910+00 to 916+00	5'
964+00 to 964+66	5'
1009+00 to 1017+00	5'
1019+00 to 1047+50	5'
1061+50 to 1069+50	5'
1077+50 to 1081+00	5'
1094+00 to 1096+00	5'
1103+00 to 1107+00	5'
1124+00 to 1155+50	5'

SLOPES			
HEIGHT	EMBANKMENT SLOPE	EARTH CUT SLOPE	ROCK CUT SLOPE
0' to 3'	6:1	3:1	1/4:1 10 1:1
3' to 6'	4:1	3:1	
6' to 12'	2:1	2:1	
12' to 30'	1 1/2:1	1 1/2:1	
30' up	1 1/2:1	1:1	

When field conditions indicate the need for slopes other than those indicated above they shall be constructed as staked by the Engineer.

In cases where the height of cuts are in excess of 30 feet and in material which erodes readily, use slopes of 1 1/2 to 1 or flatter if practical.

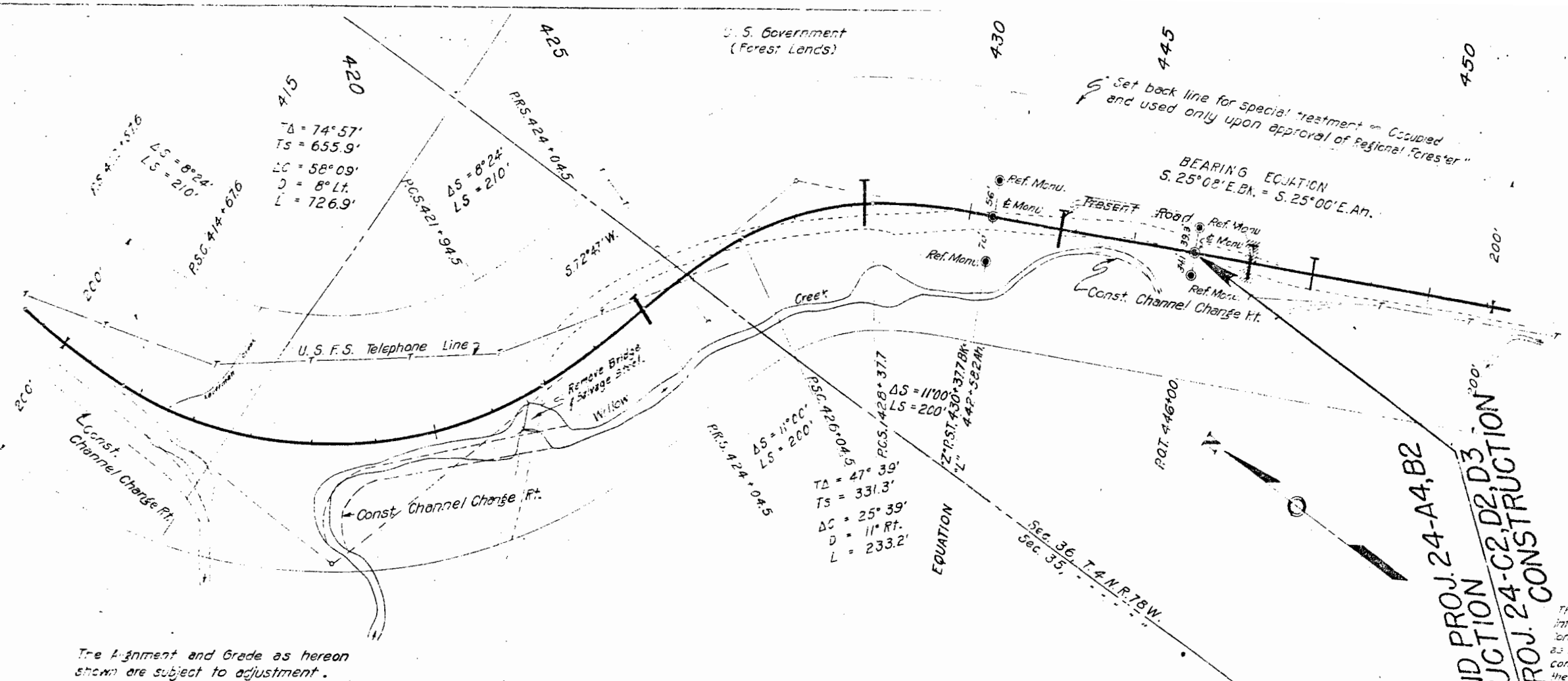
U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
DIVISION NO. 9 DENVER, COLO.

TYPICAL CROSS SECTIONS
NATIONAL FOREST & PARK HIGHWAYS

DIVISION No. 9 STANDARD ROADBED: BITUMINOUS WEARING SURFACE
PROJECT Colo. 24-02, 02, 03 Willow Creek Pass
NATIONAL Forest: Arapaho
COUNTY Grand
STATE Colorado

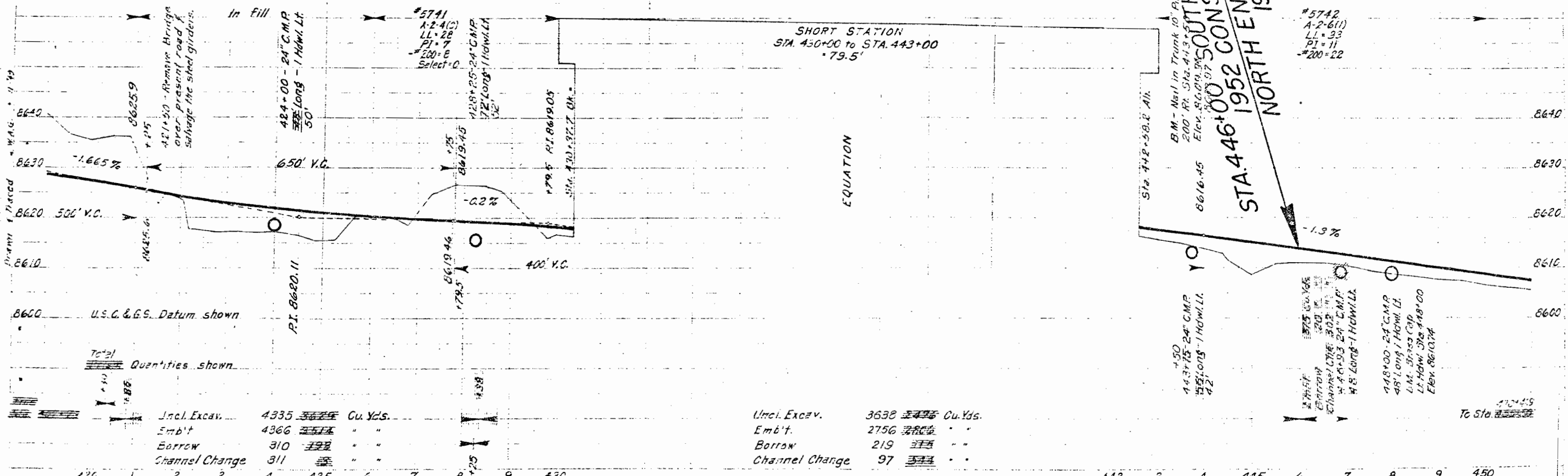
PLAN
1940
WILLOW CREEK PASS (South Side) Sec.
Sta. 420+00 to Sta. 450+00
Sheet No. 10

U. S. Government
(Forest Lands)



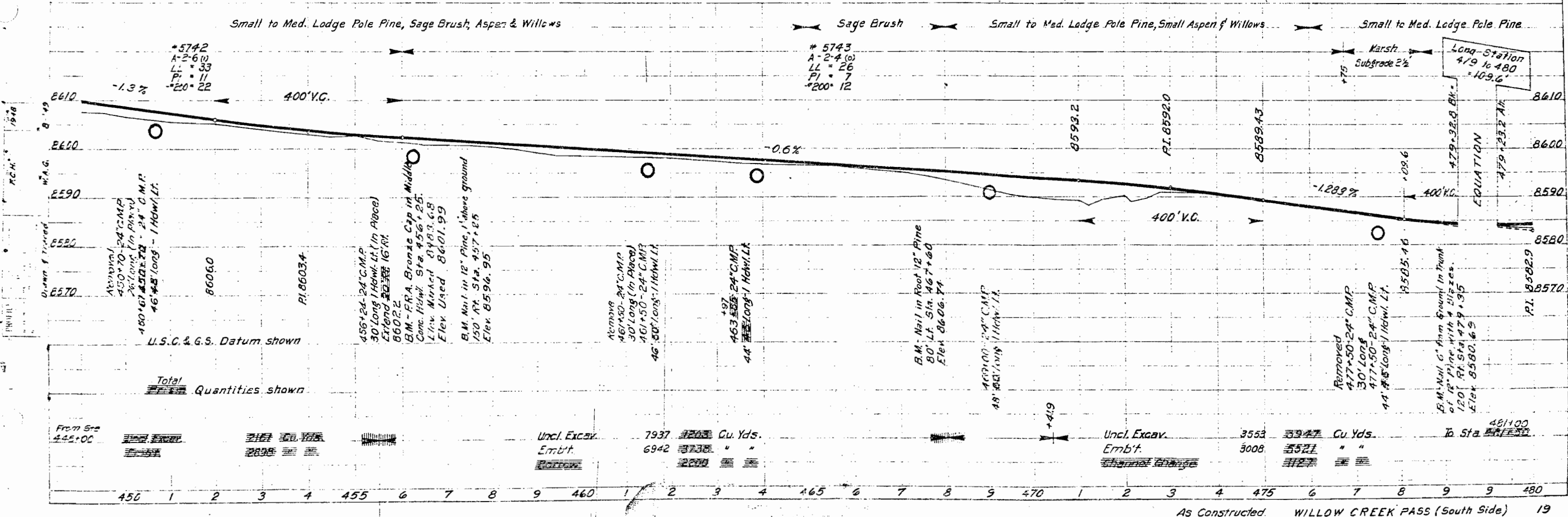
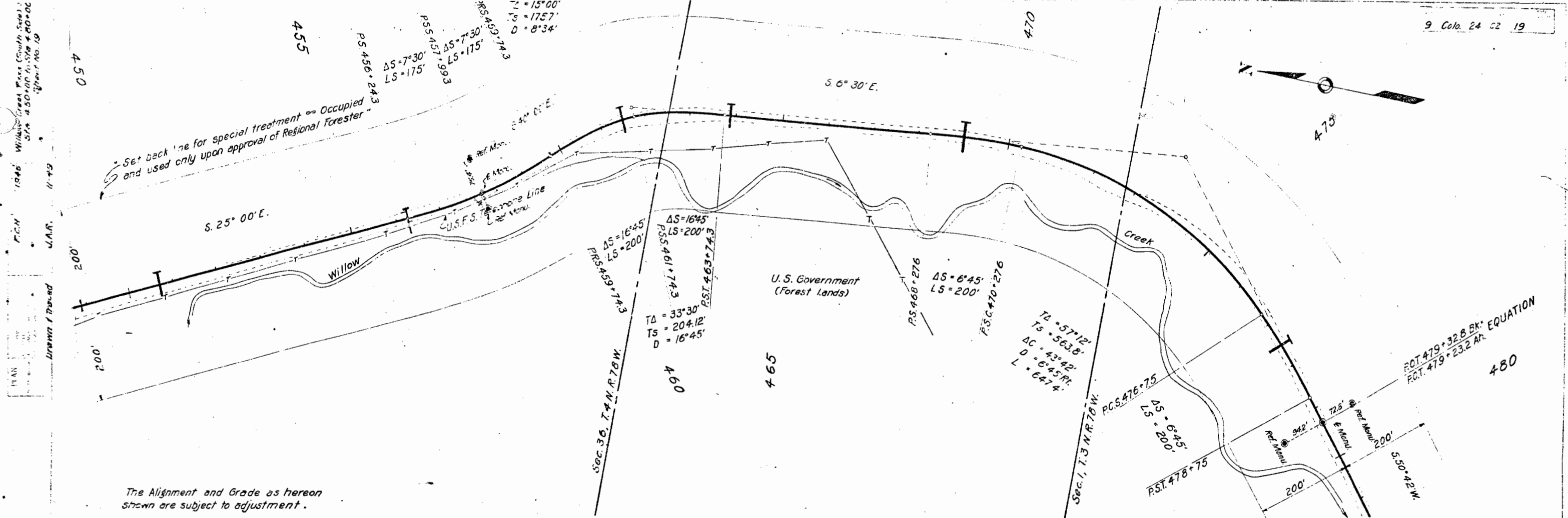
The Alignment and Grade as hereon shown are subject to adjustment.

Small to Medium Lodge Pole Pine, Willows, Sage Brush & Aspen



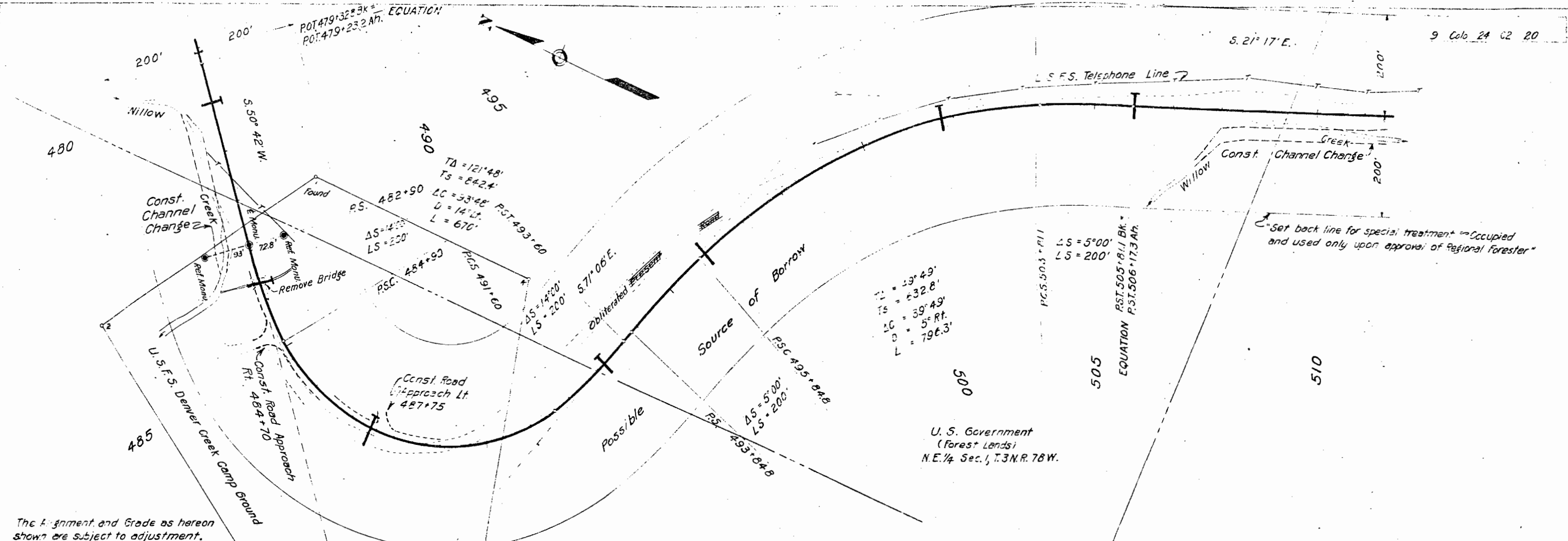
The Materials data shown on these plans have been secured from available information and are shown for the convenience of the Project Engineer and the Contractor. The Government neither guarantees nor assumes any responsibility as to the extent, character, or class, location of the material. If materials not conforming to the data as shown on the plans are encountered during construction the grading plan will be modified where necessary to secure the proper design.

