

County improvements in city of Buena Vista, 471-5974
5445

MASTER DRAINAGE PLAN
TEMPLETON GAP HEIGHTS
EL PASO COUNTY, COLORADO

WEISS
CONSULTING
ENGINEERS, INC.
Colorado Springs, Colorado

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MASTER DRAINAGE PLAN
TEMPLETON GAP HEIGHTS
EL PASO COUNTY, COLORADO

WEISS CONSULTING ENGINEERS, INC.

1815 North Tejon

Colorado Springs, Colo. 80907

(303) 634-0373

November 15, 1977

Mr. Guenther Polok
Drainage Engineer
El Paso County
Department of Transportation
3120 Century Street
Colorado Springs, CO 80907

Polok

Dear Guenther:

Transmitted herewith is a Master Drainage Report for the overall Templeton Gap Heights area, which is located south of Woodman Road west of Powers Boulevard and northwesterly of Templeton Gap Road.

If you have any questions on this report, I will be glad to discuss them with you.

Sincerely,

WEISS CONSULTING ENGINEERS, INC.

G. J. Weiss

G. J. Weiss P.E.-L.S. 4124

GJW/saw

6" gravel

GENERAL DESCRIPTION

Templeton Gap Heights lies in the east half of Section 12 and the north half of the north half of Section 13, Township 13 South, Range 66 west of the 6th P.M. in El Paso County, Colorado. It is bounded on the north by Woodman Road, on the east by Powers Boulevard and on the southeast by Templeton Gap Road.

The following final plats have been recorded within the area of this study.

<u>SUBDIVISION</u>	<u>BOOK</u>	<u>PAGE</u>
Templeton Gap Heights Filing No. 2	J-2	18
Templeton Gap Heights Filing No. 3	K-2	23
Templeton Gap Heights Filing No. 4	L-2	17

The area north of these recorded plats is being shown on this Master Drainage Plan in conformance with the Master Plan for the proposed future development.

The drainage in this development flows westerly and falls within the Cottonwood Creek Drainage Basin.

SOIL TYPE

Three types of soils are found within this development as follows:

The Truckton Series (R5-AB and R5B-BD) consists of deep, well-drained soils formed in arkosic sandy loam deposits on uplands. The surface layer is sandy loam or loamy sand, and the subsoil is sandy loam. This soil falls in Hydrologic Group B.

The Blakeland Series (R7-BD) consists of deep, somewhat excessively drained soils formed in arkosic sands on uplands. The surface layer is a grayish-brown loamy sand about 12 inches thick and the underlying layer is a light yellowish-brown loamy coarse sand that extends up to 60 inches or more. This soil falls in Hydrologic Group A.

The Bresser Series (R9-D) are deep, well-drained soils formed in arkosic alluvium and residuum on uplands. The surface layer is a very dark grayish-brown sandy loam, and the subsoil is a dark brown sandy clay loam. This soil falls in Hydrologic Group B.

COMPUTATION METHOD

The method of computation utilized in this report is the SCS, Synthetic Hydrograph Method. The 50-year storm of two inch intensity and duration of one hour was used. The lots are platted into 5 acre or larger tracts. Curve number (CN) 80 was

used with $Q = 0.56$ inches. The ground has a good natural cover and will basically remain in its natural state except for the building sites and roads.

EXTERIOR FLOWS

Water flows into this development from the east and south as shown on the attached USGS Map and marked as basins A, B, C, D, E and F. These will produce flows of 37 c.f.s., 28 c.f.s., 101 c.f.s., 51 c.f.s., 77 c.f.s. and 88 c.f.s. as indicated on the Hydrologic Computation Sheet, sheet 1 of 2.

INTERIOR FLOWS

Computations for the interior flows are shown on sheet 2 of 2 on the Hydrologic Computation Sheets. The flows for each sub-basin is shown on the drainage plan along with the accumulative flows at critical points.

Areas H-1 and H-2 drain into sumps where the runoff water will accumulate approximately 1.5' deep during the design storm in this natural retention reservoir. Since the soil is in Hydrologic Group A, the percolation rate is good, and the water will seep into the soil at a rapid rate. An inspection at these locations shows no evidence of water being ponded here. A street profile design for Jill Street was prepared by United Western Engineers and submitted to El Paso County along with Templeton Gap Heights Filing No. 3, which was recorded in Plat Book K-2 at Page 23 on May 14, 1968. This profile indicated that the road would be filled through this area and allow the water to accumulate in the borrow ditch on each side.

