

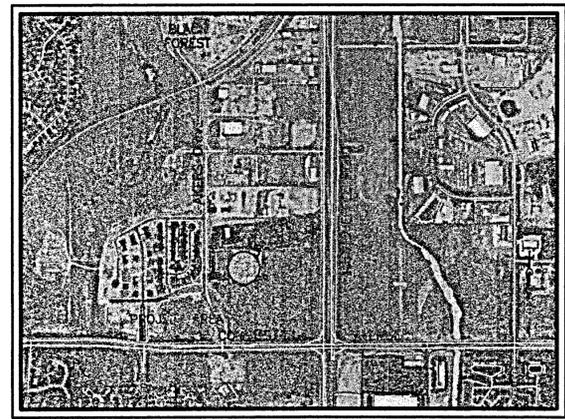
LOT 8 AKERS ACRES EL PASO COUNTY, COLORADO

GRADING & DRAINAGE IMPROVEMENTS

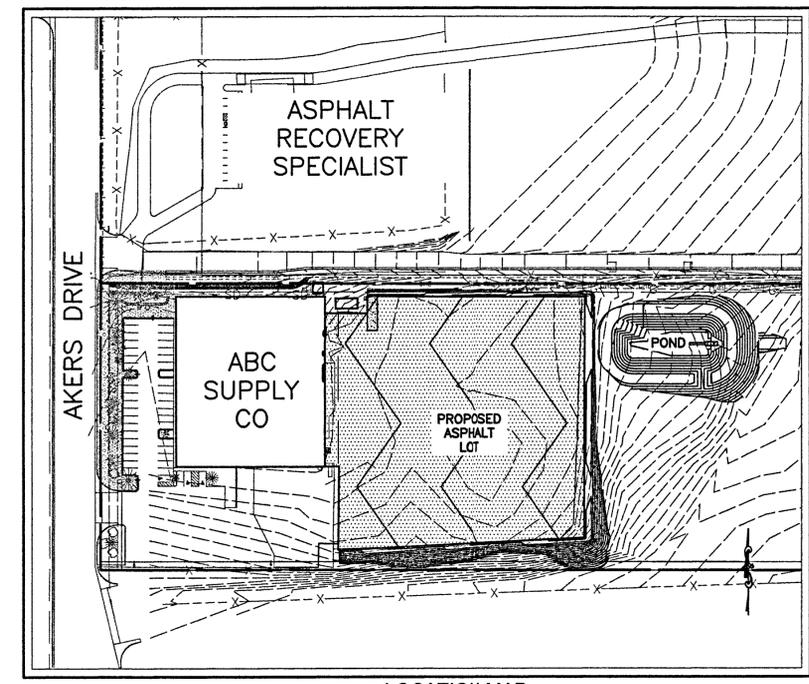
GRADING & EROSION CONTROL PLANS

STANDARD NOTES FOR EL PASO COUNTY GRADING AND EROSION CONTROL PLANS

1. CONSTRUCTION MAY NOT COMMENCE UNTIL A CONSTRUCTION PERMIT IS OBTAINED FROM PLANNING AND COMMUNITY DEVELOPMENT AND A PRECONSTRUCTION CONFERENCE IS HELD WITH PLANNING AND COMMUNITY DEVELOPMENT INSPECTIONS.
2. STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF-SITE WATERS, INCLUDING WETLANDS.
3. NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS TO REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
4. A SEPARATE STORMWATER MANAGEMENT PLAN (SWMP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. DURING CONSTRUCTION THE SWMP IS THE RESPONSIBILITY OF THE DESIGNATED STORMWATER MANAGER, SHALL BE LOCATED ON SITE AT ALL TIMES AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.
5. ONCE THE ESQCP HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL BMPs AS INDICATED ON THE GEC. A PRECONSTRUCTION MEETING BETWEEN THE CONTRACTOR, ENGINEER, AND EL PASO COUNTY WILL BE HELD PRIOR TO ANY CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE APPLICANT TO COORDINATE THE MEETING TIME AND PLACE WITH COUNTY PCD INSPECTIONS STAFF.
6. SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN 21 CALENDAR DAYS AFTER FINAL GRADING, OR FINAL EARTH DISTURBANCE, HAS BEEN COMPLETED. DISTURBED AREAS AND STOCKPILES WHICH ARE NOT AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS SHALL ALSO BE MULCHED WITHIN 21 DAYS AFTER INTERIM GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN 60 DAYS SHALL ALSO BE SEEDED. ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND BMPs SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND ESTABLISHED.
7. TEMPORARY SOIL EROSION CONTROL FACILITIES SHALL BE REMOVED AND EARTH DISTURBANCE AREAS GRADED AND STABILIZED WITH PERMANENT SOIL EROSION CONTROL MEASURES PURSUANT TO STANDARDS AND SPECIFICATION PRESCRIBED IN THE DCM VOLUME II AND THE ENGINEERING CRITERIA MANUAL (ECM) APPENDIX I.
8. ALL PERSONS ENGAGED IN EARTH DISTURBANCE SHALL IMPLEMENT AND MAINTAIN ACCEPTABLE SOIL EROSION AND SEDIMENT CONTROL MEASURES INCLUDING BMPs IN CONFORMANCE WITH THE EROSION CONTROL TECHNICAL STANDARDS OF THE DRAINAGE CRITERIA MANUAL (DCM) VOLUME II AND IN ACCORDANCE WITH THE STORMWATER MANAGEMENT PLAN (SWMP), APPENDIX E CHECKLISTS AND PERMITS ADOPTED: 12/23/2004 REVISED: 12/13/2016 REVISION 8.
9. ALL TEMPORARY EROSION CONTROL FACILITIES INCLUDING BMPs AND ALL PERMANENT FACILITIES INTENDED TO CONTROL EROSION OF ANY EARTH DISTURBANCE OPERATIONS, SHALL BE INSTALLED AS DEFINED IN THE APPROVED PLANS, THE SWMP AND THE DCM VOLUME II AND MAINTAINED THROUGHOUT THE DURATION OF THE EARTH DISTURBANCE OPERATION.
10. ANY EARTH DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY REDUCE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST PRACTICAL PERIOD OF TIME.
11. ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE DESIGNED TO LIMIT THE DISCHARGE TO A NON-EROSIVE VELOCITY.
12. CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO RUNOFF TO STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.
13. EROSION CONTROL BLANKETING IS TO BE USED ON SLOPES STEEPER THAN 3:1.
14. BUILDING, CONSTRUCTION, EXCAVATION, OR OTHER WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. BMPs MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.
15. VEHICLE TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL WASTES FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO CONSTRUCTION DEBRIS, TREE SLASH, BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.
17. THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, AND SAND THAT MAY ACCUMULATE IN THE STORM SEWER OR OTHER DRAINAGE CONVEYANCE SYSTEM AND STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.
18. THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM THE WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS. APPENDIX E CHECKLISTS AND PERMITS ADOPTED: 12/23/2004 REVISED: 12/13/2016 REVISION 8.
19. NO CHEMICALS ARE TO BE USED BY THE CONTRACTOR, WHICH HAVE THE POTENTIAL TO BE RELEASED IN STORMWATER UNLESS PERMISSION FOR THE USE OF A SPECIFIC CHEMICAL IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING THE USE OF SUCH CHEMICALS, SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
20. BULK STORAGE STRUCTURES FOR PETROLEUM PRODUCTS AND OTHER CHEMICALS SHALL HAVE ADEQUATE PROTECTION SO AS TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.
21. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE FLOW LINE OF THE CURB AND GUTTER OR IN THE DITCHLINE.
22. INDIVIDUALS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS), AND THE "CLEAN WATER ACT" (33 USC 1344), IN ADDITION TO THE REQUIREMENTS INCLUDED IN THE DCM VOLUME I AND THE ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC.) IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL, STATE, OR COUNTY AGENCIES, THE MORE RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.
23. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
24. PRIOR TO ACTUAL CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
25. A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
26. THE OWNER HAS HAD A PAVEMENT EVALUATION REPORT PREPARED BY PARTNER ASSESSMENT CORPORATION/AMERICAN GEOSERVICES LLC DATED 11-17-16 AND PERTINENT RECOMMENDATIONS CONTAINED THEREIN HAVE BEEN FOLLOWED IN THE PREPARATION OF THIS GEC PLAN. ADDITIONALLY, SOILS INFORMATION WAS DERIVED FROM THE NATURAL RESOURCES CONSERVATION SERVICE.
27. AT LEAST TEN DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB 1 ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN (SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT: COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT WATER QUALITY CONTROL DIVISION WQCD - PERMITS 4300 CHERRY CREEK DRIVE SOUTH DENVER, CO 80246-1530 ATTN: PERMITS UNIT.



VICINITY MAP NTS



LOCATION MAP

PRE-EXCAVATION CHECKLIST

- GAS AND OTHER UTILITY LINES SHOWN ON CONSTRUCTION PLANS
- UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) - TO BE CALLED AT LEAST TWO (2) BUSINESS DAYS AHEAD.
- UTILITIES LOCATED & MARKED
- EMPLOYEES BRIEFED ON MARKING AND COLOR CODES*
- EMPLOYEES TRAINED ON EXCAVATION AND SAFETY PROCEDURES FOR NATURAL GAS LINES
- WHEN EXCAVATION APPROACHES GAS LINES, EMPLOYEES MUST EXPOSE LINES BY CAREFUL PROBING AND HAND DIGGING

***STANDARD UTILITY MARKING COLOR CODE**

NATURAL GAS	- YELLOW	IF YOU DAMAGE A GAS LINE, SMELL GAS OR HAVE A GAS
ELECTRIC	- RED	EMERGENCY, CALL THE GAS DEPARTMENT.
WATER	- BLUE	
WASTEWATER	- GREEN	

CALL TWO (2) BUSINESS DAYS BEFORE YOU DIG, FOR LOCATIONS MONDAY-FRIDAY FROM 7 A.M.-5 P.M.
CALL 1-800-922-1987. FOR EMERGENCY LOCATIONS DURING NON-BUSINESS HOURS CALL 520-0022. (NO CHARGE FOR THIS SERVICE)

SIGNATURE BLOCK

ENGINEER'S STATEMENT:
THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. SAID PLAN HAS BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR GRADING AND EROSION CONTROL PLANS. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS REPORT.

NAME: Michael A. Oberg DATE: 6/27/19

OWNER'S STATEMENT:
THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

NAME: D.P.D. DATE: 7/3/19

EL PASO COUNTY:
COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT. FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTORS DISCRETION.

APPROVED *
Engineering Department

JENNIFER IRVINE, P.E. COUNTY ENGINEER/ECM ADMINISTRATOR DATE: 07/15/2019 10:35:00 AM
dsnjikamp
EPC Planning & Community Development Department

Condition: *pond embankment may not be constructed until geotechnical report has been submitted, and approved by PCD.

