

POND 1 NOTES
1.0 GENERAL FACILITY DESCRIPTION

POND 1 IS A DETENTION AND WATER QUALITY FACILITY THAT SERVES THE SOUTH PORTION OF THE WILD PLUM PROJECT. THE POND WAS DESIGNED PER UDFCD FULL SPECTRUM PROCEDURES AND UTILIZES THE SAND FILTER CONCEPT FOR WATER QUALITY TREATMENT. STORMWATER IS RELEASED AT A CONTROLLED AND ALLOWED RATE VIA TWO OVERFLOW WEIRS TO COOLEY LAKE.

2.0 GENERAL INFORMATION
A. UDFCD DRAINAGEWAY # NOT APPLICABLE

B. PROPERTY OWNER: WILD PLUM METROPOLITAN DISTRICT

C. DESIGN ENGINEER: ENERTIA CONSULTING GROUP, LLC
(720) 250-8305

3.0 HYDRAULIC INFORMATION

A. ONLINE OR OFFLINE FACILITY? OFFLINE

B. FLOW RATES
NORMAL LOW-FLOW INFLOW 0.1 CFS OUTFLOW 0.1 CFS
100-YEAR 81.8 CFS 34.8 CFS

C. POND DESCRIPTION
REFER TO THE "POND 1 SUMMARY TABLE" ON THIS SHEET FOR STAGE AND VOLUME INFORMATION.

D. OUTLET TYPE
TWO SOIL RIPRAP SPILLWAYS. THE SPILLWAYS ARE SIZED TO DISCHARGE THE TOTAL ALLOWED OUTFLOW FROM POND 1 (34.8 CFS TOTAL)

E. WQCV DRAIN TIME
THE WATER QUALITY ASPECT OF POND 1 IS DESIGNED AS A SAND FILTER WITH A 12 HOUR DRAIN TIME..

4.0 MISCELLANEOUS INFORMATION

A. PROJECT SURVEY:
(TOPOGRAPHY)
EXISTING TOPOGRAPHY WAS PROVIDED WITH AN ALTA SURVEY PREPARED BY CVL CONSULTANTS AND WAS PREPARED BASED ON AERIAL SURVEY. SUPPLEMENTAL AND SUPPORTING FIELD SURVEY WAS COLLECTED BY AZTEC CONSULTANTS, INC.

(PROJECT BENCHMARK)
THE ELEVATIONS AND CONTOURS AS SHOWN, ARE BASED UPON NGS STATION KNOWN AS Q23, BEING A 3" BRASS CAP SET IN CONCRETE LOCATED BETWEEN THE EDGE OF ASPHALT OF NORTHBOUND SANTA FE DRIVE AND THE RAILROAD APPROXIMATELY 800 FEET SOUTH OF MINERAL AVENUE.