STA. 446+00 SOUTH END PROJ. 24-C2, D2, D3 CONSTRUCTION
NORTH END 1952 CONSTRUCTION
NORTH END 1953

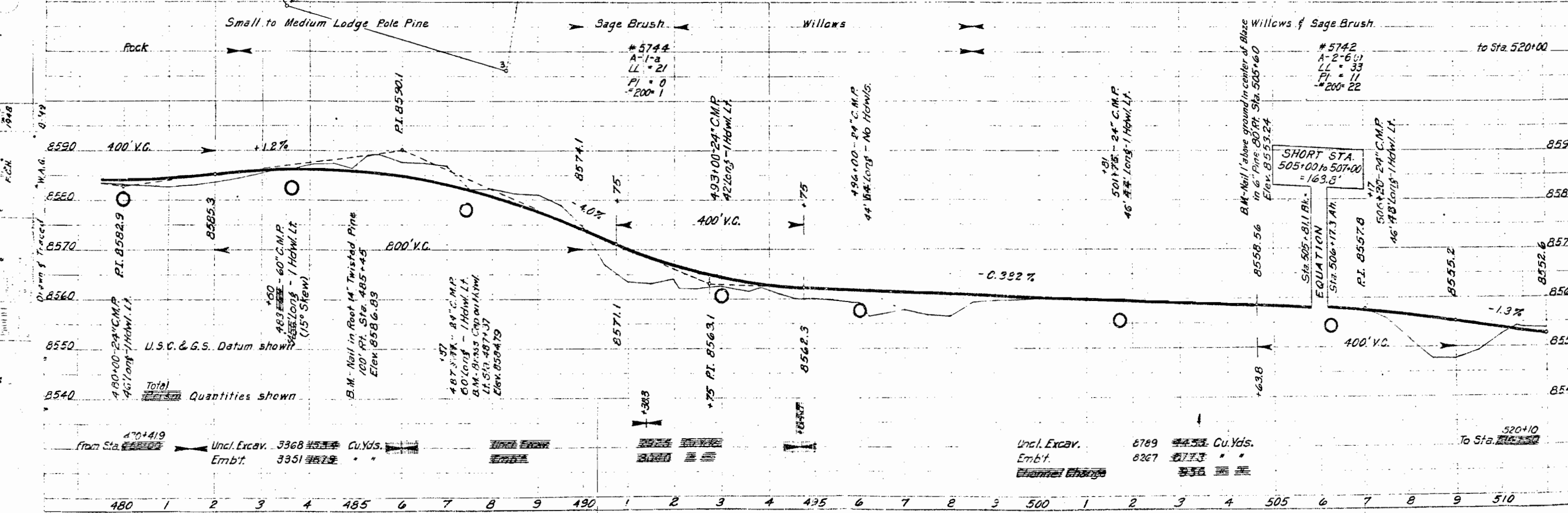


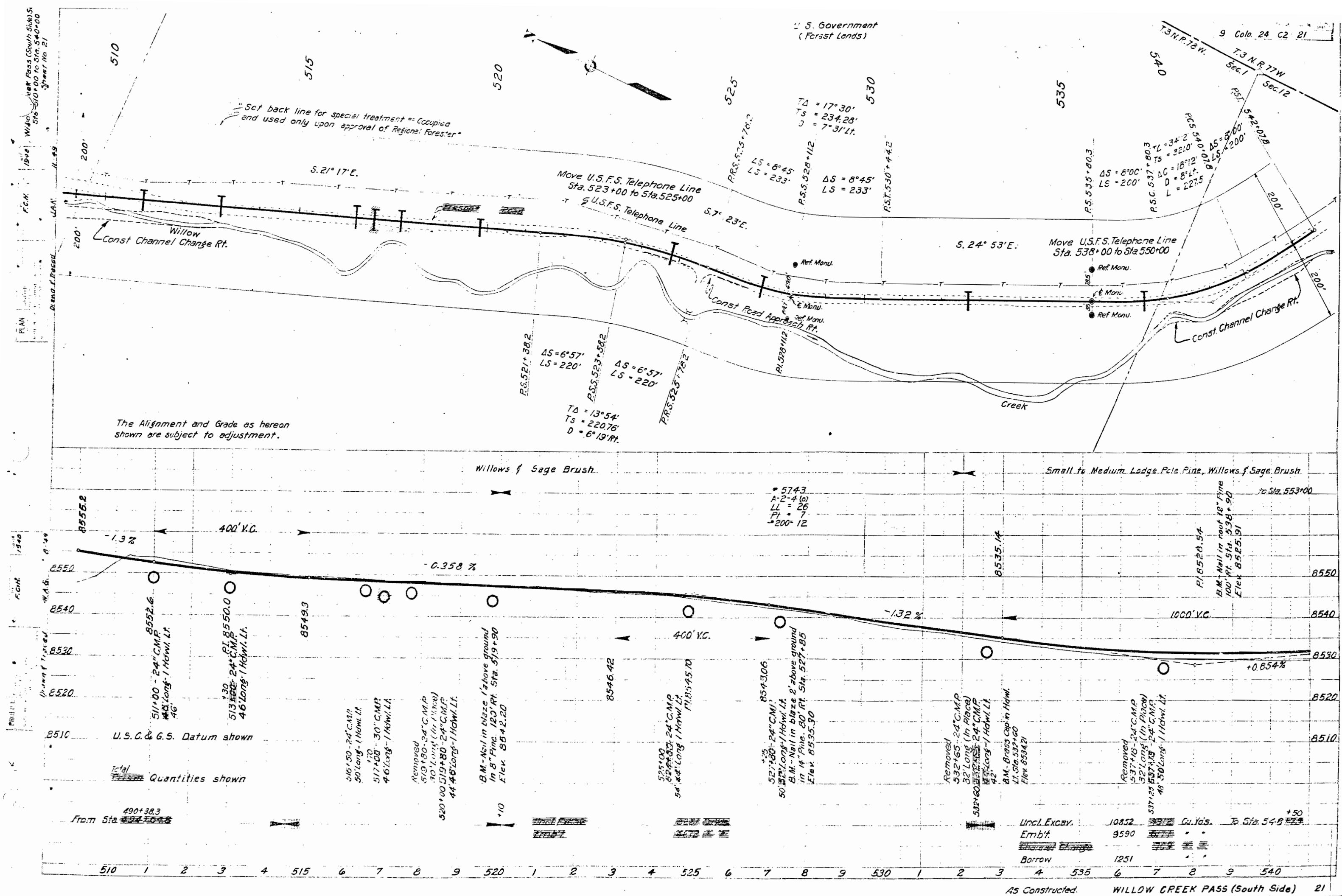
PLAN
FCH
1948
Drawing No. 20

9 Colo. 24 02 20

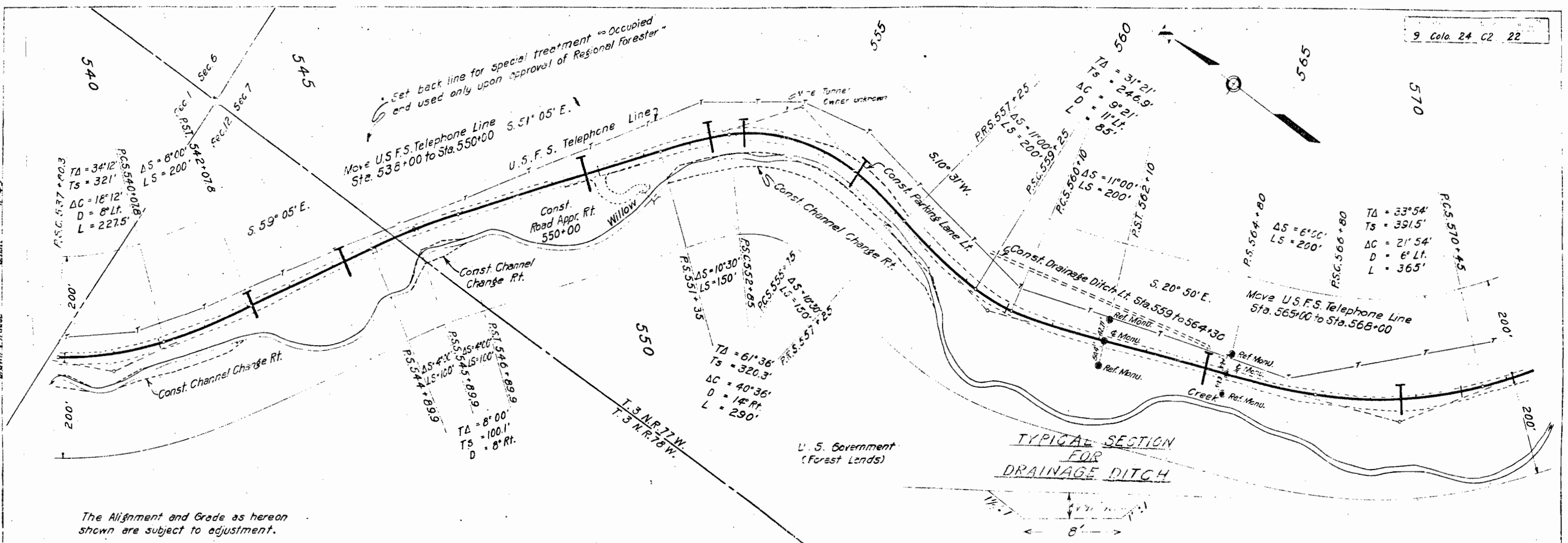


The Alignment and Grade as hereon shown are subject to adjustment.

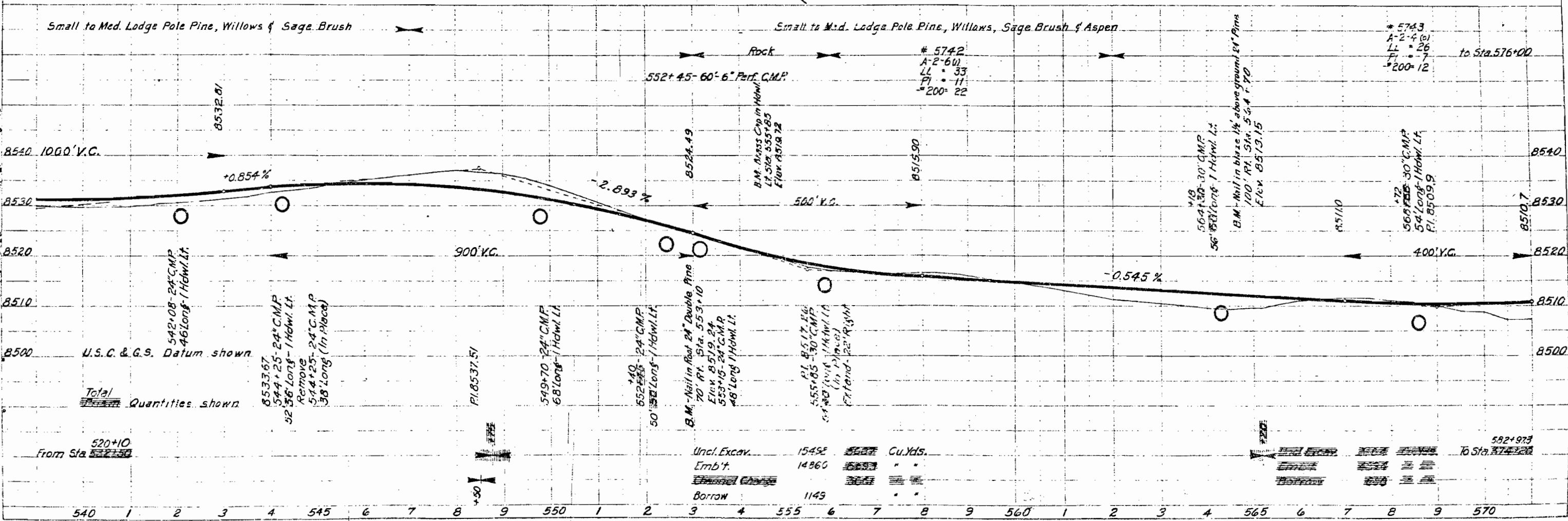




PLAN
1948 Willow
Pass (South Side) Sec.
0+00 to Sta. 570+00
Sheet No. 22



The Alignment and Grade as hereon shown are subject to adjustment.



Uncl. Excav.	15498	Cu. Yds.	
Emb't.	14860		
Channel Change	3661		
Borrow	1149		

Pass (South Side) Sec 1
Sta. 600+00 to Sta. 630+00
Sheet No. 24

1948 F.C.H. 11-19

Drawn & Traced

U.S.F.S.