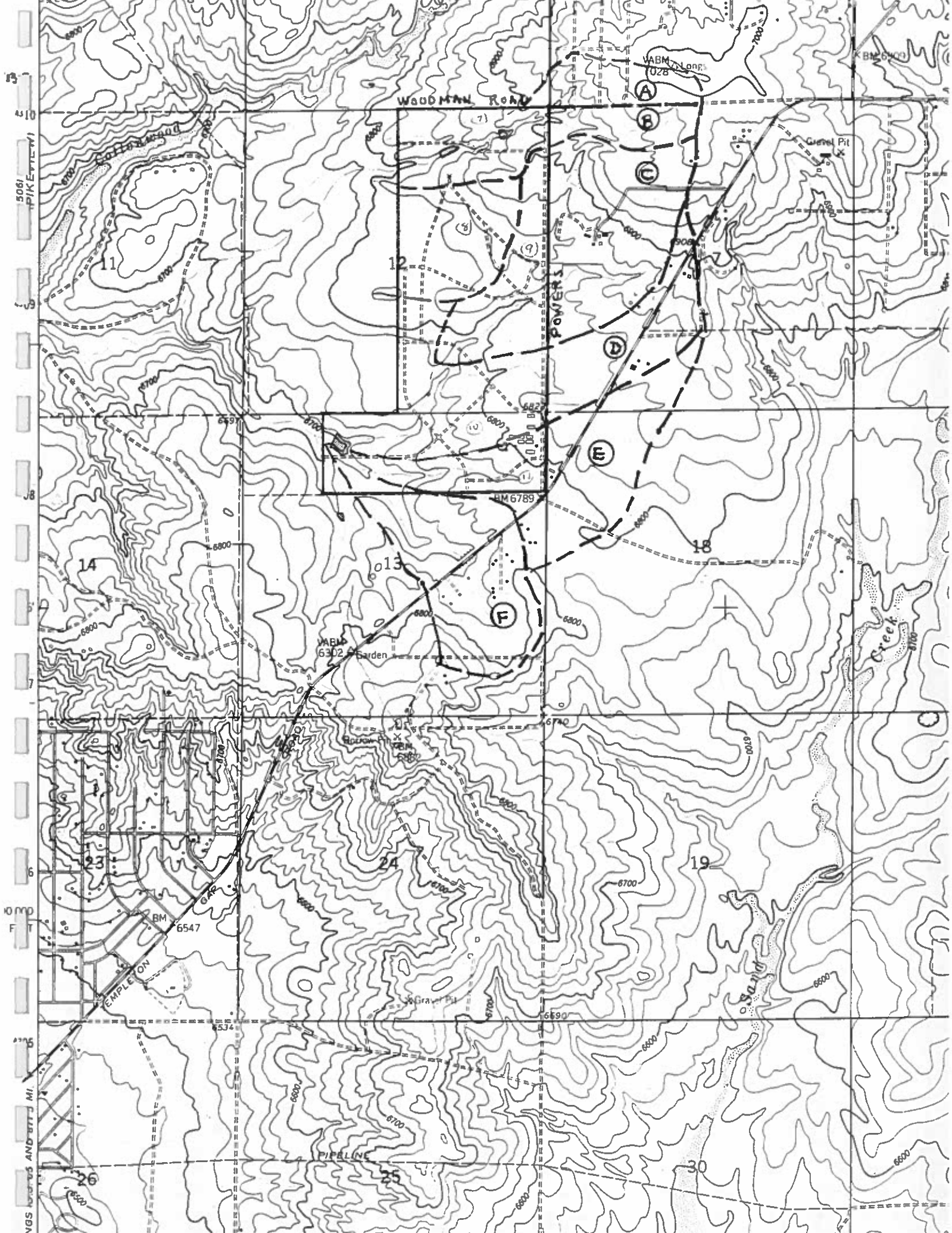
DRAINAGE FACILITIES

Drainage piping will be required at intersections and across the natural drainage channels as shown on the attached drainage plan. The minimum size of pipe shown is 18" C.M.P. to conform to El Paso County requirements. Several locations have existing pipe installed in conformance with El Paso County requirements at the time of platting, but is inadequate for the flows generated by the design criteria in this report. The required pipe size is shown on the plan. If the existing piping is in good enough condition to remain, additional piping may be installed in conjunction with this where the

combination of the two would carry the design flow.

There are several SCS Type detention storage reservoirs in place on the site. These facilities may remain in place for some time yet, but the calculated flows and the size of design structures assumes that they are not in service.

Roadside ditches will need to be constructed and maintained to handle the flows shown on the plan.



5061
PIK ELEVATION

4310

429

410

38

37

36

35

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23

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7

6

5

4

3

2

1

0

5000

4000

3000

2000

1000

0

NGS HORINGS AND BERTS MI.