ELEVATION = 5,395.24 DATUM = NAVD 88

B. SEED MIXES:

RIPARIAN SEED MIX					
COMMON NAME	SCIENTIFIC NAME	PERCENT BY WEIGHT	PLS lbs/acre	GROWTH SEASON	MIN. PRECIP (IN)
ANNUAL RYEGRASS	LOLIUM PERENNE SSP. MULTIFLORUM	26%	8	C	
NEBRASKA SEDGE	CAREX NABRASCENSIS	3%	1	C	14-W
SPIKE RUSH	ELEOCHARIS PALUSTRIS	1%	0.2	C	16-W
SWITCHGRASS	PANICUM VIRGATUM	1%	0.25	W	12-W
WESTERN WHEATGRASS	PASCOPYRUM SMITHII	20%	6	C	10
FOXTAIL BARLEY	HORDEUM LUBATUM	13%	4	C	20-W
BALTIC RUSH	JUNCUS BALTICUS	1%	0.2	C	7-W
BUFFALOGRASS	BUCHLOE DACTYLOIDES	2%	0.5	W	7
BEBB'S SEDGE	CAREX BEBBII	3%	1	C	14-W
BLUE GRAMA	BOUTELOUA GRACIUS	2%	0.5	W	7
ALAKALI SACATON	SPOROBOLUS AIROIDES	3%	1	W	5
LITTLE BLUESTEM	SCHIZACHYRIUM SCOPARIUM	13%	4	W	43450
INLAND SALTGRASS	DISTICHUS SPICATA	10%	3	W	5-W
SAND LOVEGRASS	ERAGROSTIS TRICHODES	3%	1	W	14
PLS LBS/ACRE		100%	30.65		
WILDFLOWERS					
COMMON NAME	SCIENTIFIC NAME	PERCENT BY WEIGHT	PLS lbs/acre	COLOR	BLOOM SEASON
ARROWLEAF BALSAMROOT	BALSAMORHIZA SAGITTATA	3%	0.5	YELLOW	SUMMER
BLACK-EYED SUSAN	RUDBECKIA HIRTA	1%	0.2	YELLOW	SUMMER/FALL
SMOOTH ASTER	ASTER LAEVIS	13%	2	BLUE	FALL
MOUNTAIN LUPINE	LUPINUS ALPESTRIS	67%	10	BLUE	SUMMER
ROCKY MOUNTAIN PENSTEMON	PENSTEMON STRICTUS	7%	1	BLUE	SUMMER
FIREWEED	EPILOBIUM ANGUSTIFOLIUM	1%	0.2	RED	SUMMER/FALL
MILKWEED	ASCLEPIA SPECIOSA	3%	0.5	RED	SUMMER/FALL
SCARLET BUGLER	PENSTEMON BARBATUS	3%	0.5	RED	SUMMER
PLS LBS/ACRE		100%	14.9		

C. MOW AREAS: 0.0 ACRES
IT IS NOT ANTICIPATED THAT THE POND 1 AREA WILL BE MOWED. POND 1 SEEDING INCLUDES A NATIVE RIPARIAN AND WILDFLOWER SEED MIX PROVIDED TO LESSEN LONG TERM MAINTENANCE REQUIREMENTS.

5.0 MAINTENANCE NOTES & PROCEDURES