OWNER/APPLICANT

ABC SUPPLY - COLORADO SPRINGS, CO
2675 AKERS DR
COLORADO SPRINGS, CO 80922-1502
P: (719) 380-9911
F: (719) 380-9907

CONSULTANT/ENGINEER

OBERING, WURTH & ASSOCIATES
CONSULTING CIVIL ENGINEERS
PROFESSIONAL LAND SURVEYORS
1042 ELKTON DRIVE
COLORADO SPRINGS, COLORADO
PHONE (719) 531-6200 - FAX (719) 531-6266
OWACIVIL1@MINDSPRING.COM

SHEET INDEX

1	C1	GRADING & EROSION CONTROL COVER & NOTES
2	C2	GRADING AND DRAINAGE PLAN
3	C3	POND DETAILS
4	C4	POND DETAILS
5	C5	POND DETAILS
6	C6	STORMWATER MANAGEMENT PLAN
7	C7	STORMWATER MANAGEMENT DETAILS
8	C8	COORDINATE GEOMETRY

DRAWN BY: OBERING, WURTH & ASSOCIATES
ACAD DWG. NAME: LOT 8 AKERS ACRES
PROJECT NO: 18022
DATE: 6/27/2019 7:31 AM

FINAL PLANS
THURSDAY, JUNE 27, 2019

REVIEWED FOR CONSTRUCTION:

BY: _____

DATE: _____

SCALE:
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REVISIONS:

NO.	DATE	DESCRIPTION	BY

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PCD FILE NO. PPR 1848

811
Know what's below.
Call before you dig.

SHEET TITLE: **GRADING & EROSION CONTROL COVER & NOTES**

SCALE: N/A
DATE: NOTED

PROJECT: **LOT 8 AKERS ACRES COLORADO SPRINGS, COLORADO GRADING & DRAINAGE IMPROVEMENTS**

DESIGNED BY: CLD
CHECKED BY: RGO
DRAWN BY: CLD

PREPARED BY: **Obering, Wurth & Associates**
Consulting Civil Engineers
Professional Land Surveyors
1042 Elkton Drive
Colorado Springs, Colorado
Phone (719) 531-6200 - Fax (719) 531-6266
E-mail Address: owacivil1@mindspring.com

PROJECT NO. 18022
SHEET NO. **C1**
OF 8 SHEETS

ROOF DRAINS TO NORTH
DOWNSPOUTS CONVEYED
TO THE WEST BY 12" PIPE
WITH AREA GRATES FOR SURFACE WATER
SEE PLANS PREPARED BY LEIGH
WHITEHEAD & ASSOC. DATED 7/5/00

DIRECT RUNOFF INTO POND
Q5=1.0 CFS
Q100=2.0 CFS

DRAINAGE AREA TO
0.32 AC

DRAINAGE AREA TO
A5 1.20 AC

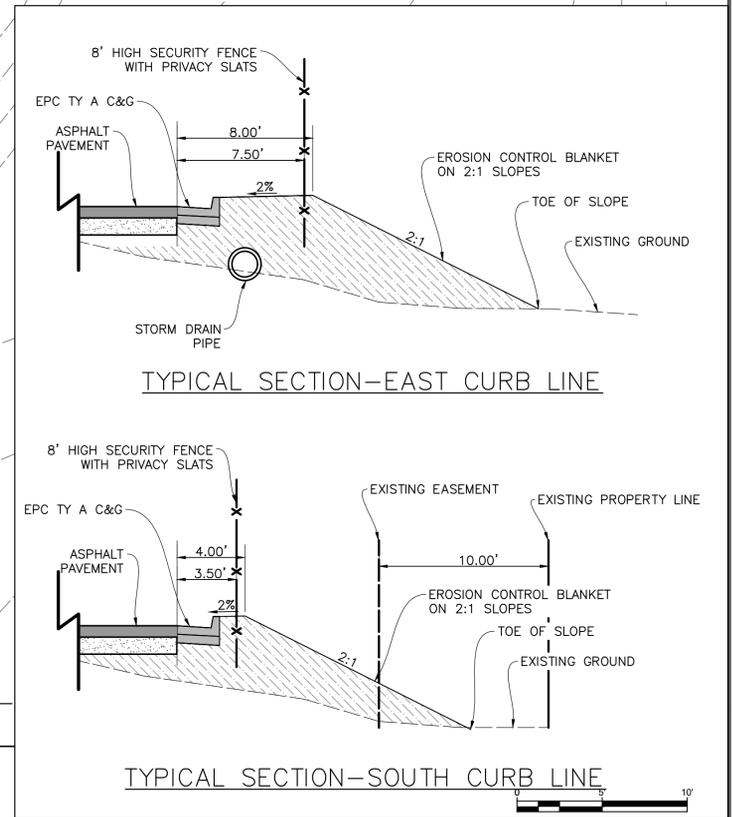
RUNOFF INTO INLET A5
Q5=5.3 CFS
Q100=9.5 CFS