Waudman Road

VABM Long
028

Gravel Pit

POWER LINE

VABM
6302 Garden

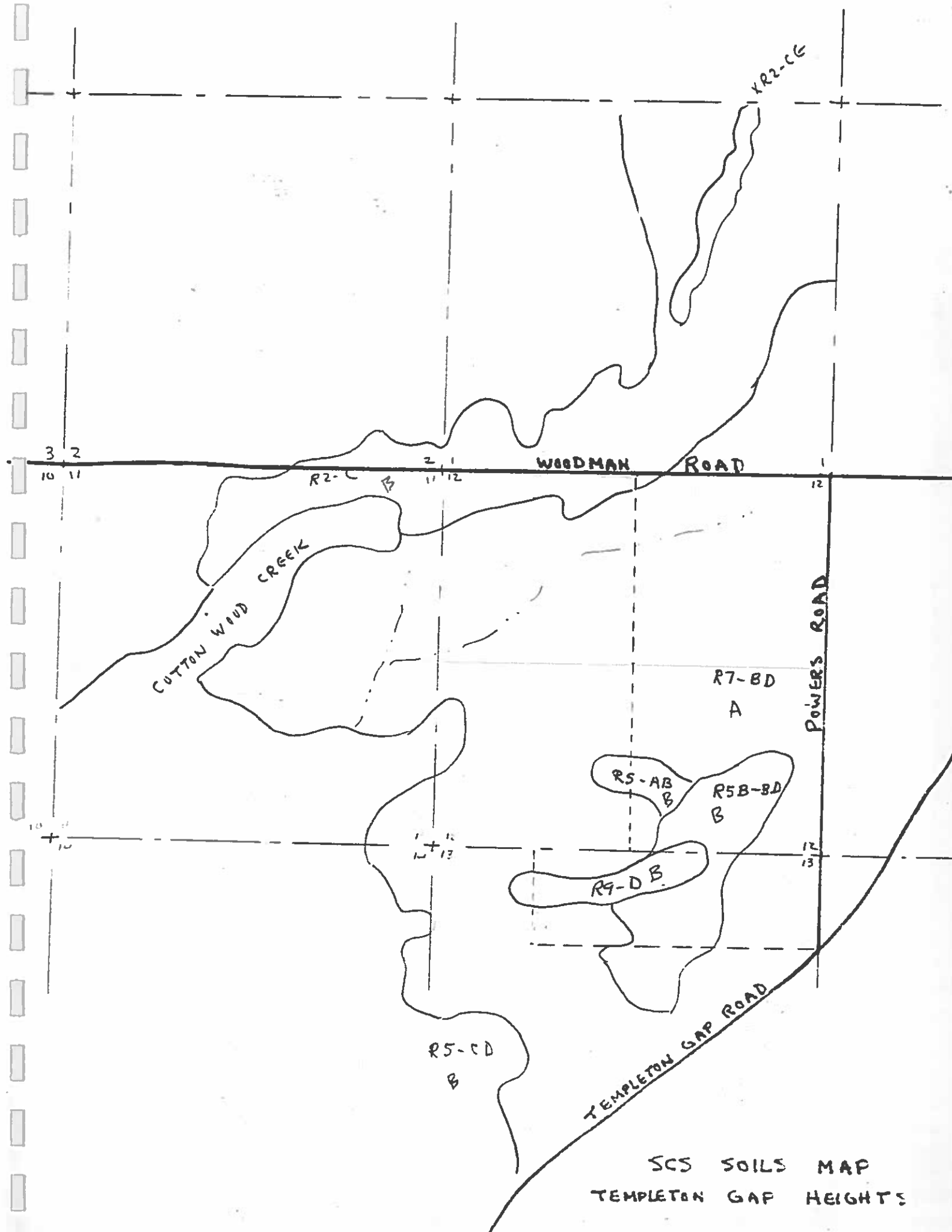
BM 6789

BM
6547

EMPLETON

PIPELINE

Sand Creek



SCS SOILS MAP
TEMPLETON GAP HEIGHTS

HLRA(S): 49, 67
 LL-RD, 12-72
 TORRIDTHERMIC HAPLUSTOLLS, SANDY, MIXED, MESSIC

BLAKELAND SERIES

BLAKELAND SOILS ARE DEEP, SOMEWHAT EXCESSIVELY-DRAINED SOILS. THEY FORMED IN ARKOSIC SANDS ON UPLANDS. IN A TYPICAL PROFILE, THE SURFACE LAYER IS A GRAYISH-BROWN LOAMY COARSE SAND, ABOUT 12 INCHES THICK. THE UNDERLYING LAYER IS A LIGHT YELLOWISH-BROWN, LOAMY COARSE SAND, THAT EXTENDS TO 60 INCHES OR MORE. AVERAGE ANNUAL PRECIPITATION IS ABOUT 18 INCHES, AND THE AVERAGE AIR TEMPERATURE IS 48 F. SLOPES ARE 2 TO 20 PERCENT.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	SANDS	SILTS	CLAYS	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLASTICITY INDEX	
						>3 IN. (PCT)	5	10	40			200
0-12	LS, LBSC	SM-SC	A-2			0	95-100	90-100	40-60	15-30	10-30	5-10
12-60	LS, LCOS, S	SM-SC	A-2			0	95-100	90-100	35-60	5-25	20-25	5-10

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (PH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION FACTORS	WIND EROD.
						STEEL	CONCRETE		
0-20	6.0-20	0.05-0.08	6.6-7.3	-	LOW	LOW	LOW	-10	2
12-60	6.0-20	0.05-0.08	6.6-7.3	-	LOW	LOW	LOW	-10	

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYDROFROST	POTENTIAL ACTION
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT.	TOTAL		
NONE			26.0					260				A	LOW

SANITARY FACILITIES (A)		SOURCE MATERIAL	
SEPTIC TANK ABSORPTION FIELDS	2-8%: SLIGHT 8-15%: MODERATE-SLOPE 15+%: SEVERE-SLOPE	ROADFILL	2-15%: GOOD 15+%: FAIR-SLOPE
SEWAGE LAGOON AREAS	2-7%: SEVERE-SEEPAGE 7+%: SEVERE-SEEPAGE, SLOPE	SAND	POOR-EXCESS FINES
SANITARY LANDFILL (TRENCH)	SEVERE-SEEPAGE	GRAVEL	UNSUITED
SANITARY LANDFILL (AREA)	2-15%: SEVERE-SEEPAGE 15+%: SEVERE-SEEPAGE, SLOPE	TOPSOIL	POOR-TOO SANDY
DAILY COVER FOR LANDFILL	2-15%: FAIR-TOO SANDY 15+%: POOR-SLOPE	WATER MANAGEMENT	
		POND RESERVOIR AREA	SEEPAGE, SLOPE

COMMUNITY DEVELOPMENT			
SHALLOW EXCAVATIONS	2-8%: SLIGHT 8-15%: MODERATE-SLOPE 15+%: SEVERE-SLOPE	EMBANKMENTS, DIKS AND LEVEES	PIPING
DWELLINGS WITHOUT BASEMENTS	2-8%: SLIGHT 8-15%: MODERATE-SLOPE 15+%: SEVERE-SLOPE	EXCAVATED PONDS, AQUIFER FED	NO WATER
DWELLINGS WITH BASEMENTS	2-8%: SLIGHT 8-15%: MODERATE-SLOPE 15+%: SEVERE-SLOPE	DRAINAGE	SLOPE
SMALL COMMERCIAL BUILDINGS	2-4%: SLIGHT 4-8%: MODERATE-SLOPE 8+%: SEVERE-SLOPE	IRRIGATION	ERODES EASILY, SLOPE, DROUGHTY
LOCAL ROADS AND STREETS	2-8%: SLIGHT 8-15%: MODERATE-SLOPE 15+%: SEVERE-SLOPE	TERRACES AND DIVERSIONS	2-8%: ERODES EASILY, PIPING 6+%: SLOPE, ERODES EASILY, PIPING
LAWNS, LANDSCAPING AND GOLF FAIRWAYS	2-8%: SLIGHT 8-15%: MODERATE-SLOPE 15+%: SEVERE-SLOPE	GRASSED WATERWAYS	2-3%: ERODES EASILY, DROUGHTY 3+%: SLOPE, ERODES EASILY, DROUGHTY