1948 F.C.H. 11-19

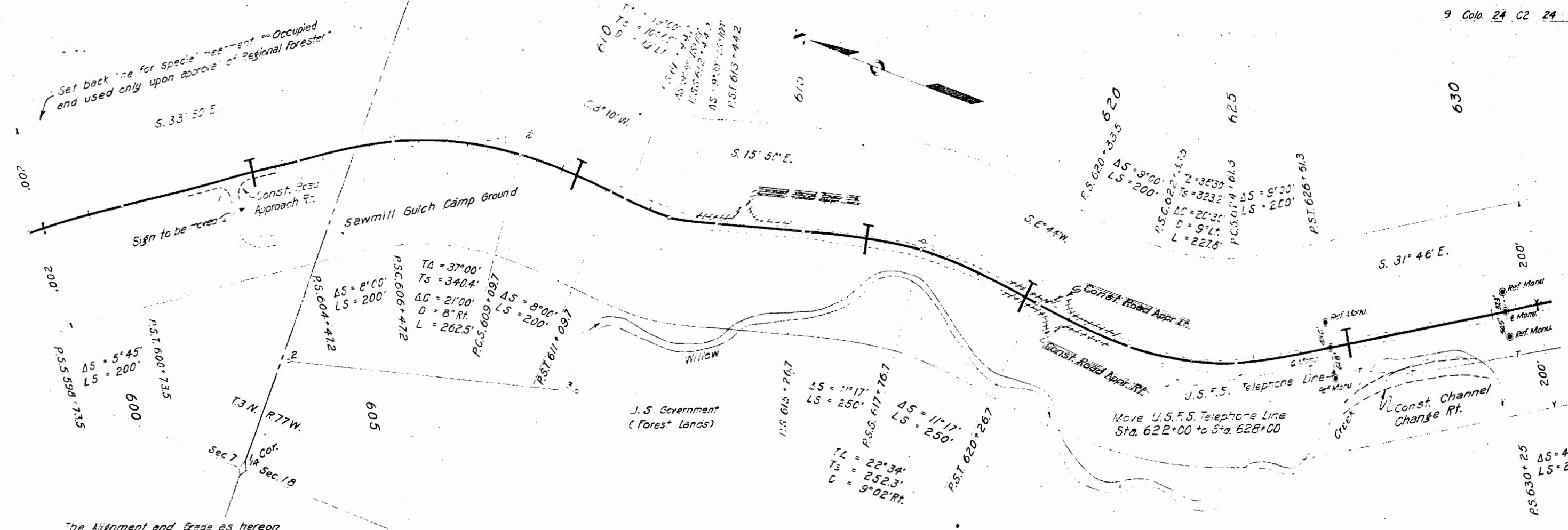
Drawn & Traced

U.S.F.S.

1948 F.C.H. 11-19

Drawn & Traced

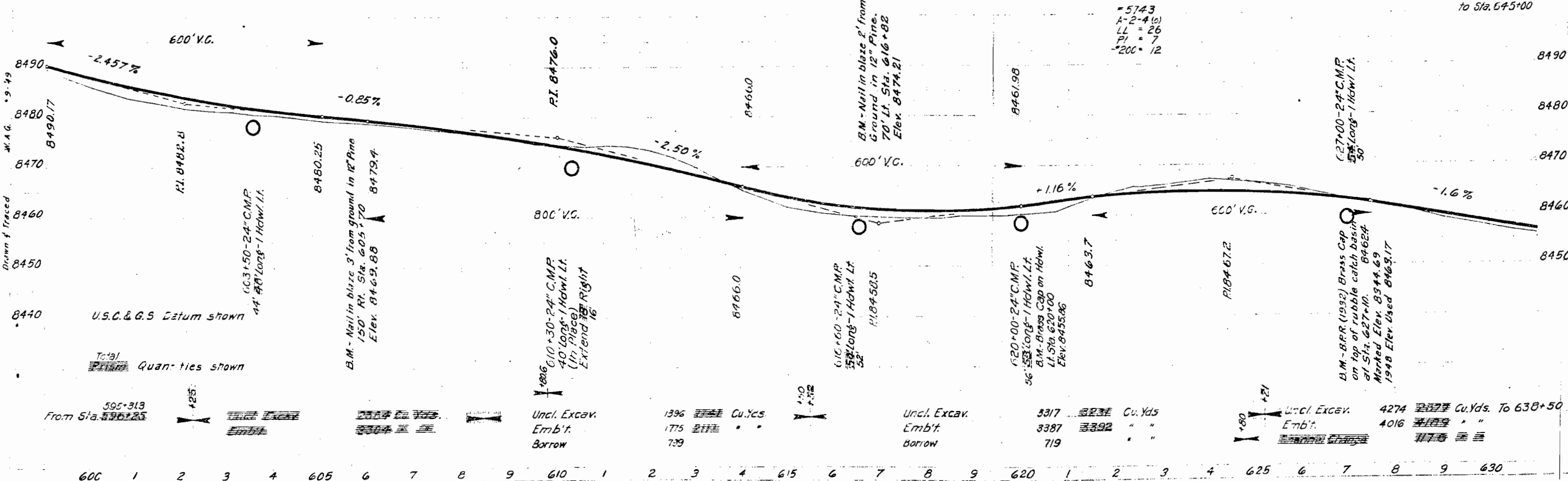
U.S.F.S.

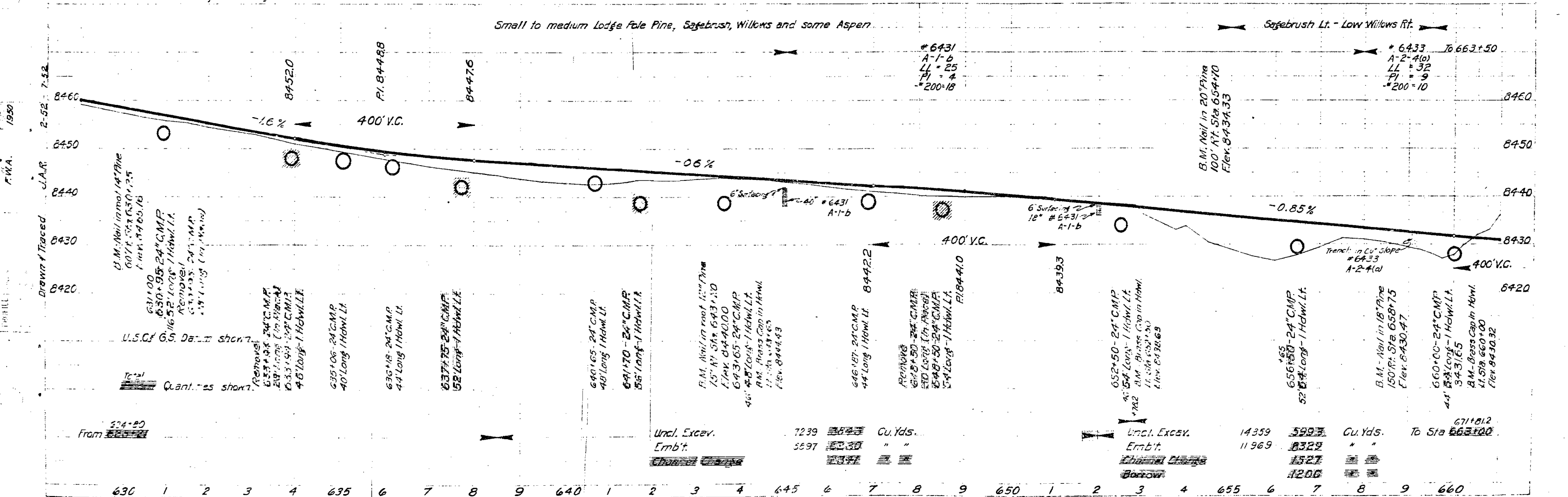
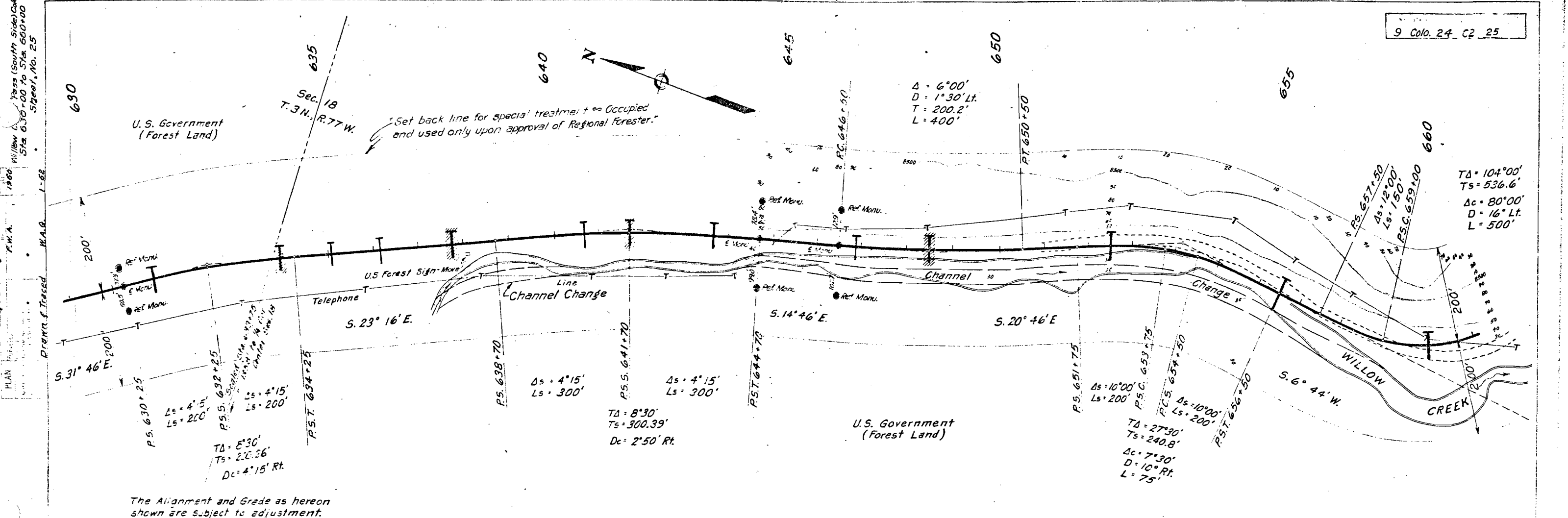


Scattered Small to Medium Lodge Pole Pine, Sage Brush, Willows & Small Aspen

Willows

Small to Medium Lodge Pole Pine, Sage Brush, Willows & Some Aspen

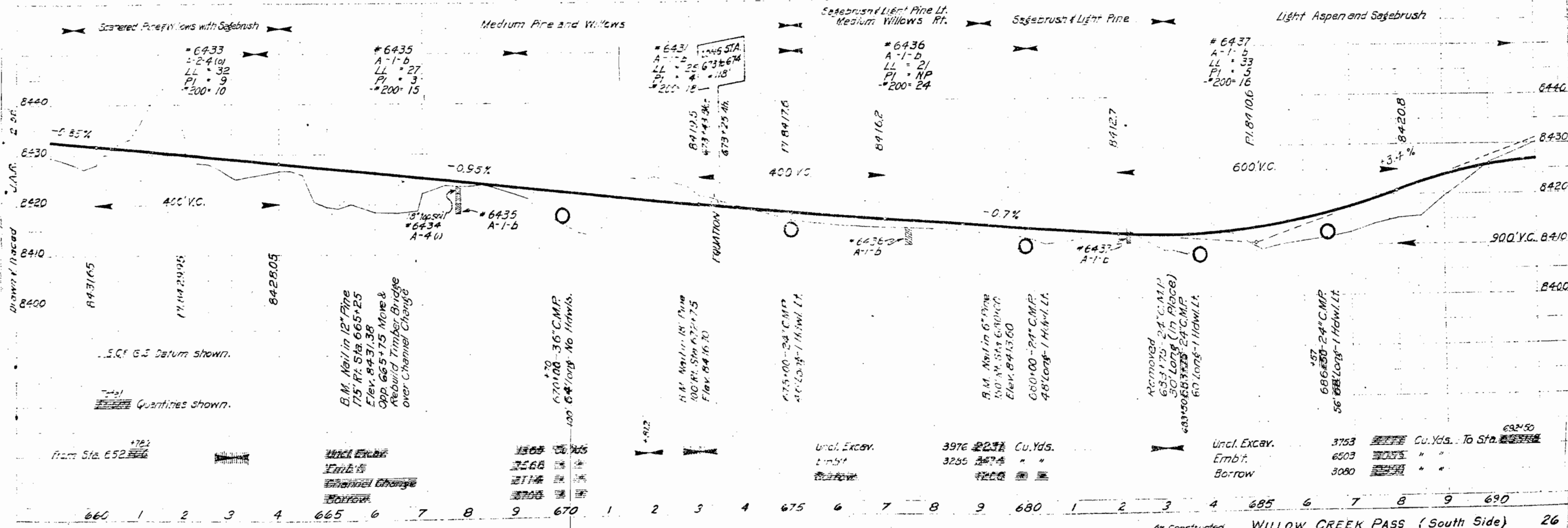
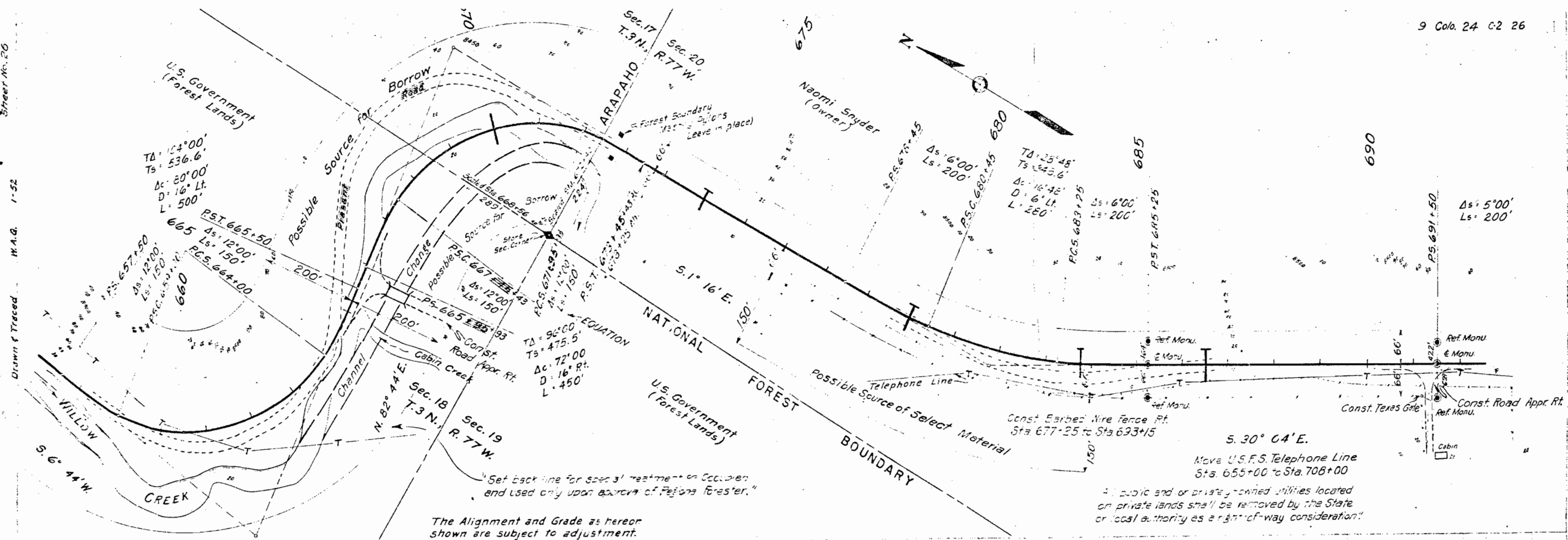