RUNOFF INTO INLET A6
Q5=4.6 CFS
Q100=8.2 CFS

DRAINAGE AREA TO
A6 1.03 AC

LOT 8 AKER'S ACRES SUB. NO. 1
(PLAT BK H-2, PG 48) REC. NO.
432490 AP #53320-02-014
OWNER: KINGSTROM GROUP LLC

DISCHARGE FROM POND
Q5=0.1 CFS
Q100=0.8 CFS



FINAL PLANS
THURSDAY, JUNE 27, 2019

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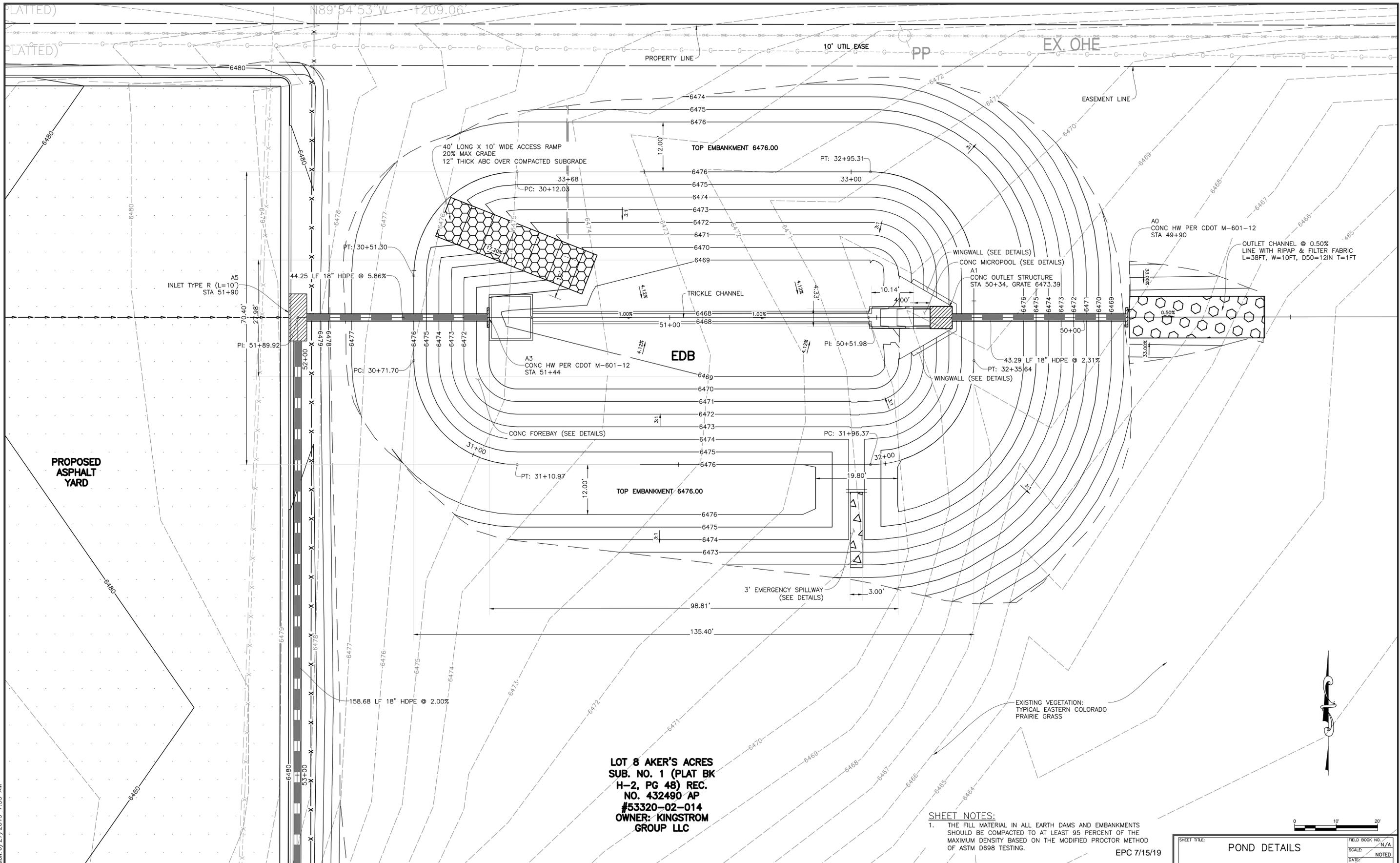
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DESIGNED BY: CLD
CHECKED BY: RGO
DRAWN BY: CLD
PROJECT NO. 18022
SHEET NO. C2
OF 8 SHEETS

PROJECT: LOT 8 AKERS ACRES
COLORADO SPRINGS, COLORADO
GRADING & DRAINAGE IMPROVEMENTS

PREPARED BY: **Obering, Wurth & Associates**
Consulting Civil Engineers
Professional Land Surveyors
1042 Elkton Drive
Colorado Springs, Colorado
Phone (719) 531-8200 - Fax (719) 531-6286
E-mail Address: owacivil@mindspring.com

PROJECT NAME: STAGE CO DRAINAGE IMPROVEMENTS
CLIENT: KINGSTROM GROUP LLC, WURTH & ASSOCIATES
DRAWN BY: CLD
PROJECT NO. 18022
DATE: 6/27/2019 7:32 AM



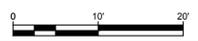
PROPOSED ASPHALT YARD

LOT 8 AKER'S ACRES
 SUB. NO. 1 (PLAT BK
 H-2, PG 48) REC.
 NO. 432490 AP
 #53320-02-014
 OWNER: KINGSTROM
 GROUP LLC

SHEET NOTES:

- THE FILL MATERIAL IN ALL EARTH DAMS AND EMBANKMENTS SHOULD BE COMPACTED TO AT LEAST 95 PERCENT OF THE MAXIMUM DENSITY BASED ON THE MODIFIED PROCTOR METHOD OF ASTM D698 TESTING.