A. SITE INSPECTION
THE FOLLOWING ITEMS SHOULD BE INSPECTED A MINIMUM OF ONCE PER YEAR AND MAINTAINED AS NEEDED:
-POND BOTTOM - THE POND BOTTOM SHALL BE INSPECTED FOR SEDIMENT AND DEBRIS BUILD-UP. WHEN SEDIMENT BUILD-UP IMPEDES THE FUNCTION OF THE POND, THE SEDIMENT SHALL BE REMOVED AND DISPOSED OF OFF-SITE. ALL DEBRIS SHALL BE COLLECTED AND DISPOSED OFF-SITE.
-VEGETATION - THE POND VEGETATION SHALL BE UNIFORM AND IN GOOD HEALTH. REVEGETATE AREAS AS NEEDED.
-EROSION - INSPECT THE POND AND SPILLWAY OUTFALLS FOR SIGNS OF EROSION. AREAS THAT ARE ERODED SHALL BE REPAIRED AND REVEGETATED. AREAS PRONE TO EROSION OVER AN EXTENDED PERIOD OF TIME SHALL BE REPAIRED AS NEEDED VIA SOIL RIPRAP, EROSION CONTROL BLANKET OR OTHER STABILIZATION METHOD.
-BUFFER FENCE ALONG COOLEY - THE BUFFER FENCE ALONG COOLEY LAKE IS A 3 RAIL FENCE WITH 12.5 GAUGE 2"x4" GALVANIZED WELDED WIRE FENCING. THE FENCE IS PROVIDED TO KEEP PEOPLE AND THEIR PETS AWAY FROM COOLEY LAKE. THE FENCE SHALL BE INSPECTED AND REPAIRED AS NEEDED TO MAINTAIN THIS PURPOSE.
-SPILLWAY - THE SPILLWAY SHOULD BE INSPECTED FOR DEBRIS AND SEDIMENT BUILD-UP AS WELL AS EROSION. THE PERFORMANCE OF THE SPILLWAY SHALL BE MAINTAINED BY ADHERING TO THE DETAILS AND DIMENSION SHOWN ON THIS PLAN.
-UNDERDRAIN SYSTEM - THE UNDERDRAIN SYSTEM CANNOT BE PHYSICALLY INSPECTED, HOWEVER, THE FUNCTION OF THE POND SHALL BE MONITORED. IF THE POND DOES NOT APPEAR TO FUNCTION PROPERLY, AND ESPECIALLY IF IT HOLDS WATER OVER AN EXTENDED PERIOD OF TIME (GREATER THAN 40 HOURS), THAT IS A SIGN THAT THE UNDERDRAIN SYSTEM MAY NEED TO BE CLEANED OUT. CLEAN-OUTS ARE PROVIDED TO ALLOW FOR THIS MAINTENANCE.