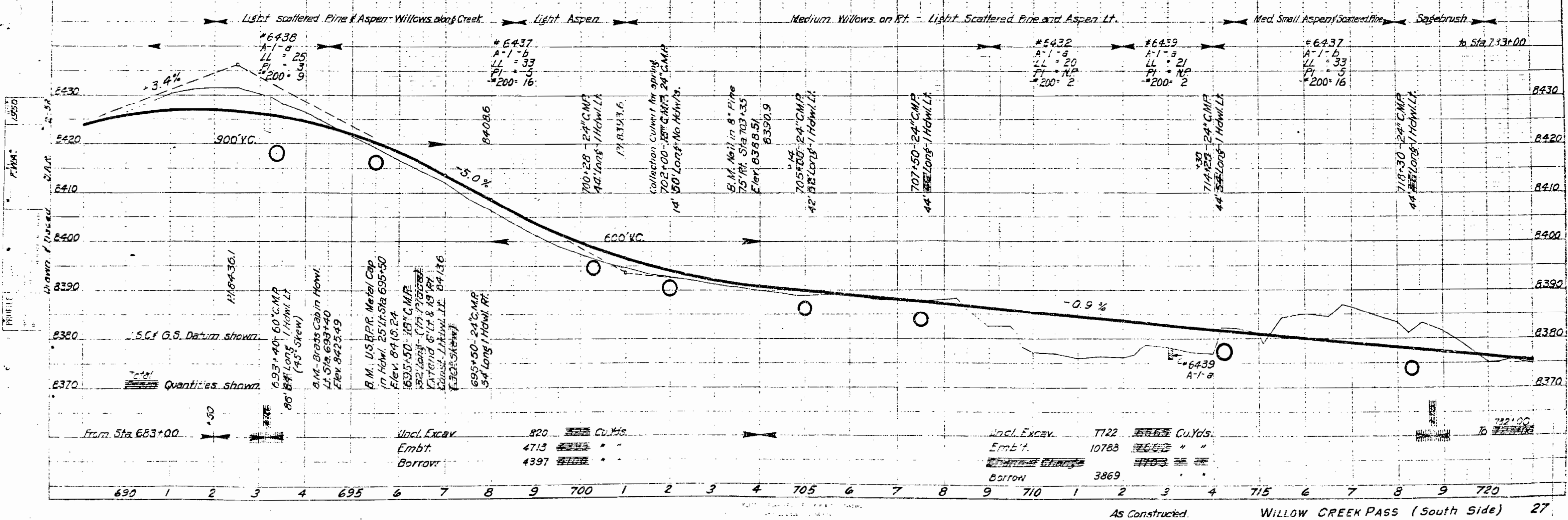
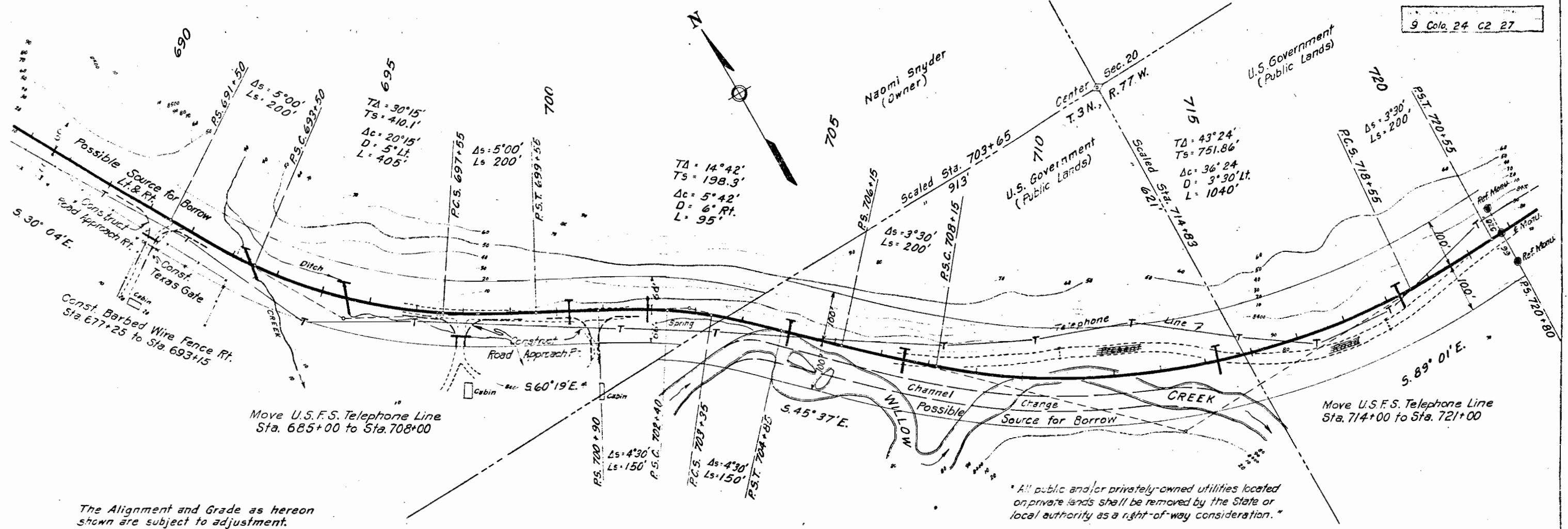
1950 Willow Creek (South Side) Col. Sta. 650+00 to Sta. 690+00 Sheet No. 26

Drawn & Traced M.A.G. 1-52

1950 F.W.A.



1900 Willow Creek Pass (South Side) & Sta. 680+00 to Sta. 720+00 Sheet No. 27
PLAN
F.M.A.
Drawn & Traced W.A.G. 2-22

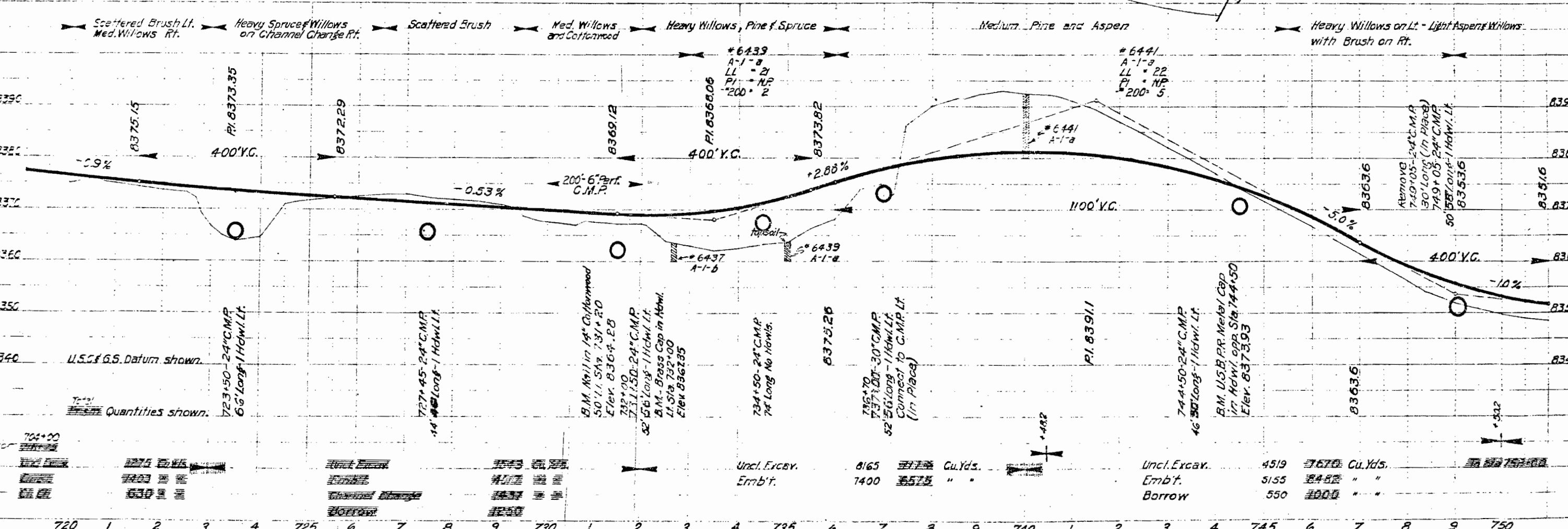
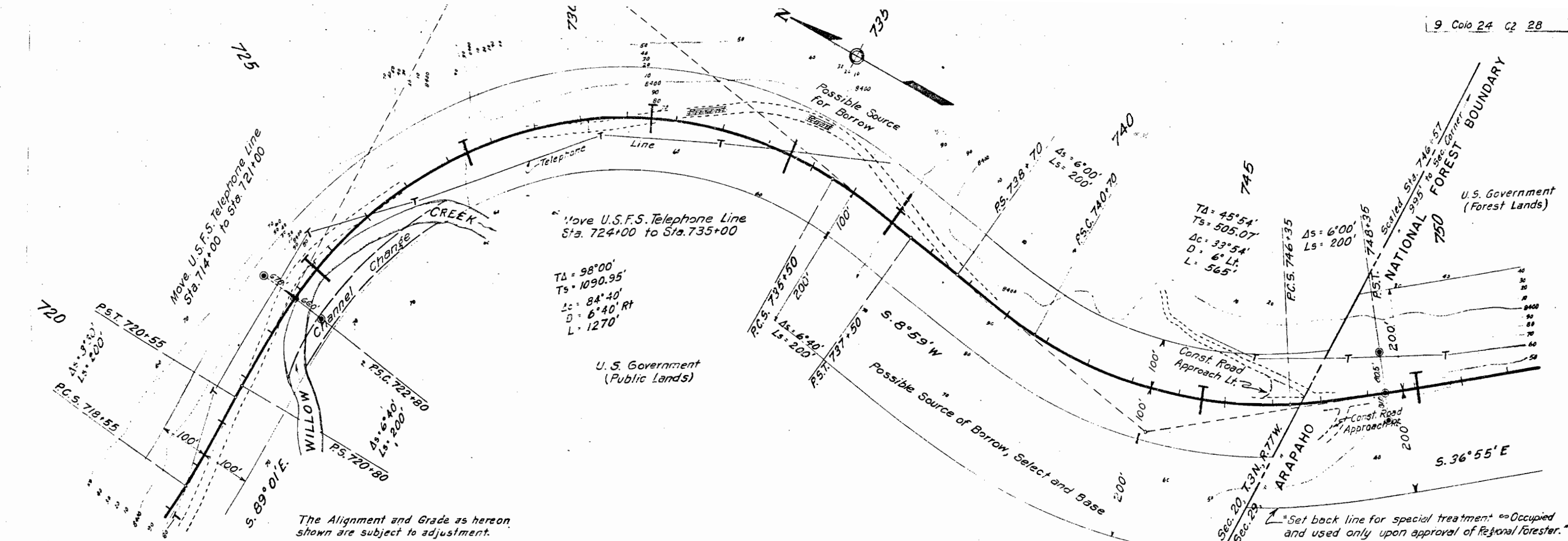