REGIONAL INTERPRETATIONS	

RECREATION

CAMP AREAS	2-15% MODERATE-TOO SANDY 15+% SEVERE-SLOPE	PLAYGROUNDS	2-6% MODERATE-TOO SANDY 6+% SEVERE-SLOPE
PICNIC AREAS	2-15% MODERATE-TOO SANDY 15+% SEVERE-SLOPE	PATHS AND TRAILS	2-15% MODERATE-TOO SANDY 15+% MODERATE-SLOPE, TOO SANDY

CAPABILITY AND PREDICTED YIELDS — CROPS AND PASTURE (HIGH LEVEL MANAGEMENT)

CLASS- DETERMINING PHASE	SILAGE		ALFALFA		CORN		BARLEY		PASTURE	
	BILITY		MAY (TONS)		(BU)		(BU)		(AUM)	
	NIRR	IRR	NIRR	IRR	NIRR	IRR	NIRR	IRR	NIRR	IRR
2-6%	6E	3E	3		65		50	0.3	3	
6-12%	6E	4E	2				40	0.2	2	
12+%	6E	6E								

WOODLAND SUITABILITY

CLASS- DETERMINING PHASE	ORD	MANAGEMENT PROBLEMS					POTENTIAL PRODUCTIVITY		TREES TO PLANT
		EROSION HAZARD	EQUIP. LIMIT	SEEDLING MORT'Y.	WINDTH. HAZARD	PLANT COMPET.	IMPORTANT TREES	SITE INCH	
								NONE	

WINDBREAKS

CLASS- DETERMINING PHASE	SPECIES	HT	SPECIES	HT	SPECIES	HT	SPECIES	HT
ALL	PONDEROSA PINE	20	ROCKY MT. JUNIPER	15	SIBERIAN ELM	30	HACKBERRY	25
	GREEN ASH	20	RUSSIAN-OLIVE	18	SIOUXLAND COTTONWOOD	30	HONEYLOCUST	20

WILDLIFE HABITAT SUITABILITY

CLASS- DETERMINING PHASE	POTENTIAL FOR HABITAT ELEMENTS										POTENTIAL AS HABITAT FOR:				
	GRAIN & SEED	GRASS & LEGUME	WILD HERB.	HARDWD TREES	CONIFER PLANTS	SHRUBS	WETLAND PLANTS	SHALLOW WATER	OPENLD WILDLF	WOODLD WILDLF	WETLAND WILDLF	RANGELD WILDLF			
NIRR	POOR	FAIR	FAIR			FAIR	V. POOR	V. POOR	FAIR		V. POOR	FAIR			
IRR	FAIR	GOOD	FAIR			FAIR	V. POOR	V. POOR	FAIR		V. POOR				

POTENTIAL NATIVE PLANT COMMUNITY (RANGELAND OR FOREST UNDERSTORY VEGETATION)

COMMON PLANT NAME	PLANT SYMBOL (N.SPN)	PERCENTAGE COMPOSITION (DRY WEIGHT) BY CLASS DETERMINING PHASE	
		PE25-31	PE>31
SAND BLUESTEM	ANNA	5	15
PRAIRIE SANDREED	CAL0	15	20
LITTLE BLUESTEM	ANSC2	1	5
NEEDLEANDTHREAD	STCO4	15	5
BLUE GRAMA	BOGR2	25	15
SAND DROPSEED	SPCR	10	5
SEDGE	CAREX	4	5
RED THREEAWN	ARLO3	5	3
THICKSPIKE WHEATGRASS	ACDA	3	10
PRAIRIE JUNEGRASS	KOCR	2	2
OTHER PERENNIAL GRASSES	PPGG	8	3
BIRCH LEAF MOUNTAINHOGANY	CENO2	0	2
CURRENT 1/	RISE8	0	3
FRINGED SAGEBRUSH 1/	ARFR4	1	5
OTHER PERENNIAL FORBS	PPFF	6	2
POTENTIAL PRODUCTION (LBS./AC. DRY WT):			
FAVORABLE YEARS		1800	2000
NORMAL YEARS		1500	1800
UNFAVORABLE YEARS		1200	1500

FOOTNOTES

- A VERY RAPID PERMEABILITY MAKE POLLUTION A HAZARD.
- 1 NOT UTILIZED BY SHEEP OR CATTLE.

R-5 sand loam

TRUCKTON SERIES

MLRA(S): 45, 47
 AKD, 3-73
 ARIDIC ARGILLETCLLS, COARSE-LOAMY, MIXED, MESIC

R5B = loamy sand

THE TRUCKTON SERIES CONSISTS OF DEEP, WELL-DRAINED SOILS FORMED IN ARKOSIC SANDY LOAM DEPOSITS ON UPLANDS. TYPICALLY, THE SURFACE LAYER IS SANDY LOAM OR LOAMY SAND, ABOUT 8 INCHES THICK. THE SUBSOIL IS SANDY LOAM, ABOUT 16 INCHES THICK, AND OVERLIES LIGHT SANDY LOAM THAT EXTENDS TO 60 INCHES OR MORE. NATURAL VEGETATION IS MOSTLY GRASS. AVERAGE ANNUAL PRECIPITATION IS ABOUT 16 INCHES, AND THE FROST-FREE SEASON IS ABOUT 140 TO 180 DAYS. SLOPES ARE 0 TO 12 PERCENT.