B. MAINTENANCE FREQUENCY
ROUTINE MAINTENANCE TASKS, INCLUDING MOWING AND DEBRIS REMOVAL, SHOULD BE PERFORMED ON AN AS-NEEDED BASIS. DEBRIS REMOVAL SHOULD BE DONE PRIOR TO THE SUMMER STORM SEASON AND FOLLOWING SIGNIFICANT RAINFALL EVENTS. IN ADDITION, THE PROPERTY OWNER SHOULD PERFORM SITE INSPECTION ON AN ANNUAL BASIS TO EVALUATE THE NEED FOR ADDITIONAL MAINTENANCE, INCLUDING SEDIMENT REMOVAL, EROSION CONTROL, REVEGETATION AND STRUCTURAL REPAIRS.

C. EQUIPMENT AND SPECIAL TOOLS REQUIRED

- LONG-REACH RAKE OR BROOM
- LONG-REACH TRACK EXCAVATOR
- SKID STEER
- DUMP TRUCK

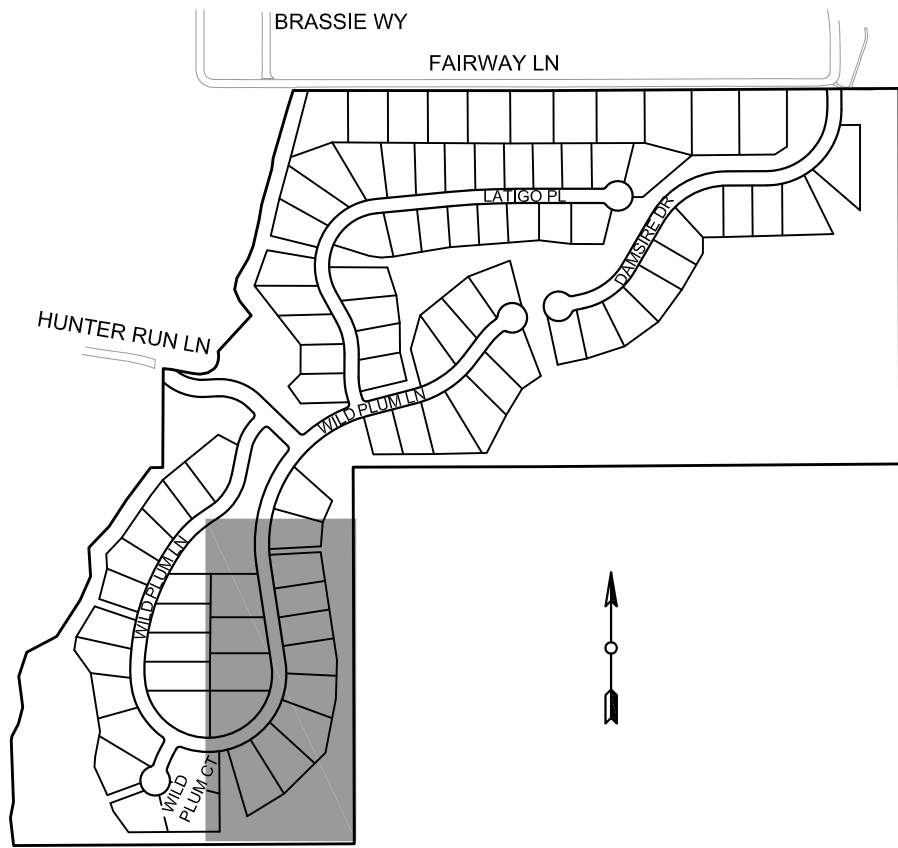
6.0 POND 1 USE RESTRICTIONS

THE FOLLOWING IS RESTRICTED IN AND AROUND THE AREA OF POND 1:
-THE USE OF FERTILIZERS
-THE USE OF PESTICIDES
-PETS ARE NOT ALLOWED OFF-TRAIL AND ESPECIALLY WITHIN POND 1 OR NEAR COOLEY LAKE. PET WASTE MUST BE COLLECTED AND DISPOSED OF AT DESIGNATED LOCATIONS OR OFF-SITE.

WILD PLUM

POND 1 MAINTENANCE SITE PLAN

(PROJECT COMPLETED 2019)