EPC 7/15/19



FINAL PLANS
THURSDAY, JUNE 27, 2019

PROJECT NAME: STAGECO DRAINAGE IMPROVEMENTS
 CLIENT: KINGSTROM GROUP LLC
 PROJECT NO. 18020 UPDATED VERSION: 6/27/2019 7:33 AM

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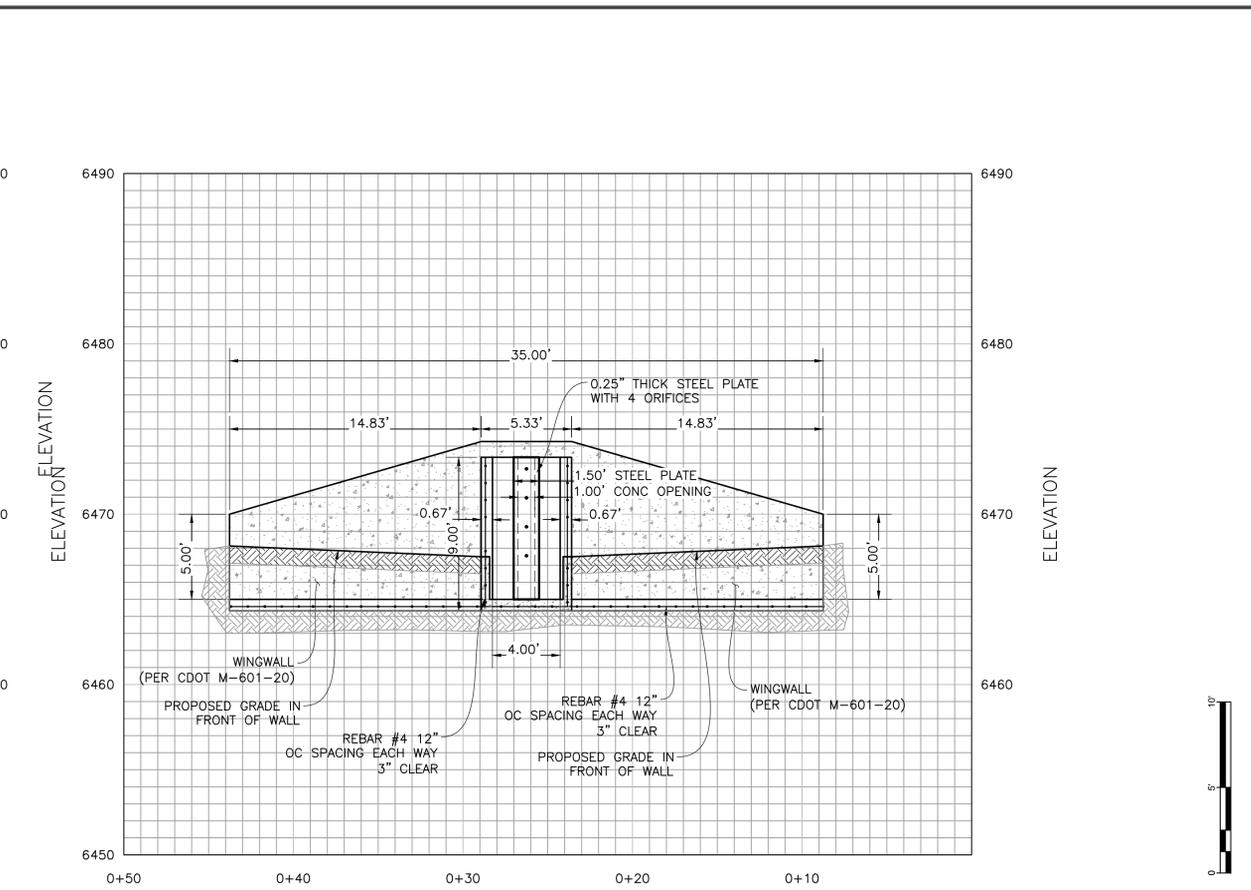
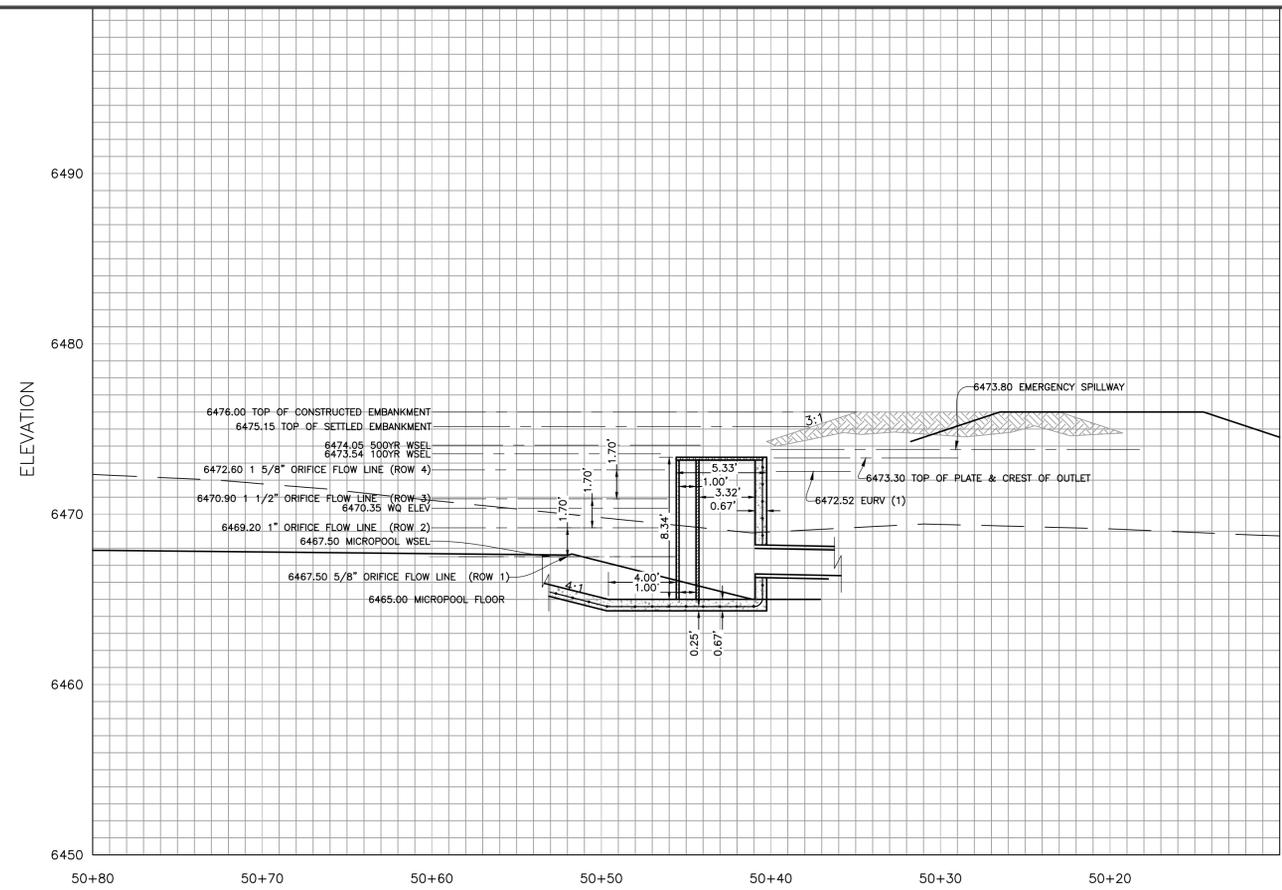
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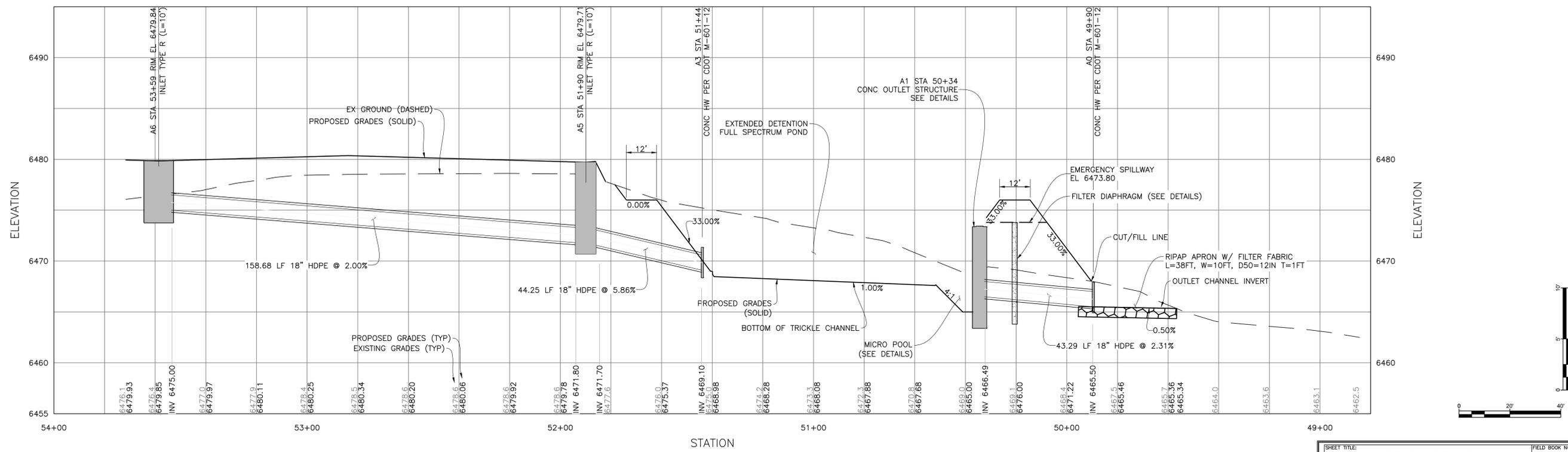
PCD FILE NO. PPR 1848