1950
F.W.A.
1950
W.A.G. 2 28

PLAN
Diamond Truck
W.A.G. 2 28

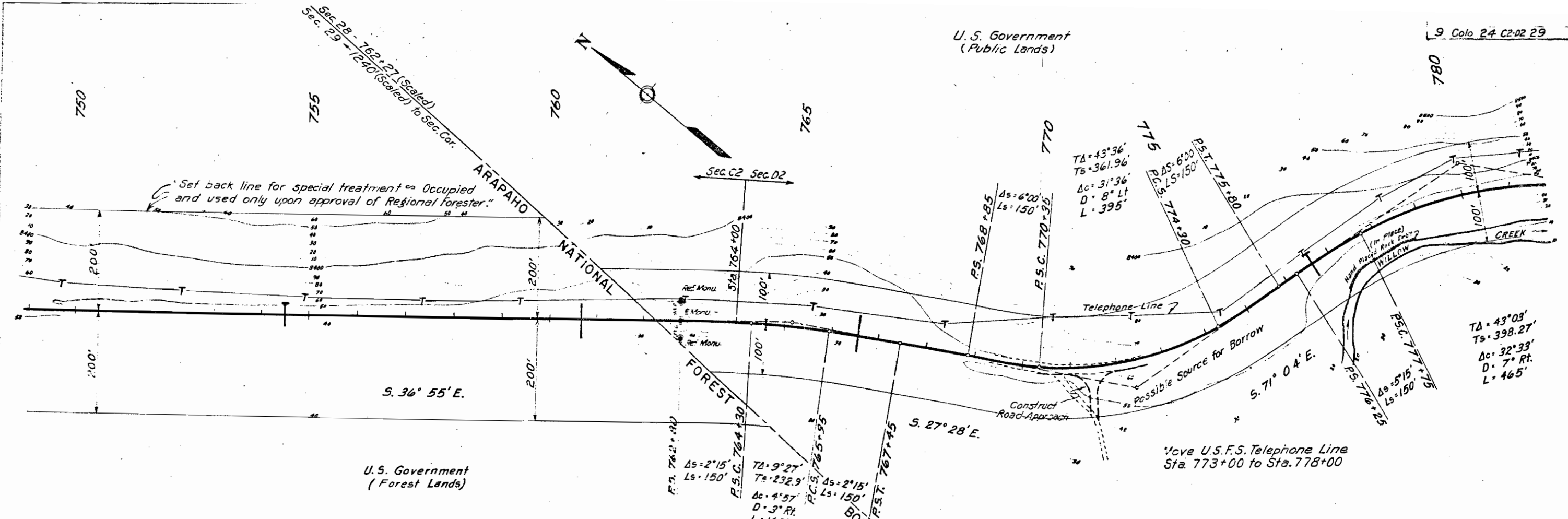
1950
F.W.A.
1950
W.A.G. 2 28

PROFILL
1950
F.W.A.
1950
W.A.G. 2 28

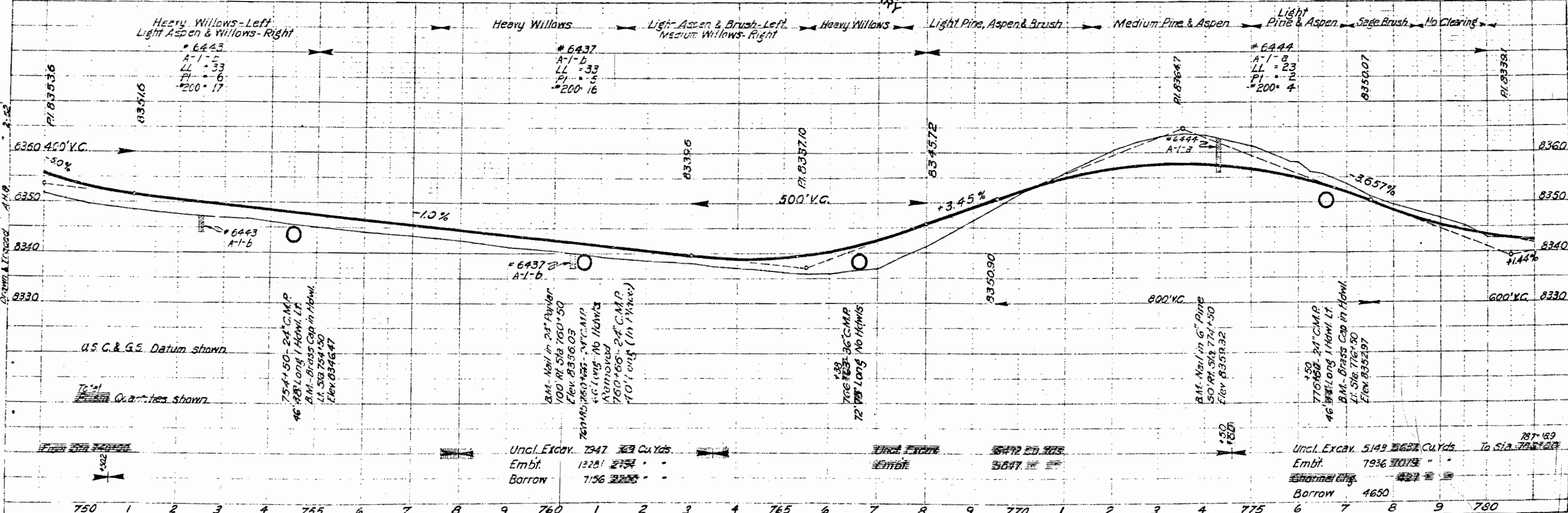


PLAN
1950
F.W.A.
WILLOW CREEK PASS (South Side) Colo.
Sta. 750+00 to Sta. 780+00
Sheet No. 29

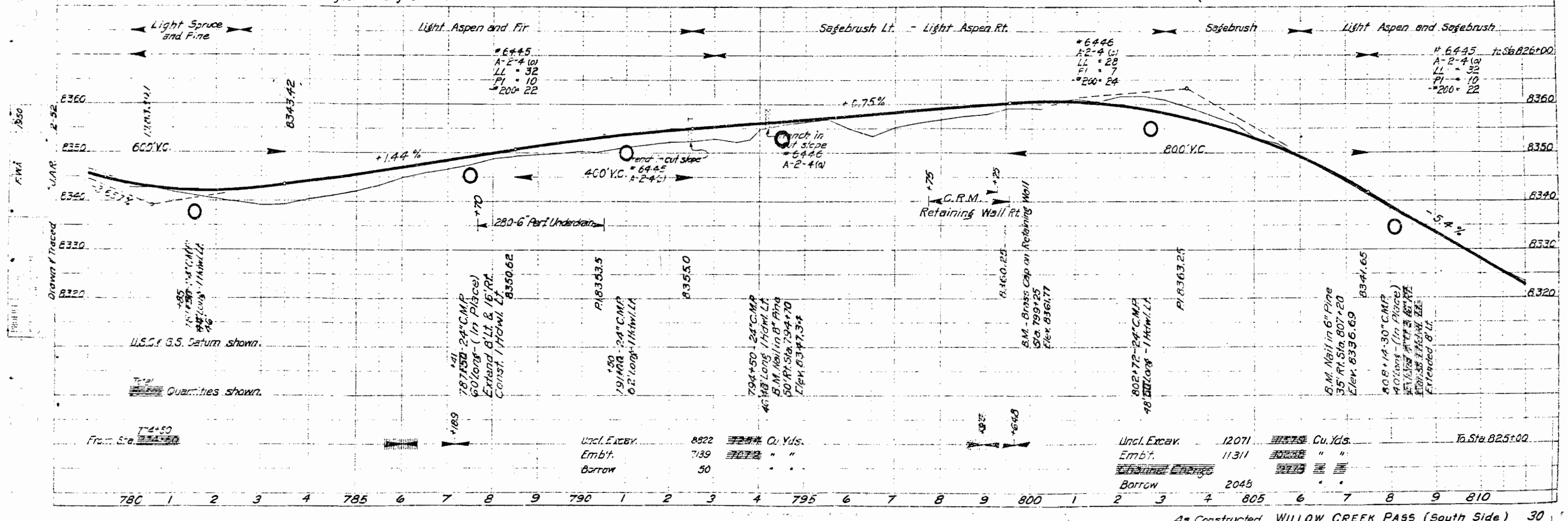
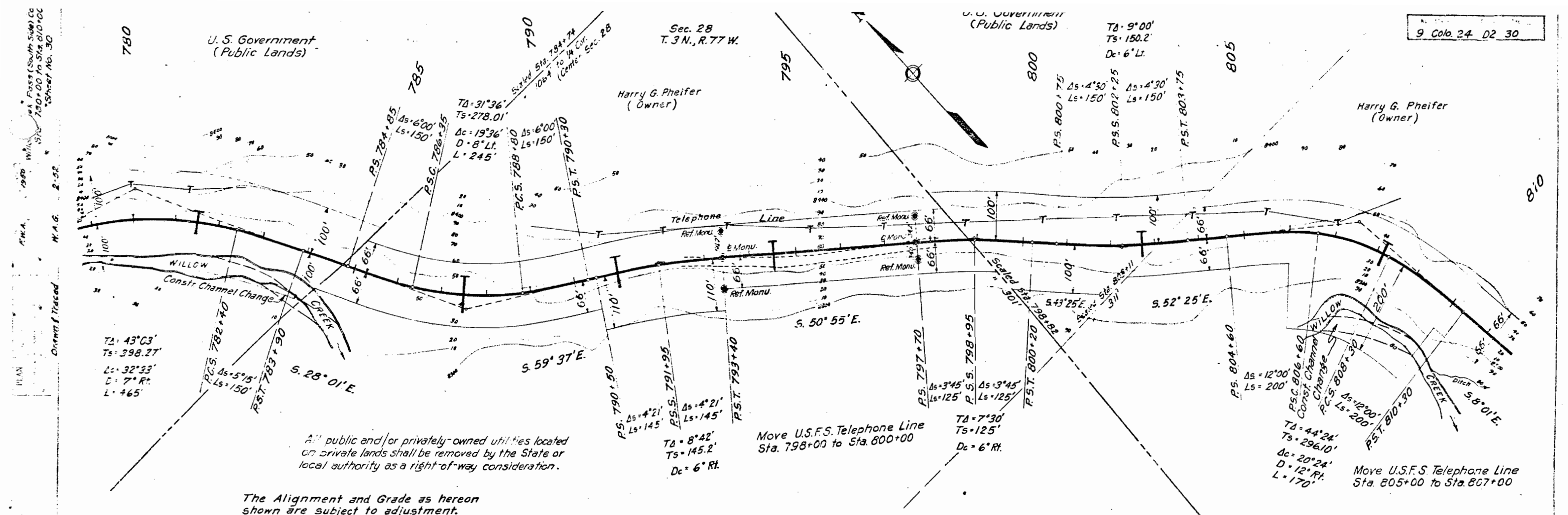
PROFILE
1950
F.W.A.
WILLOW CREEK PASS (South Side) Colo.
Sta. 750+00 to Sta. 780+00
Sheet No. 29



The Alignment and Grade as hereon shown are subject to adjustment.



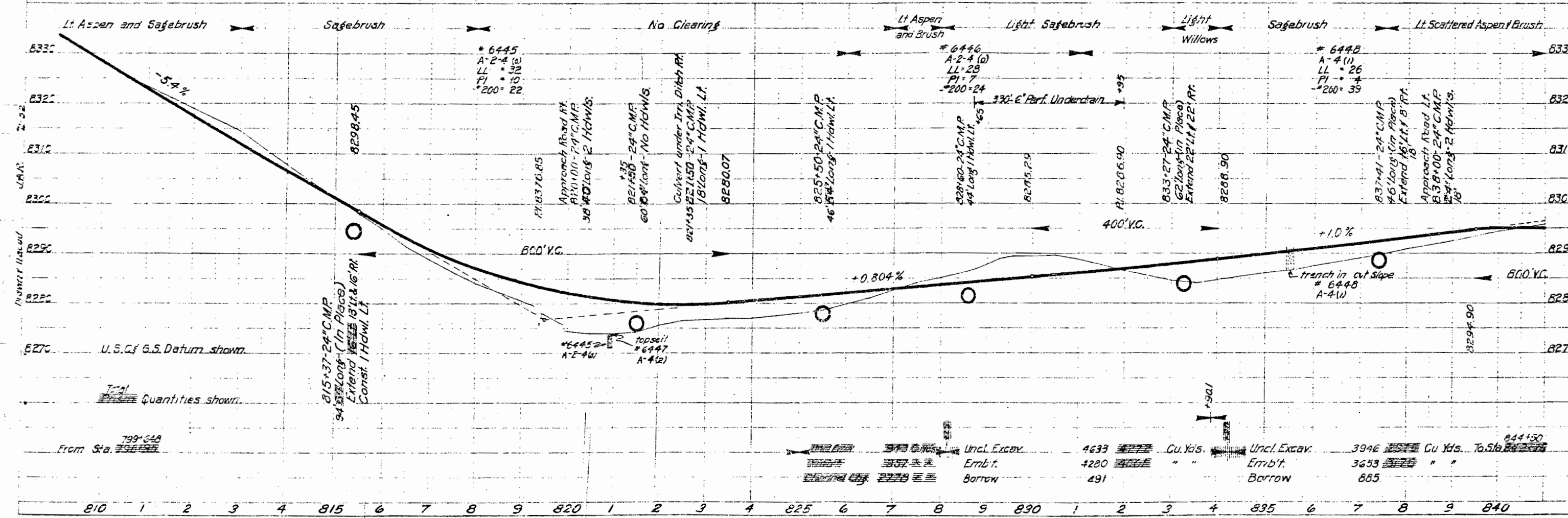
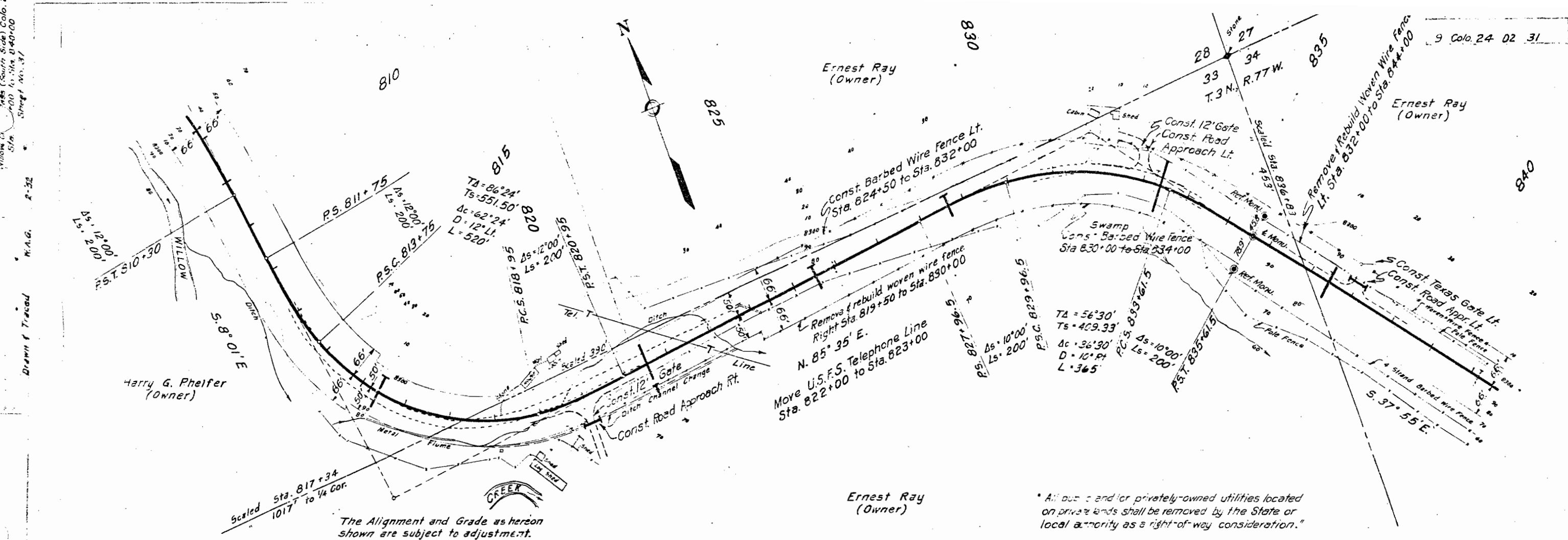
Harry G. Pfeifer
(Owner)