ESTIMATED SOIL PROPERTIES

DEPTH (IN.)	LSDA TEXTURE	UNIFIED	AASHTO	PERCENT OF MATERIAL LESS THAN 2" PASSING SIEVE NO.				LIQUID LIMIT	PLASTICITY INDEX
				4	10	40	200		
0-8	SL, LS, LCCS	SM	A-2	0	95-100	95-100	50-70	20-30	15-25
8-24	SL	SC, SM-SC	A-2, A-4, A-6	0	95-100	95-100	60-70	30-40	5-20
24-60	SL, LS	SC, SM-SC	A-2	0	95-100	95-100	50-65	20-35	5-15

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (PH)	SALINITY (MMHDS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION FACTORS	WIND EROD. GROUP
						STEEL	CONCRETE		
0-8	2.0-6.0	0.07-0.13	5.6-7.3	-	LOW	MODERATE	MODERATE	10	5
8-24	2.0-6.0	0.10-0.13	6.1-7.3	-	LOW	MODERATE	LOW	10	2
24-60	2.0-20	0.07-0.11	6.1-7.3	-	LOW	MODERATE	LOW	10	-

FREQUENCY	DURATION	MONTHS	HIGH WATER TABLE		CEMENTED PAV.		FEEBROCK		SUBSIDENCE		HYCIPOTENTIAL
			DEPTH (FT)	KIND	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
HOPE			20.6								B INCREASE

SANITARY FACILITIES

SEPTIC TANK ABSORPTION FIELDS	0-EX: SLIGHT 8+X: MODERATE-SLOPE	ROADFILL	SEWER MATERIAL	
			FAIR-FROST ACTION	
SEWAGE LAGGON AREAS	0-7X: SEVERE-SEEPAGE 7+X: SEVERE-SEEPAGE, SLOPE	SAND	POOR-EXCESS FINES	
SANITARY LANDFILL (TRENCH)	SEVERE-SEEPAGE	GRAVEL	UNSUITED	
SANITARY LANDFILL (AREA)	SEVERE-SEEPAGE	TOPSOIL	0-8X SL: GCCD 2+X SL: FAIR-SLOPE LS, LCCS: POOR-TOO SANDY	
DAILY COVER FOR LANDFILL	0-8X: GCCD 2+X: FAIR-SLOPE			

WATER MANAGEMENT

SHALLOW EXCAVATIONS	0-EX: SLIGHT E+X: MODERATE-SLOPE	EMBANKMENTS DIKES AND LEVEES	ERODES EASILY, PIPING	
DWELLINGS WITHOUT BASEMENTS	0-EX: SLIGHT 8+X: MODERATE-SLOPE	EXCAVATED PONDS AQUIFER FED	NO WATER	
DWELLINGS WITH BASEMENTS	0-8X: SLIGHT 2+X: MODERATE-SLOPE	DRAINAGE	0-1X: FAVORABLE 1+X: SLOPE	
SMALL COMMERCIAL BUILDINGS	0-4X: SLIGHT 4-8X: MODERATE-SLOPE 8+X: SEVERE-SLOPE	IRRIGATION	0-1X: DROUGHTY 1+X: ERODES EASILY, SLOPE	
LOCAL ROADS AND STREETS	0-8X: MODERATE-FROST ACTION E+X: MODERATE-SLOPE, FROST ACTION	TERRACES AND DIVERSIONS	0-6X: ERODES EASILY 6+X: SLOPE, ERODES EASILY	
LAWNS, LANDSCAPING AND GOLF FAIRWAYS		GRASSSED WATERWAYS	0-3X: ERODES EASILY 3+X: ERODES EASILY, SLOPE	

REGIONAL INTERPRETATIONS

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RECREATION

CAMP AREAS	0-2X SL: SLIGHT	PLAYGROUNDS	0-2X SL: SLIGHT
	0-2X SL: MODERATE-SLOPE		2-6X SL: MODERATE-SLOPE
PICNIC AREAS	0-2X LS.LCOS: MODERATE-TOD SANDY	PATHS AND TRAILS	0-2X LS.LCOS: MODERATE-TOD SANDY
	0-2X LS.LCOS: MODERATE-TOD SANDY.SLOPE		2-6X LS.LCOS: MODERATE-TOD SANDY.SLOPE

CAPABILITY AND PREDICTED YIELDS -- CROPS AND PASTURE (HIGH LEVEL MANAGEMENT)

CLASS- DETERMINING PHASE	CAPABILITY		WHEAT (BU)		BARLEY (BU)		ALFALFA HAY (TONS)		CORN (BU)		NIRR		IRR	
	NIRR	IRR	NIRR	IRR	NIRR	IRR	NIRR	IRR	NIRR	IRR	NIRR	IRR	NIRR	IRR
	0-2X SL	3E	2E	20	60	16	50	4.0	80					
1-3X SL	4E	3E	16	48	13	45	3.5	70						
3-6X SL	6E	4E	12	36	10	30	2.5	50						
0-2X LS.LCOS	4E	3E	16	48	13	45	2.0	70						
3-6X LS.LCOS	6E	4E	12	36	10	30	3.5	70						
0-2X LS.LCOS	6E	6E	-	-	-	-	2.5	-						
0-2X	6E	6E	-	-	-	-	-	-						

WOODLAND SUITABILITY

CLASS- DETERMINING PHASE	ORD SYM	MANAGEMENT PROBLEMS				POTENTIAL EFFECTIVITY			TREES TO PLANT
		EROSION HAZARD	ECLIP. LIMIT	SEEDLING MORT. Y.	WINDTH. HAZARD	PLANT COMPET.	IMPORTANT TREES	SITE INDEX	
								NONE	

WINDBREAKS

CLASS- DETERMINING PHASE	SPECIES	HT	SPECIES	HT	SPECIES	HT	SPECIES	HT
ALL	PONDEROSA PINE	25	ROCKY MT. JUNIPER	20	EASTERN REDCEDAR	20	RUSSIAN-OLIVE	25
	SIBERIAN ELM	35	HACKBERRY	30	GREEN ASH	25		