Know what's below.
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SHEET TITLE: POND DETAILS		FIELD BOOK NO.: N/A
SCALE: NOTED		DATE: NOTED
PROJECT: LOT 8 AKER'S ACRES COLORADO SPRINGS, COLORADO GRADING & DRAINAGE IMPROVEMENTS	DESIGNED BY: CLD	CHECKED BY: RGO
PREPARED BY: Obering, Wurth & Associates Consulting Civil Engineers Professional Land Surveyors	DRAWN BY: CLD	PROJECT NO.: 18022
1042 Elkton Drive Colorado Springs, Colorado Phone (719) 531-6200 - Fax (719) 531-6266 E-mail Address: owacivil@mindspring.com	SHEET NO.: C3	OF 8 SHEETS



OUTLET STRUCTURE ELEVATION
SEE UDFCD DETAILS NEXT SHEET



PROFILE STORM DRAIN THROUGH POND

FINAL PLANS
THURSDAY, JUNE 27, 2019

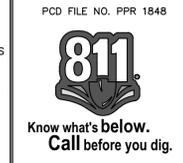
PROJECT NAME: STAGECO DRAINAGE IMPROVEMENTS
CLIENT: WORTH & ASSOCIATES
DRAWN BY: CLD
PROJECT NO: 18020
DATE: 6/27/2019 7:33 AM