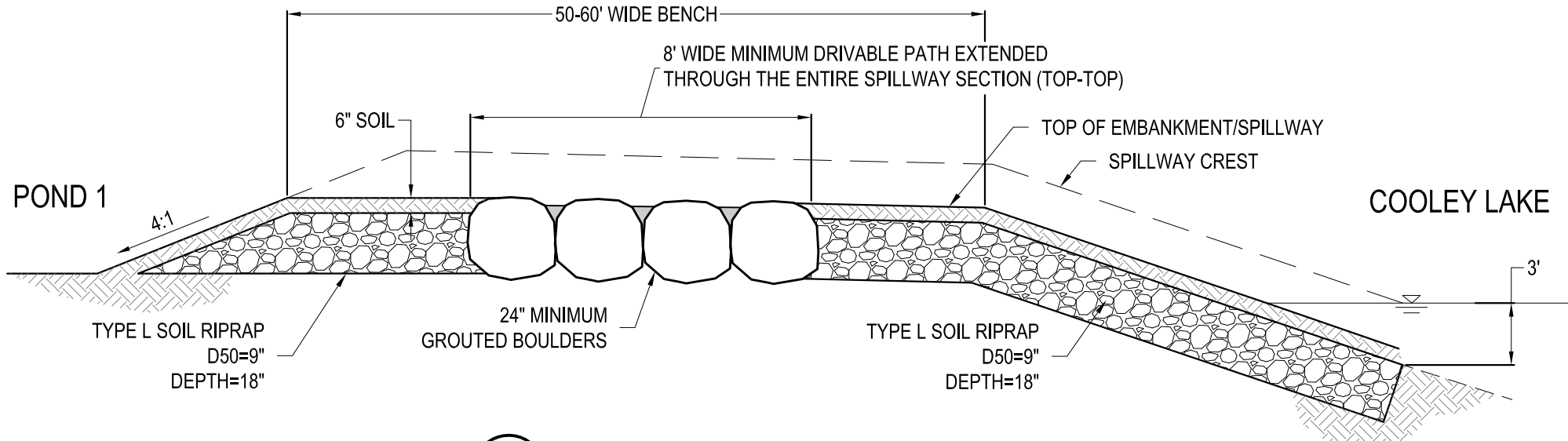


KEY MAP

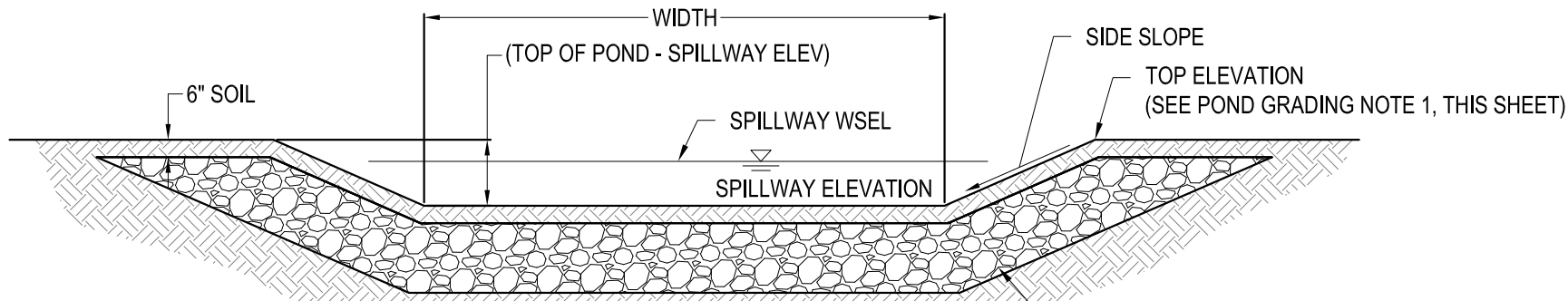
POND 1 SUMMARY TABLE		
ITEM	QUANTITY	UNIT
TOP OF POND ELEV.	5349.25	FT
100-YR WSE	5349.10	FT
100-YR VOLUME	90,909	CF
EURV WSE	5348.50	FT
EURV VOLUME	33,167	CF
BOT. OF POND ELEV.	5348.0	FT
100-YR DEVELOPED INFLOW TO POND	81.8	CFS
100-YR DISCHARGE FROM SPILLWAYS*	34.8	CFS

*34.8 CFS IS THE TOTAL ALLOWED DISCHARGE FROM POND 1. EACH SPILLWAY CONVEYS HALF OF THIS FLOW, 17.4 CFS, AT THE 100-YR WSE. NOTE THAT THE EXISTING DISCHARGE TO COOLEY LAKE WAS ESTIMATED TO BE 54.8 CFS.