WILDLIFE HABITAT SUITABILITY

CLASS- DETERMINING PHASE	POTENTIAL FOR HABITAT ELEMENTS						POTENTIAL AS HABITAT FOR:					
	GRAIN C/ SEED	GRASS C/ LEGUME	WILD HERB.	HARDWD TREES	CONIFER SHRUBS PLANTS	WETLAND PLANTS	SHALLOW WATERS	OPENLD WILDLF	WOODLD WILDLF	WETLAND WILDLF	RANGELD WILDLF	
0-6X NIRR	FAIR	FAIR	FAIR	-	-	FAIR	PCCR	V. POOR	FAIR	-	V. POOR	FAIR
0-2X	POOR	FAIR	FAIR	-	-	FAIR	V. POOR	V. POOR	FAIR	-	V. POOR	FAIR
0-6X IRR	GOOD	GOOD	FAIR	-	-	FAIR	PCCR	V. POOR	GOOD	-	V. POOR	FAIR

POTENTIAL NATIVE PLANT COMMUNITY (RANGELAND OR FOREST UNDERSTORY VEGETATION)

COMMON PLANT NAME	PLANT SYMBOL (N SPN)	PERCENTAGE COMPOSITION (DRY WEIGHT) BY CLASS DETERMINING PHASE	
		SL	LS.LCOS
BLUE GRAMA	BCGR2	35	20
NEEDLE-AND-THREAD	STCO4	10	10
SAND DROPSEED	SFCR	10	10
WESTERN WHEATGRASS	AGSM	5	5
SAND REEDGRASS	CALD	15	30
SEDGES	CAREX	5	4
SAND BLUESTEM	ANHA	2	5
LITTLE BLUESTEM	ANSC2	2	3
SAND SAGEBRUSH 2/	ARPI2	2	4
YUCCA 2/	YUGL	1	1
BUCKWHEAT 2/	ERIOG	2	2
WILLOW 2/	ARDR4	1	1
OTHER PERENNIAL GRASSES	PFGG	7	3
OTHER PERENNIAL FORBS	PFFF	2	1
OTHER SHRUBS	SSSS	1	1

FOOTNOTES

FROST ACTION NOT SEVERE ENOUGH TO AFFECT FOOTINGS; MAY DAMAGE SIDEWALKS, CURBS, AND STREETS. NOT USUALLY UTILIZED BY CATTLE OR SHEEP.

HLRA(5): 49, 67
REV. LL-SC, 6-75
ARIDIC ARGISTOLLS, FINE-LOAMY, MIXED, MESSIC

THE BRESSER SERIES ARE DEEP, WELL-DRAINED SOILS FORMED IN ARKOSIC ALLUVIUM AND RESIDUUM ON UPLANDS. IN A TYPICAL PROFILE, THE SURFACE LAYER IS A VERY DARK GRAYISH-BROWN SANDY LOAM, ABOUT 10 INCHES THICK. THE SUBSOIL IS A DARK BROWN SANDY CLAY LOAM, 8 INCHES THICK. THE UNDERLYING LAYER IS BROWN SANDY LOAM, ABOUT 11 INCHES THICK. THAT OVERLIES LOAMY COARSE SAND TO 60 INCHES OR MORE. NATURAL VEGETATION IS SHORT AND MID GRASSES. AVERAGE PRECIPITATION IS ABOUT 18 INCHES, AND AVERAGE AIR TEMPERATURE 48 F. SLOPES ARE 0 TO 15 PERCENT.

ESTIMATED SOIL PROPERTIES

DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHTO	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLASTICITY INDEX
				(PCT)	4	10	20		
0-8	0-10 SL. CCL	SH	A-1, A-2	0	95-100	75-100	35-50	20-25	15-25
8-27	0-10 CL. COG	SH	A-1	0	95-100	75-100	35-50	20-25	15-25
27-36	10-15 SCL	SC, SH	A-1, A-2, A-3, A-7	0	95-100	75-100	35-50	20-25	15-25
36-60	15-20 SL. COG, CR-SL	SC, SH-SC	A-2, A-3	0-1	90-100	60-100	30-60	20-30	25-35
	20-40 LCOS, CR-LS, CR-LS	SH-SC, SP-SC	A-2	0-5	80-100	35-55	20-50	5-20	20-30

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (PH)	SALINITY (MMHCS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION FACTORS	WIND EROSION GROUP
						STEEL	CONCRETE		
0-8	0.6-6.0	0.11-0.13	6.1-7.3	-	LOW	LOW	LOW	1-10	1-2
8-27	0.6-6.0	0.06-0.08	6.1-7.3	-	LOW	LOW	LOW	1-10	1-2
27-36	0.6-6.0	0.15-0.18	6.6-7.3	-	LOW	LOW	LOW	1-10	1-2
36-60	0.6-6.0	0.10-0.13	6.6-7.3	-	LOW	LOW	LOW	1-10	1-2
	2.0-20	0.05-0.08	6.6-7.3	-	LOW	LOW	LOW	1-10	1-2

FLOODING		HIGH WATER TABLE		CEMENTED PAV		BEDROCK		SUBSIDENCE		HYDRO POTENTIAL	
FREQUENCY	DURATION	DEPTH	KIND	DEPTH	HARDNESS	DEPTH	HARDNESS	INITIAL	TOTAL	CRP	FROST ACTION
None		(FT)		(IN)		(IN)		(IN)	(IN)		LEN
		28.0		-		28.0		-			LEN

SANITARY FACILITIES

FACILITY	SLOPE	ROADFILL	SCREE MATERIAL	
			GOOD	POOR-EXCESS FINES
SEPTIC TANK ABSORPTION FIELDS	0-8X: SLIGHT 8+X: MODERATE-SLOPE	ROADFILL	GOOD	
SEWAGE LAGUNA AREAS	0-7X: SEVERE-SEEPAGE 7+X: SEVERE-SEEPAGE, SLOPE	SAND	POOR-EXCESS FINES	
SANITARY LANDFILL (TRENCH)	SEVERE-SEEPAGE	GRAVEL	UNSUITED	
SANITARY LANDFILL (AREA)	SEVERE-SEEPAGE	TOPSOIL	0-8X SL. CCL: FAIR-THIN LAYER LS. LCOS: POOR-TOO SANDY 8+X SL. CCL: FAIR-SLOPE, THIN LAYER	