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PROJECT: LOT 8 AKERS ACRES COLORADO SPRINGS, COLORADO GRADING & DRAINAGE IMPROVEMENTS		DESIGNED BY: CLD
PREPARED BY: Obering, Wurth & Associates Consulting Civil Engineers Professional Land Surveyors		CHECKED BY: RGO
PCD FILE NO. PPR 1848		DRAWN BY: CLD
1042 Elkton Drive Colorado Springs, Colorado Phone (719) 531-6200 - Fax (719) 531-6286 E-mail Address: owacivil@mindspring.com		PROJECT NO: 18022
		SHEET NO: C4
		OF 8 SHEETS

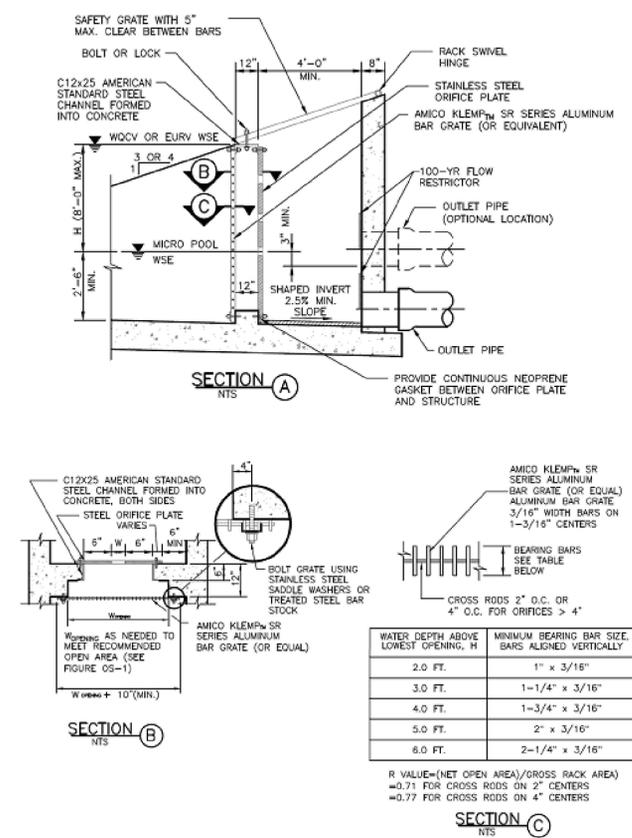
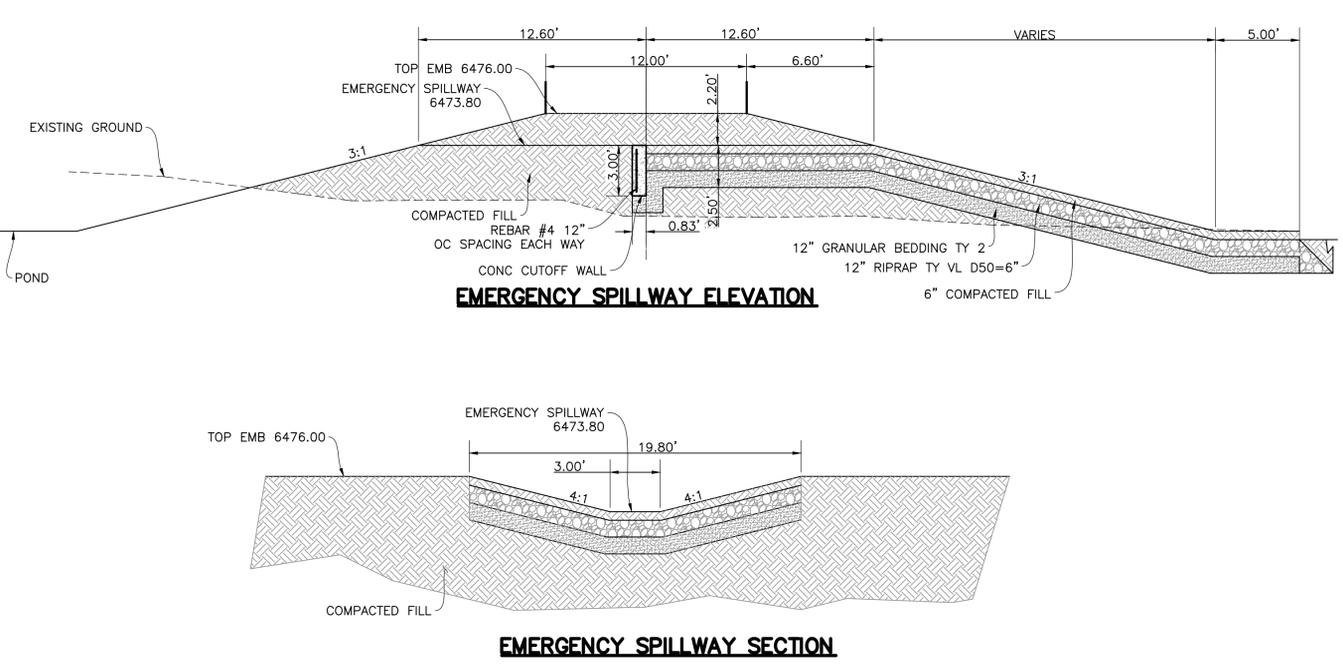
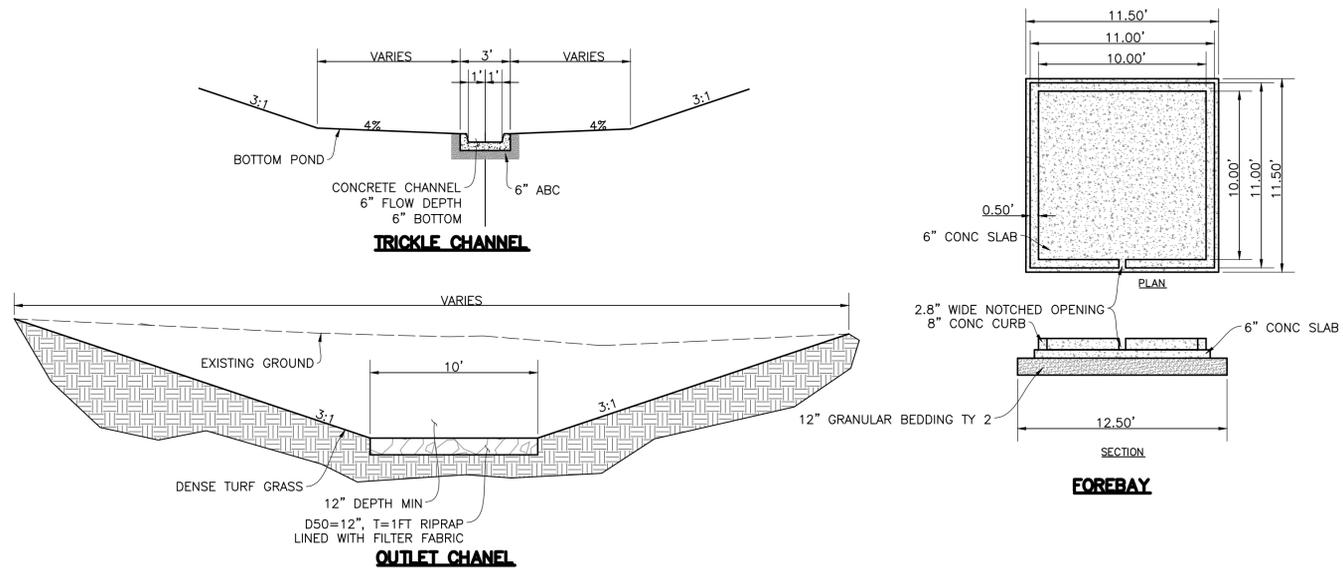
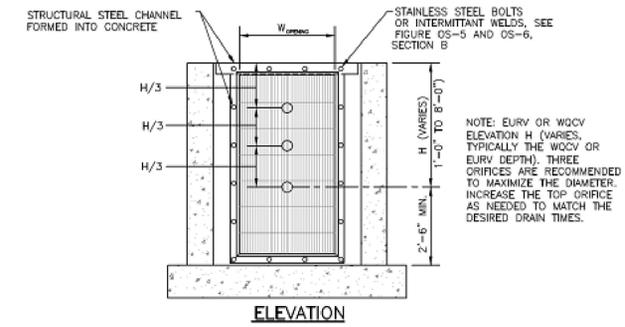