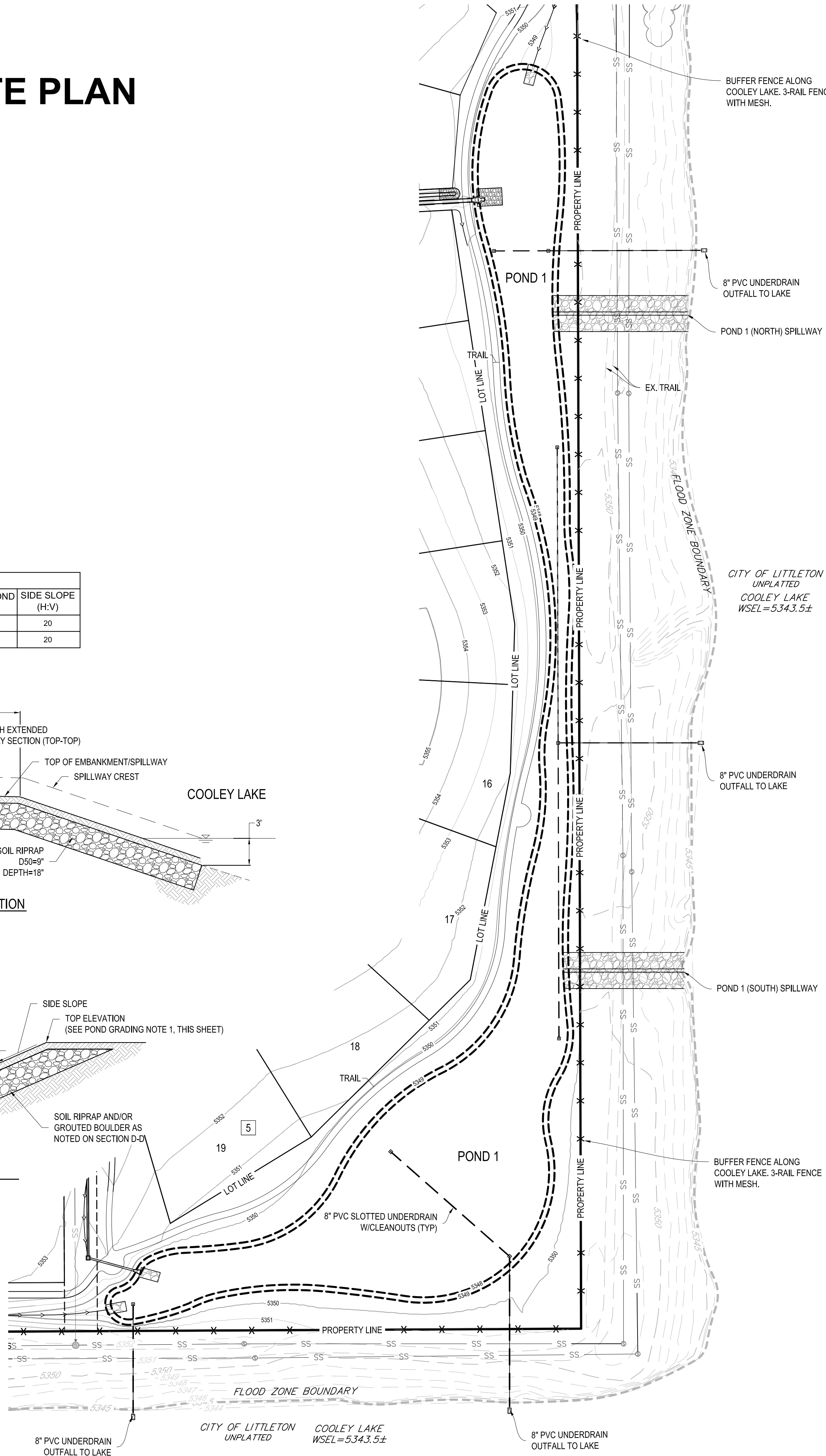
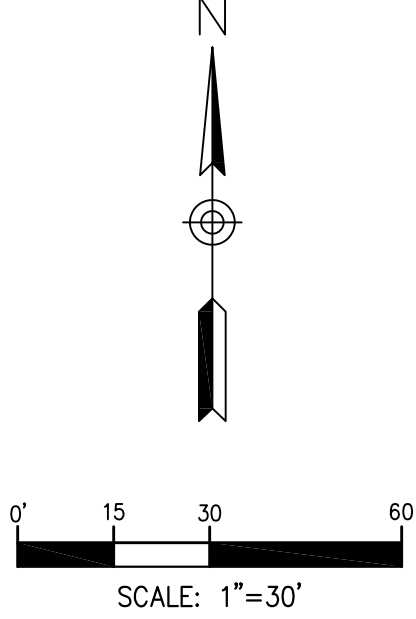
SPILLWAY SIZING TABLE					
SPILLWAY ID	LENGTH (FT)	WIDTH (FT)	SPILLWAY ELEV.	TOP OF POND ELEV.	SIDE SLOPE (H:V)
NORTH	SEE PLANS	3	5348.50	5349.25	20
SOUTH	SEE PLANS	3	5348.50	5349.25	20



1 SPILLWAY LONGITUDINAL SECTION
NTS



2 SPILLWAY CROSS SECTION
NTS



PREPARED BY:



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DENVER, CO 80202

PREPARED FOR:

WILD PLUM JV, LLC

6161 S. SYRACUSE WAY, STE 200
GREENWOOD VILLAGE
CO 80111

WILD PLUM

CIVIL CONSTRUCTION DOCUMENTS

TOWN OF COLUMBINE VALLEY, COLORADO

POND 1 PLAN

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.

DATE: MARCH 7, 2019

PROJ: MAINTENANCE

DWG: PLAN

SHEET: 43 OF 50