FACILITY	SLOPE	WATER MANAGEMENT	
		POND RESERVOIR AREA	SEEPAGE
DAILY COVER FOR LANDFILL	0-8X: GOOD 8+X: FAIR-SLOPE	POND RESERVOIR AREA	0-2X: SEEPAGE 2+X: SEEPAGE, SLOPE

COMMUNITY DEVELOPMENT

FACILITY	SLOPE	EMBANKMENTS DIKES AND LEVES	PIPE	
			NO WATER	FAVORABLE SLOPE
SHALLOW EXCAVATIONS	0-8X: SLIGHT 8+X: MODERATE-SLOPE	EMBANKMENTS DIKES AND LEVES	NO WATER	
DWELLINGS WITHOUT BASEMENTS	0-8X: SLIGHT 8+X: MODERATE-SLOPE	EXCAVATED PONDS AQUIFER FEED	NO WATER	
DWELLINGS WITH BASEMENTS	0-8X: SLIGHT 8+X: MODERATE-SLOPE	DRAINAGE	0-1X: FAVORABLE 1+X: SLOPE	
SMALL COMMERCIAL BUILDINGS	0-4X: SLIGHT 4-8X: MODERATE-SLOPE 8+X: SEVERE-SLOPE	IRRIGATION	0-1X: DROUGHTY 1+X: SLOPE, ERODES EASILY	
LOCAL ROADS AND STREETS	0-8X: SLIGHT 8+X: MODERATE-SLOPE	TERRACES AND DIVERSIONS	0-6X: ERODES EASILY, PIPING 6+X: SLOPE, ERODES EASILY, PIPING	
LAWNS, LANDSCAPING AND GOLF FAIRWAYS		GRASSED WATERWAYS	0-3X: ERODES EASILY 3+X: SLOPE, ERODES EASILY	

REGIONAL INTERPRETATIONS

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RECREATION

CAMP AREAS	0-2X SL.CCSL: SLIGHT	PLAYGROUNDS	0-2X SL.CCSL: SLIGHT
	0-2X LS.LCOS: MODERATE-TOO SANDY		0-2X LS.LCOS: MODERATE-TOO SANDY
	3-6X SL.CCSL: MODERATE-SLOPE		3-6X SL.CCSL: MODERATE-SLOPE
	6-9X LS.LCOS: MODERATE-SLOPE, TOO SANDY		6-9X LS.LCOS: MODERATE-SLOPE, TOO SANDY
PICNIC AREAS	0-2X SL.CCSL: SLIGHT	PATHS AND TRAILS	SL.CCSL: SLIGHT
	0-2X LS.LCOS: MODERATE-TOO SANDY		LS.LCOS: MODERATE-TOO SANDY
	3-6X SL.CCSL: MODERATE-SLOPE		
	6-9X LS.LCOS: MODERATE-SLOPE, TOO SANDY		

CAPABILITY AND PREDICTED YIELDS — CROPS AND PASTURE (HIGH LEVEL MANAGEMENT) (1)

CLASS-DETERMINING PHASE	CAPABILITY		ALFALFA	COBN	WHEAT		BARLEY					
	2E	3E	(TONS)	(BU)	(BU)	(BU)	(BU)	(BU)	(BU)	(BU)	(BU)	(BU)
	NIRR	IRR	NIRR	IRR	NIRR	IRR	NIRR	IRR	NIRR	IRR	NIRR	IRR
0-1X SL.CCSL	2E	3E	4	110	60	100						
1-3X SL.CCSL	3E	2E	3.5	15	20	80	25	80				
3-6X SL.CCSL	4E	3E	3	80	22	45	20	70				
6-9X SL.CCSL	4E	4E	2		18	40	15	50				
0-3X LS.LCOS	4E	3E	3	80	20	50	20	70				
3-6X LS.LCOS	4E	4E	2.5	70	14	40	15	60				
6-9X LS.LCOS	6E	6E										

WOOD AND SUITABILITY

CLASS-DETERMINING PHASE	ORD	SYM	MANAGEMENT PROBLEMS				POTENTIAL PRODUCTIVITY				TREES TO PLANT	
			EROSION	EQUIP.	SEEDLING	WINDTH.	PLANT	IMPORTANT TREES	SITE			
			HAZARD	LIMIT	MORT.Y.	HAZARD	COMPET.		INDEX			

WINDBREAKS

CLASS-DETERMINING PHASE	SPECIES	HT	SPECIES	HT	SPECIES	HT	SPECIES	HT
ALL	PONDEROSA PINE	20	ROCKY MT. JUNIPER	15	SIBERIAN ELM	30	HACKBERRY	25
	RUSSIAN-OLIVE	18	MONEYLOCUST	20				