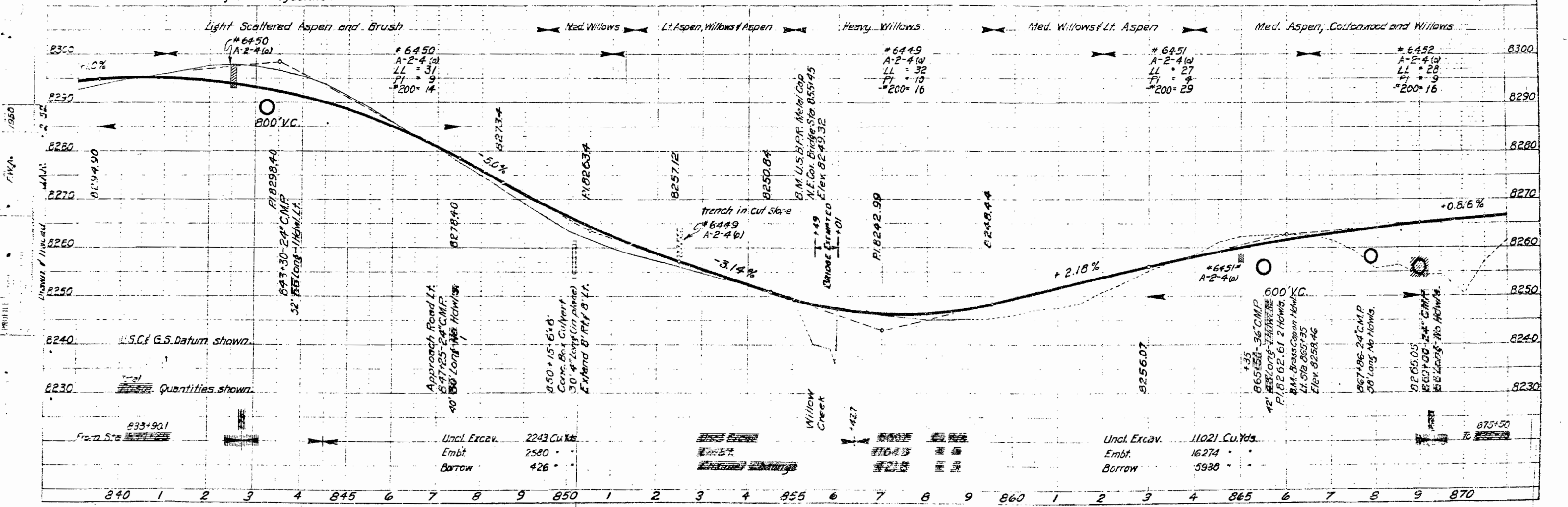
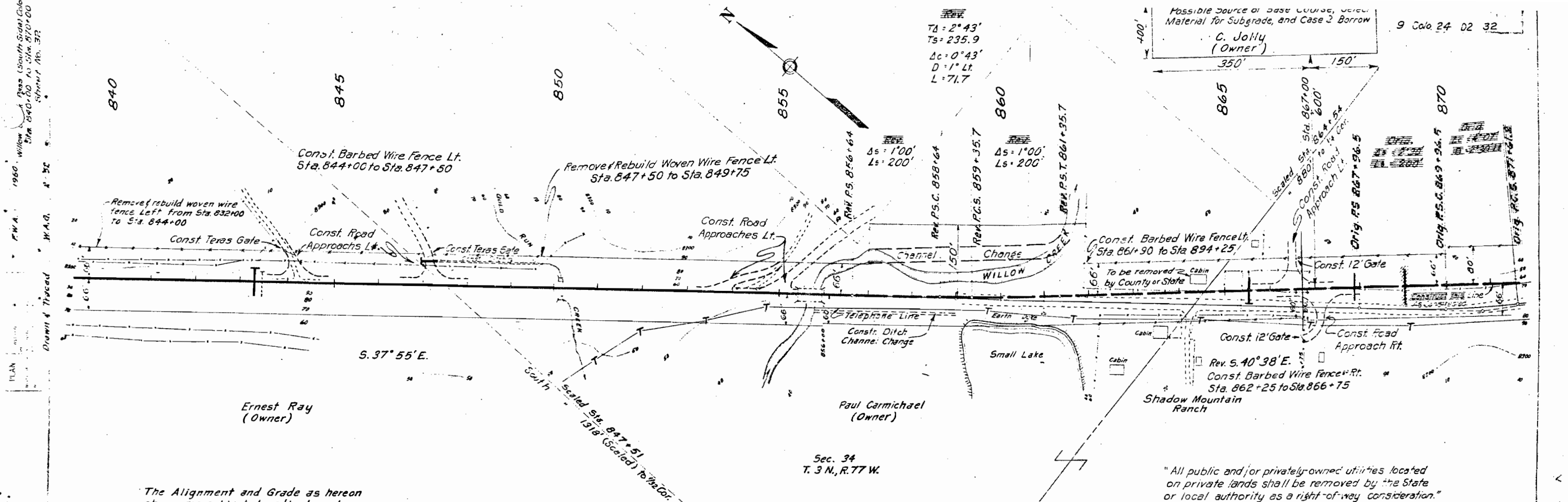


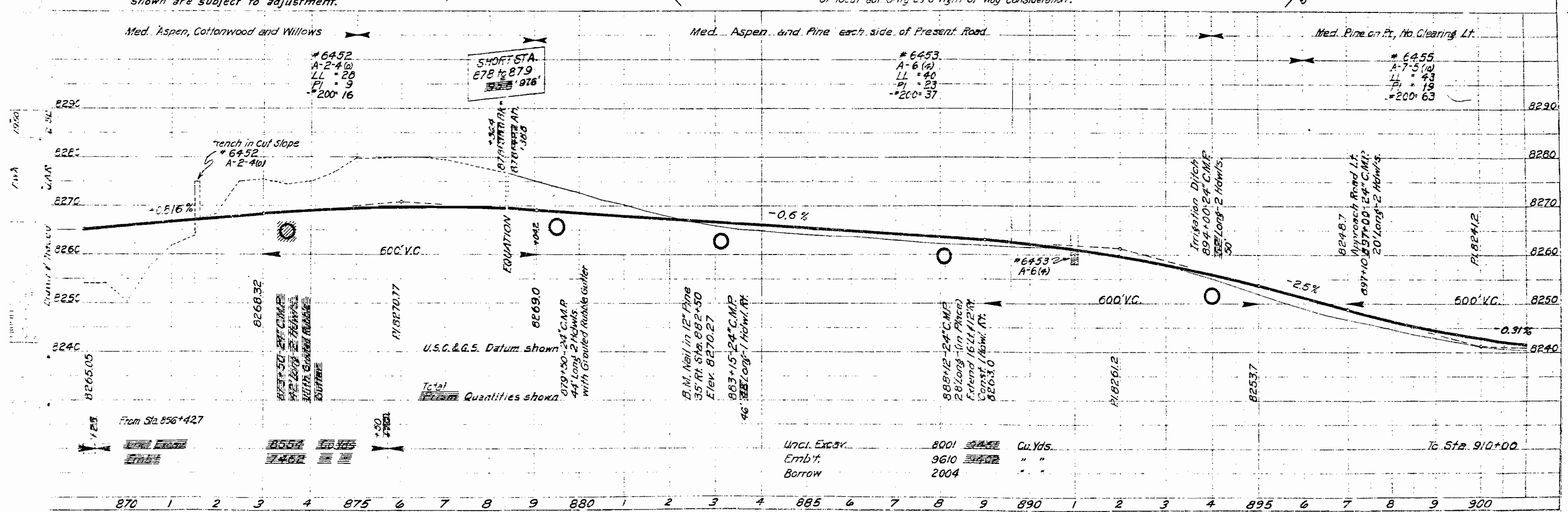
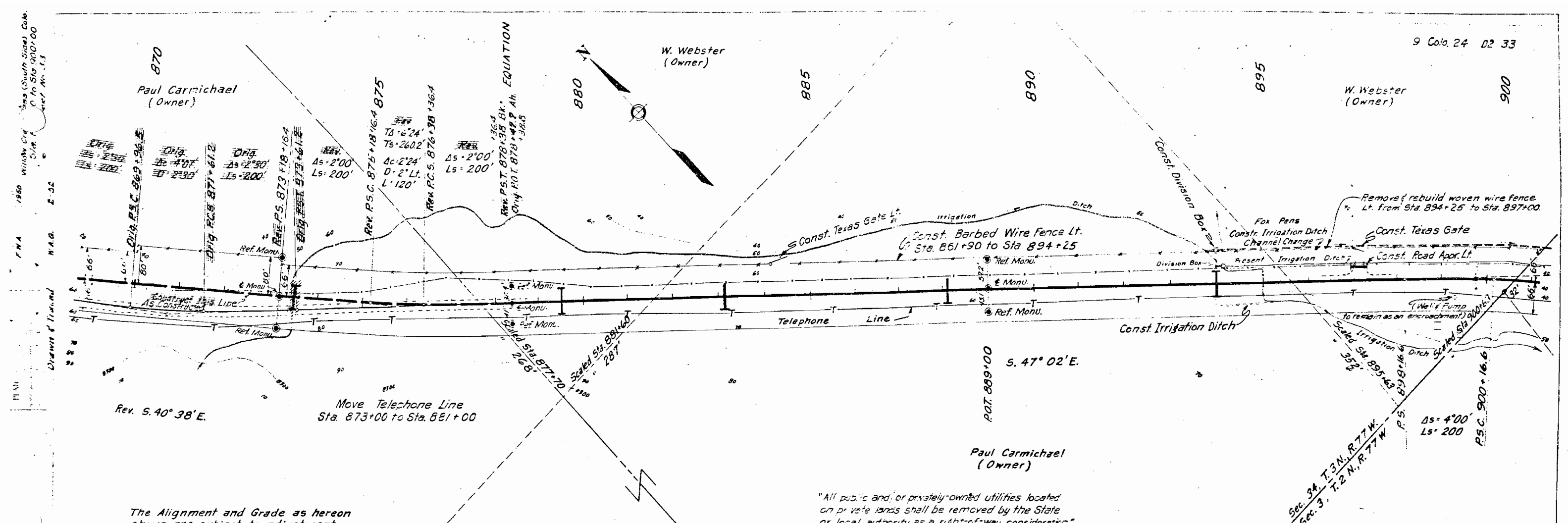
FWA 1950
W.A.G. 2-32
Drawn & Traced

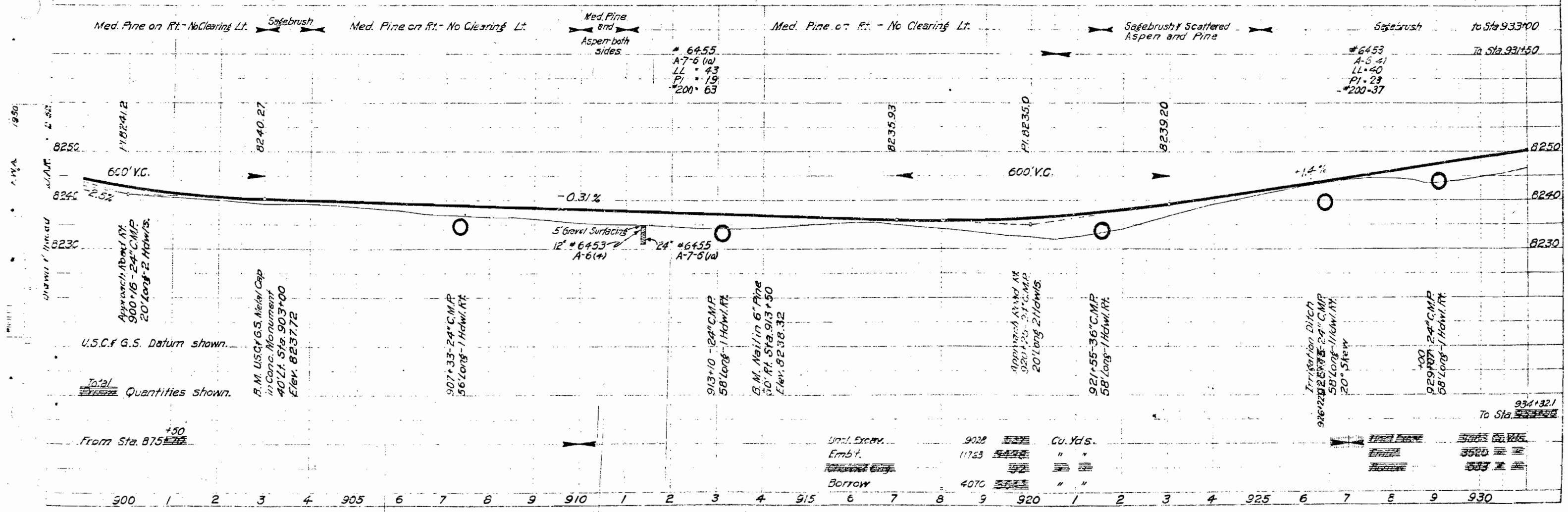
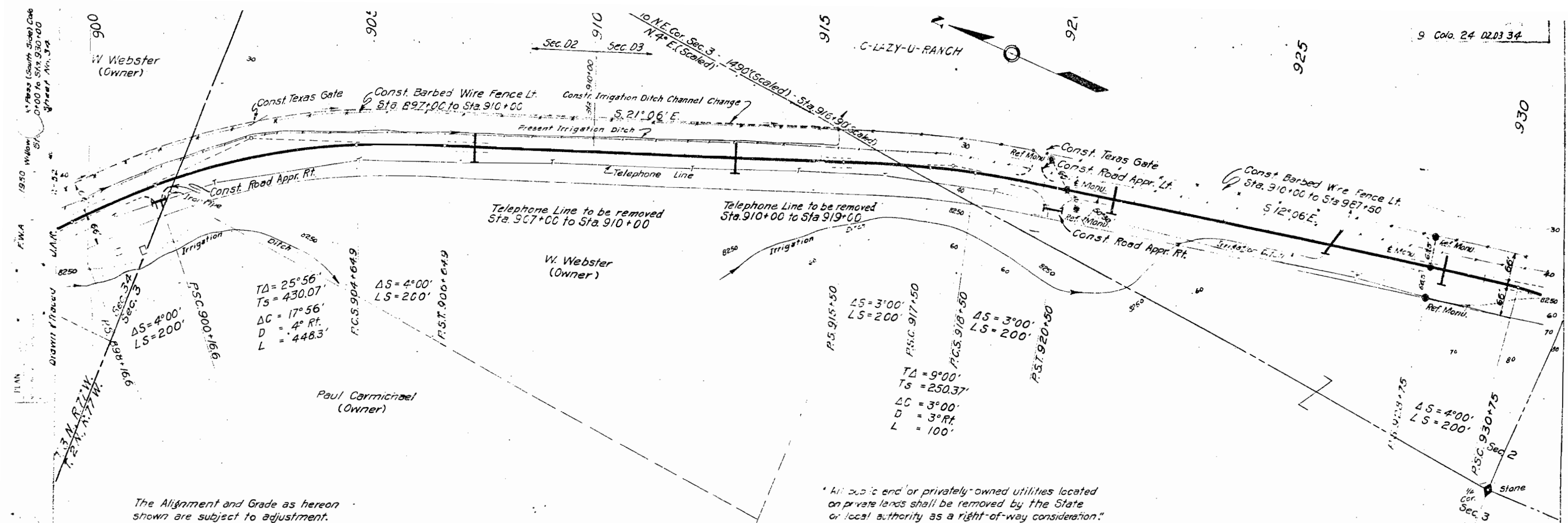
FWA 1950

POWER PLANT



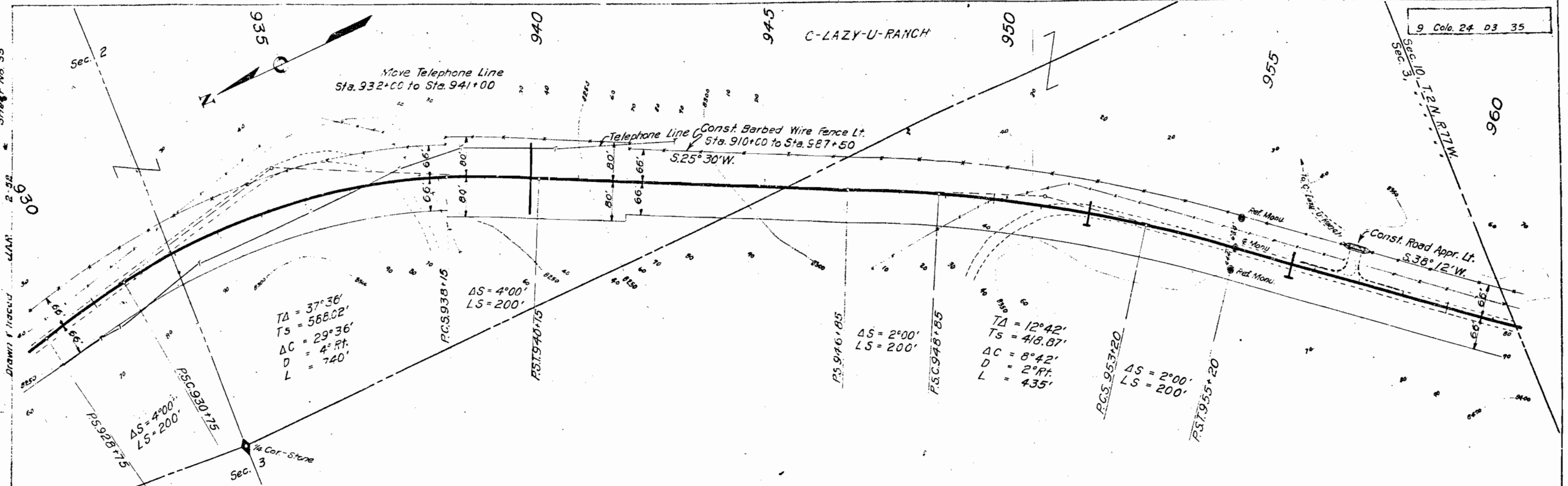






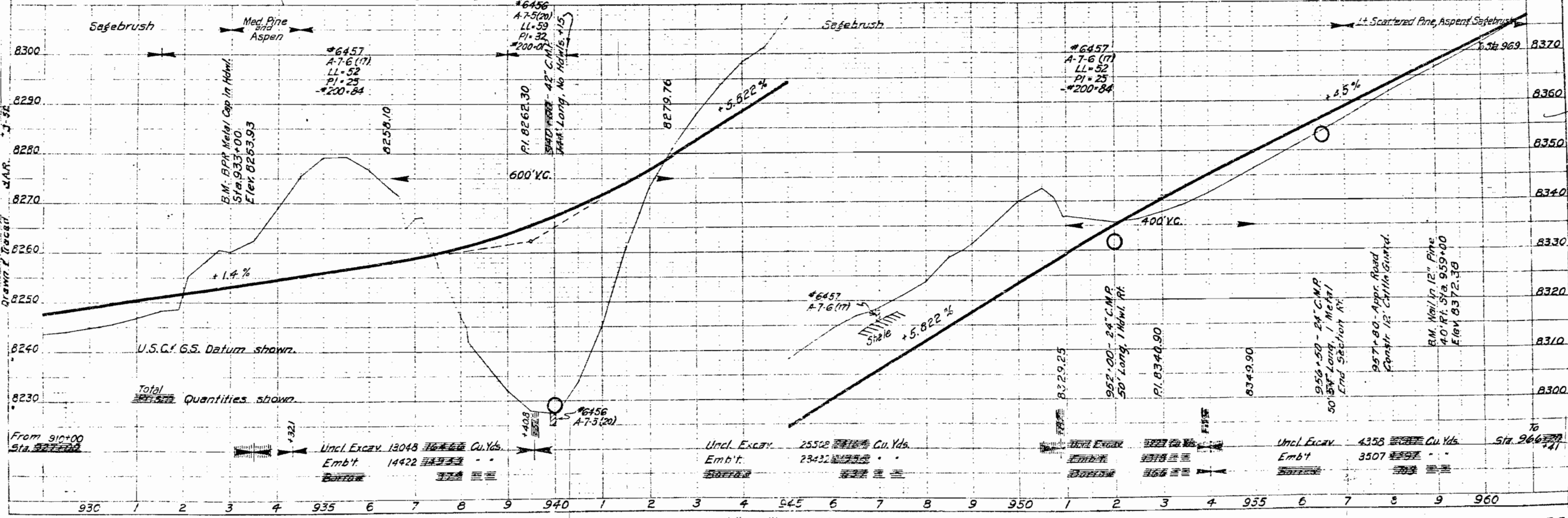
PLAN
 1950
 F.W.A.
 Willow
 Sta. 930+00 to Sta. 960+00
 Sheet No. 35

9 Colo. 24 03 35



The Alignment and Grade as hereon shown are subject to adjustment.

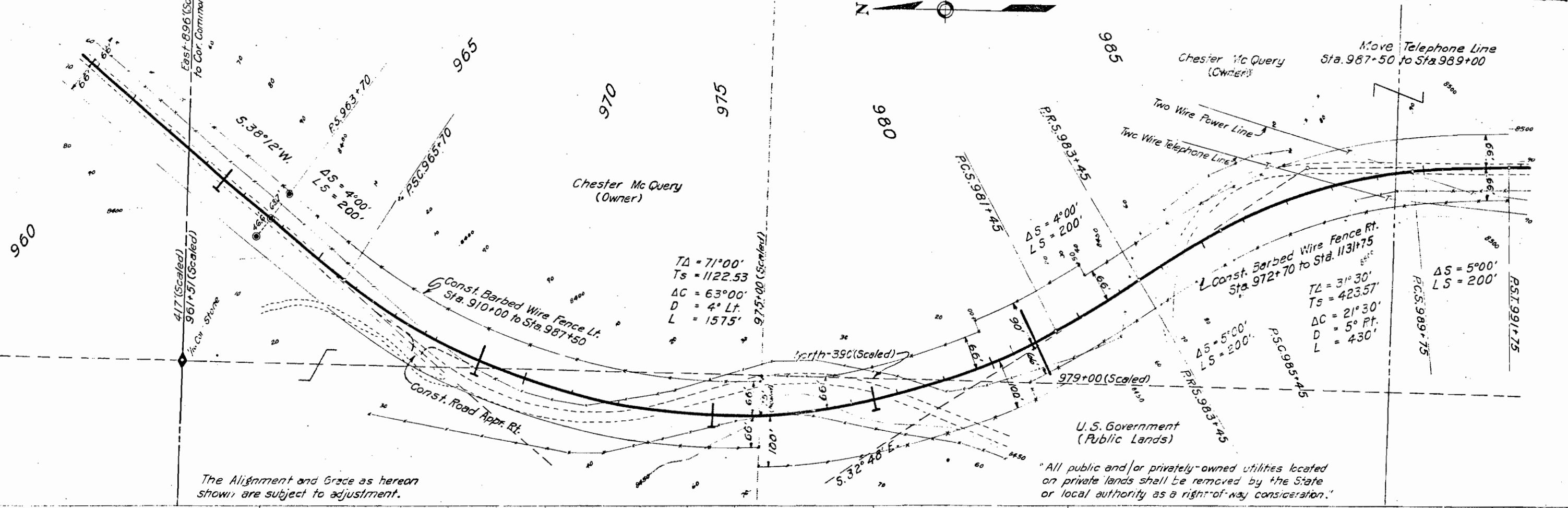
All public and/or privately-owned utilities located on private lands shall be removed by the State or local authority as a right-of-way consideration.



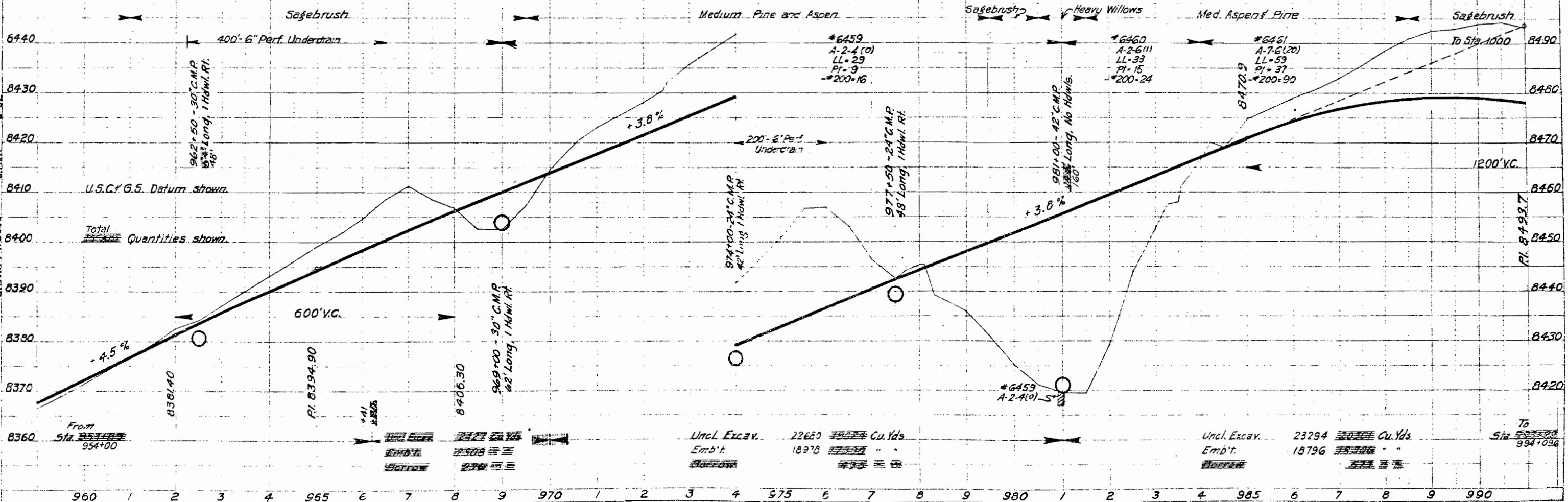
PLAN
1950
F.W.A.
Drawn & Traced
2-52
J.A.R.
1950
F.W.A.
Drawn & Traced
2-52
J.A.R.

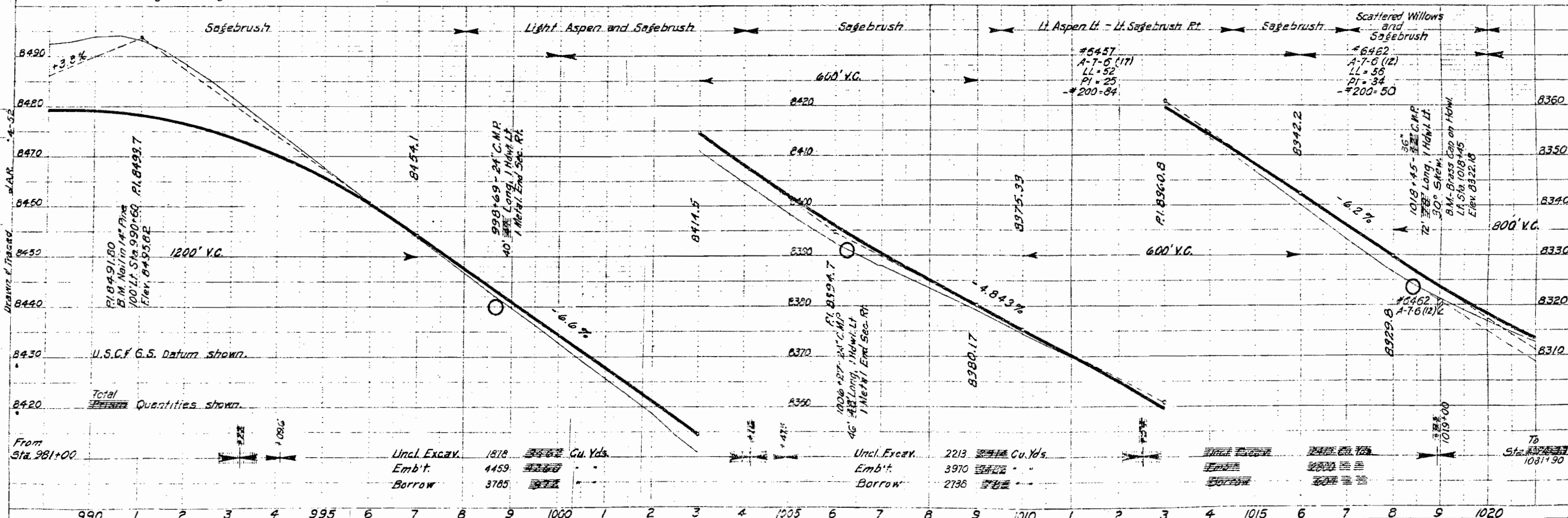
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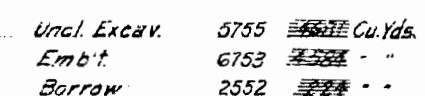
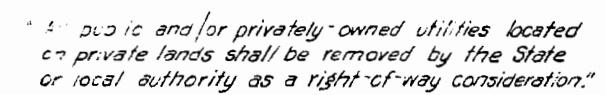
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The Alignment and Grade as hereon shown are subject to adjustment.