WILDLIFE HABITAT SUITABILITY

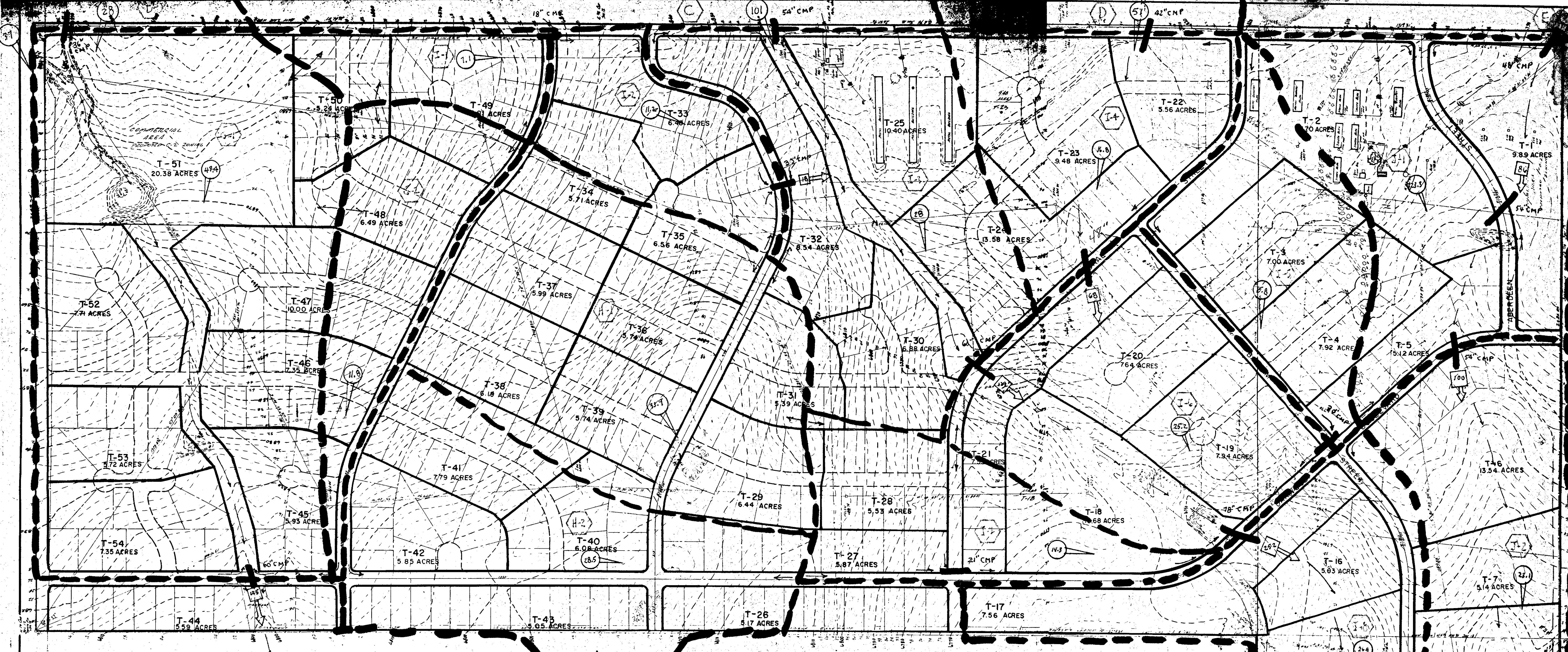
CLASS-DETERMINING PHASE	POTENTIAL FOR HABITAT ELEMENTS								POTENTIAL AS HABITAT FOR:			
	GRAIN & SEED	GRASS & LEGUME	WILD HERB.	HARDWD TREES	CONIFER PLANTS	SHRUBS	WETLAND PLANTS	SHALLOW WATER	OPENLD WILDLF	WOODLD WILDLF	WETLAND WILDLF	RANGELD WILDLF
	FAIR	GOOD	FAIR	-	-	FAIR	POOR	V. POOR	FAIR	-	V. POOR	FAIR
0-6X	FAIR	GOOD	FAIR	-	-	FAIR	POOR	V. POOR	FAIR	-	V. POOR	FAIR
6-9X	POOR	FAIR	FAIR	-	-	FAIR	V. POOR	V. PCCR	FAIR	-	V. POOR	FAIR

POTENTIAL NATIVE PLANT COMMUNITY (RANGELAND OR FOREST UNDERSTORY VEGETATION)

COMMON PLANT NAME	PLANT SYMBOL (N.SPN)	PERCENTAGE COMPOSITION (DRY WEIGHT) BY CLASS OF DETERMINING PHASE	
		15-18 PPT	13-15 PPT
BLUE GRAMA	BGGR2	15	25
SAND REEDGRASS	CALD	20	10
NEEDLE-AND-THREAD	STCO4	5	15
SAND BLUESTEM	ANMA	8	5
SAND DROPSEED	SPCR	5	10
THICKSPIKE WHEATGRASS	AGOA	5	1
WESTERN WHEATGRASS	AGSM	5	5
SEDGES	CAREX	5	5
RED THREEAWN	ARLO3	3	5
FRINGED SAGE	ASFR4	5	1
JUNEGRASS	KCCR	10	5
CURRENT 1/	RIBES	1	
OTHER PERENNIAL FORBS	PPFF	5	3
OTHER PERENNIAL GRASSES	PPGG	3	6
OTHER SHRUBS	SSSS	5	4
POTENTIAL PRODUCTION (LBS./AC. DRY WT):			
FAVORABLE YEARS		1800	1600
NORMAL YEARS		1500	1400
UNFAVORABLE YEARS		1000	1200

FOOTNOTES

1 NOT USUALLY UTILIZED BY CATTLE OR SHEEP.



COMMERCIAL AREA
UNZONED C-2 ZONING

T-51
20.38 ACRES

T-50
5.28 ACRES

T-49
4.1 ACRES

T-33
6.3 ACRES

T-25
10.40 ACRES

T-22
5.56 ACRES

T-2
7.0 ACRES

T-1
9.89 ACRES

T-48
6.49 ACRES

T-54
5.71 ACRES

T-35
6.56 ACRES

T-32
8.54 ACRES

T-24
13.58 ACRES

T-3
7.00 ACRES

T-11
7.00 ACRES

T-52
7.71 ACRES

T-47
10.00 ACRES

T-37
5.99 ACRES

T-36
5.74 ACRES

T-30
6.88 ACRES

T-20
7.64 ACRES

T-4
7.92 ACRES

T-5
15.12 ACRES

T-53
5.72 ACRES

T-46
7.35 ACRES

T-38
6.18 ACRES

T-39
5.74 ACRES

T-31
5.39 ACRES

T-21
5.00 ACRES

T-19
7.94 ACRES

T-6
13.54 ACRES

T-45
5.93 ACRES

T-41
7.79 ACRES

T-29
6.44 ACRES

T-28
5.53 ACRES

T-18
6.68 ACRES

T-16
5.83 ACRES

T-7
5.14 ACRES

T-44
5.59 ACRES

T-42
5.85 ACRES

T-40
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