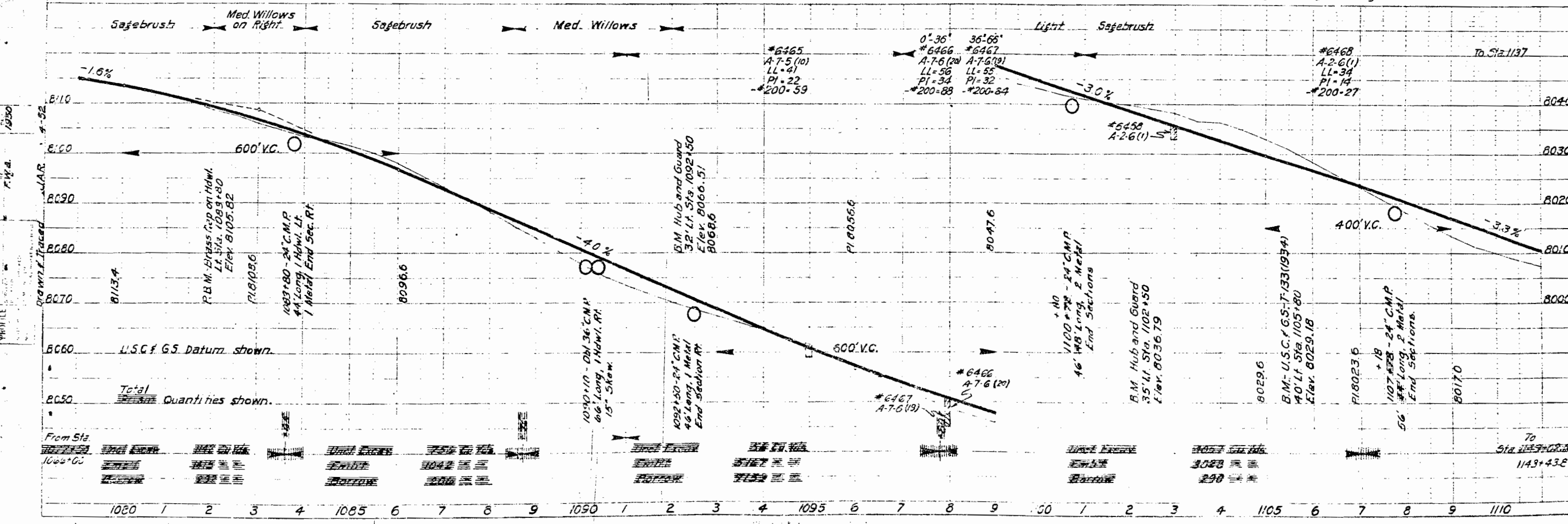
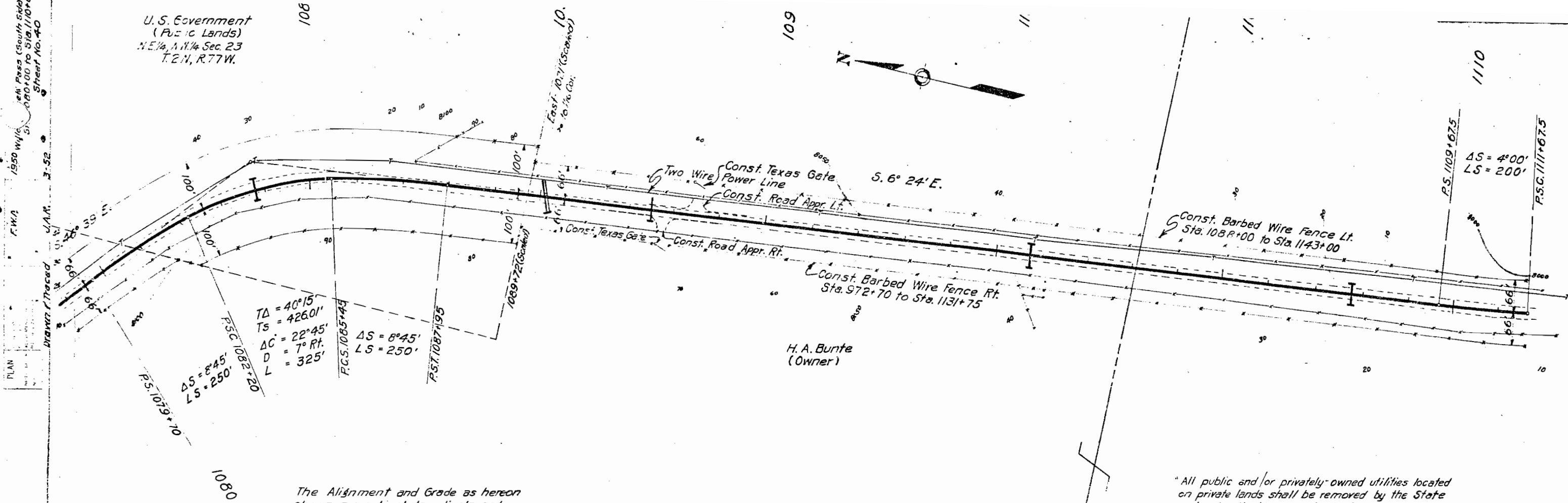


U.S. Government
(Public Lands)
N.E. 1/4, N.W. 1/4 Sec. 23
T.2N, R.77W.

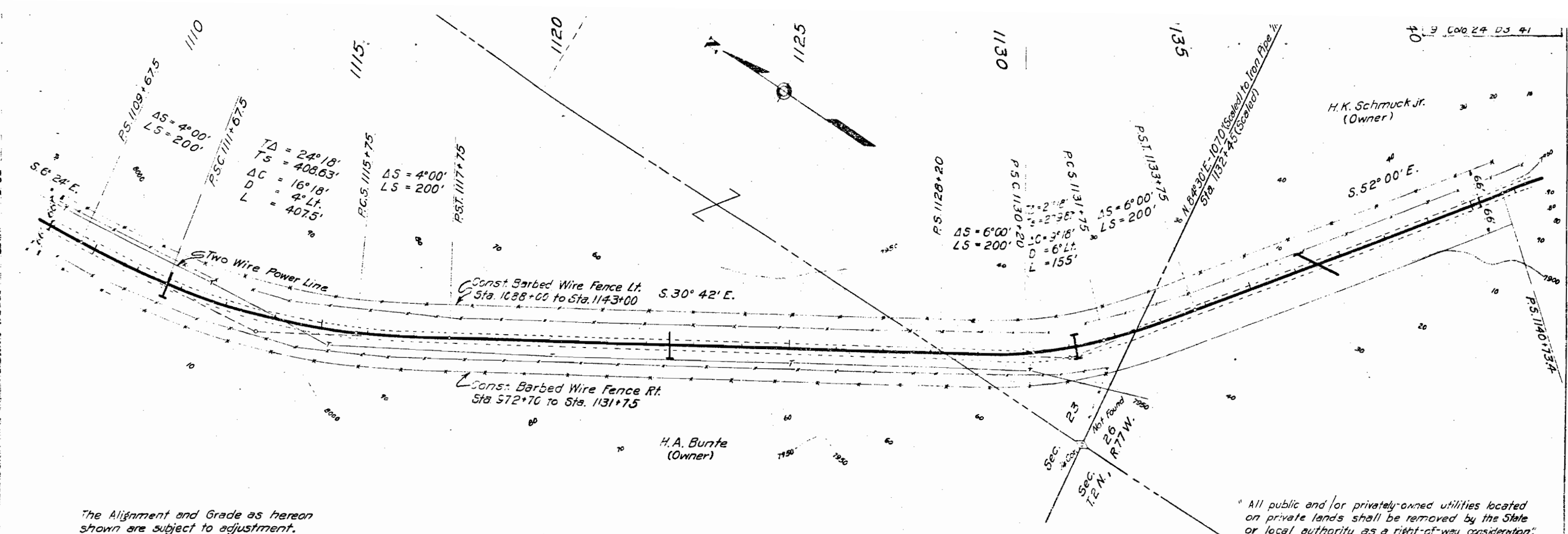
108

109

110

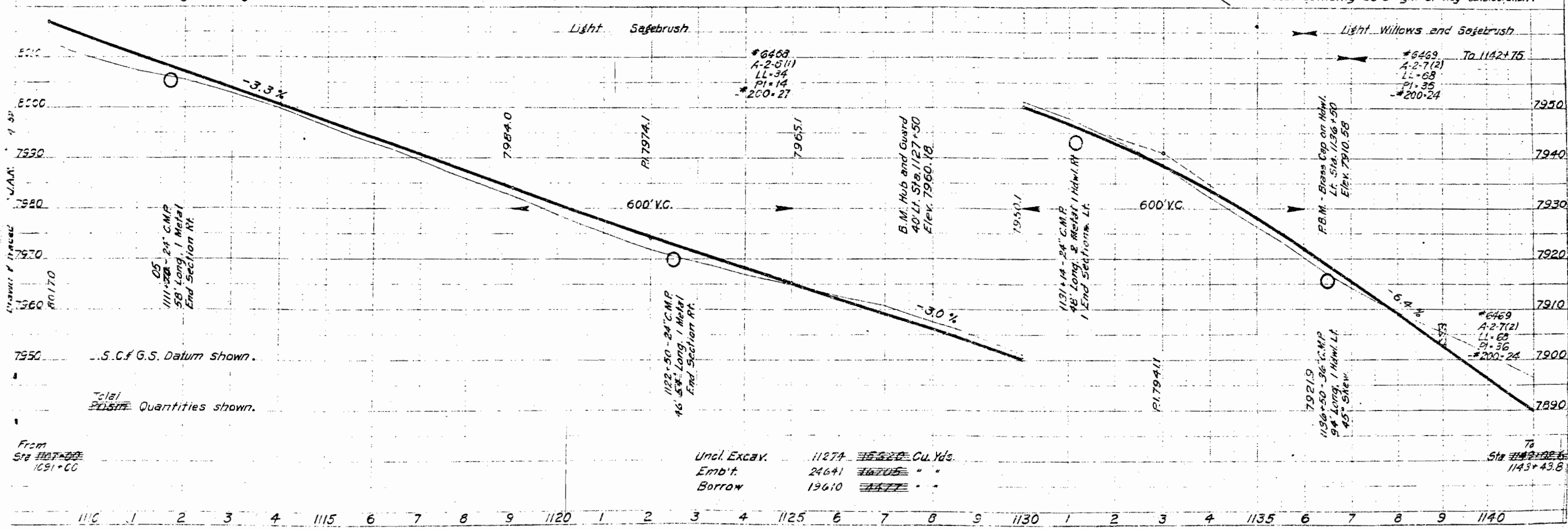


1950 W.M.A. 3-32
 1950 W.M.A. 3-32
 1950 W.M.A. 3-32



The Alignment and Grade as hereon shown are subject to adjustment.

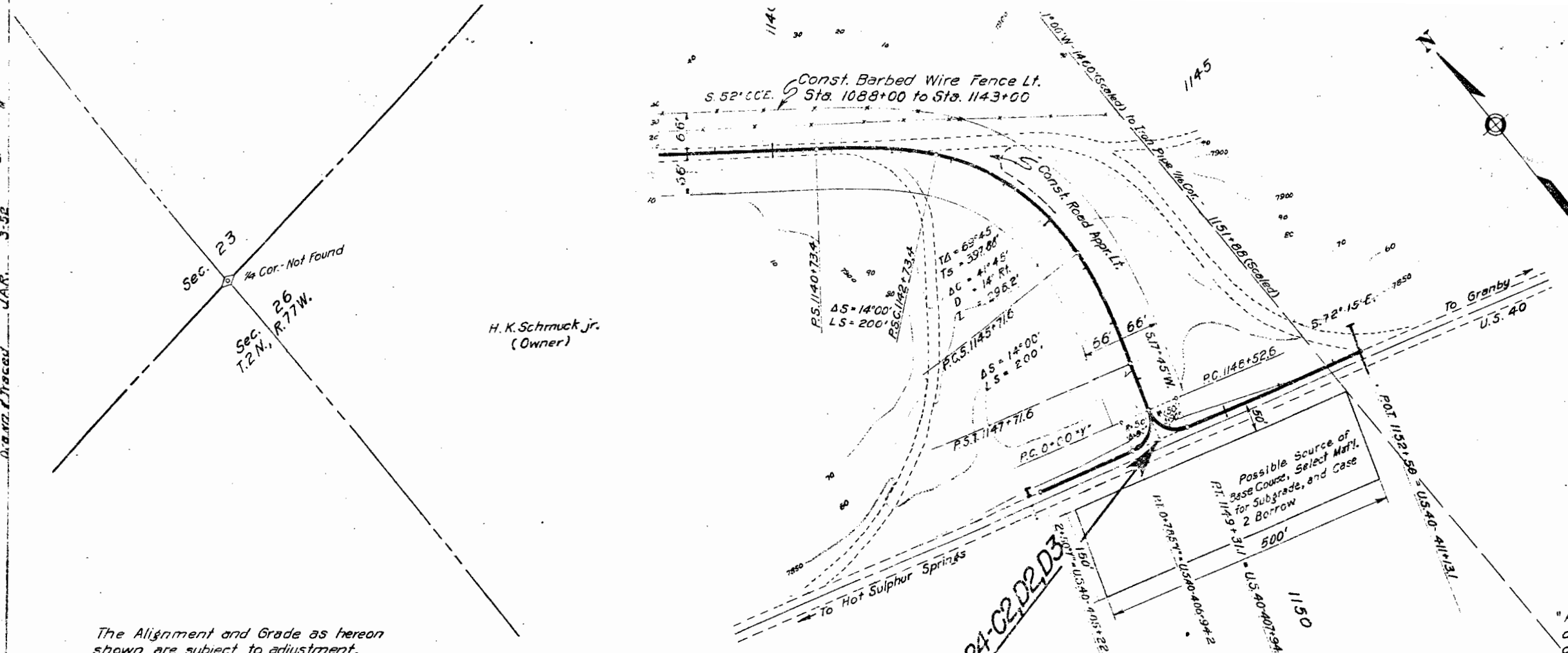
All public and/or privately-owned utilities located on private lands shall be removed by the State or local authority as a right-of-way consideration.



Uncl. Excav.	11274	16620	Cu. Yds.
Emb't.	24641	16705	" "
Borrow	13610	1677	" "

Page South Side 100
10 To Sta 1143+00
Sheet No. 42

PLAN
1950 Willow
FWA
Drawn & Traced J.A.R. 3-52



The Alignment and Grade as hereon shown are subject to adjustment.

"All public and/or privately-owned utilities located on private lands shall be removed by the State or local authority as a right-of-way consideration."