Figure OS-6. Typical outlet structure with bar grate trash rack

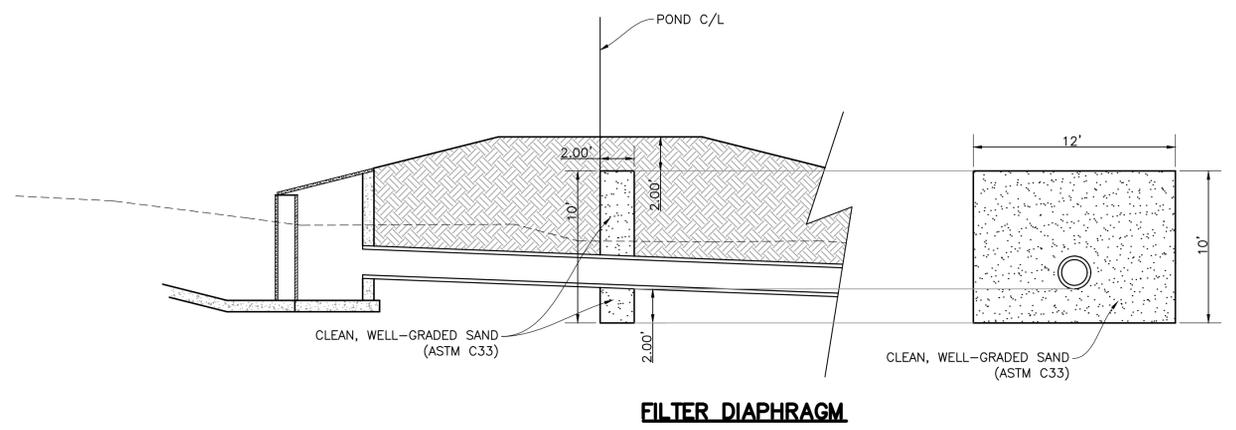


- ORIFICE PLATE NOTES:**
1. PROVIDE CONTINUOUS NEOPRENE GASKET MATERIAL BETWEEN THE ORIFICE PLATE AND CONCRETE.
 2. BOLT PLATE TO CONCRETE 12" MAX. ON CENTER. SEE TABLE OS-2 FOR PLATE THICKNESS.
- EURY AND WOCV TRASH RACKS:**
1. WELL-SCREEN TRASH RACKS SHALL BE STAINLESS STEEL AND SHALL BE ATTACHED BY INTERMITTENT WELDS ALONG THE EDGE OF THE MOUNTING FRAME.
 2. BAR GATE TRASH RACKS SHALL BE ALUMINUM AND SHALL BE BOLTED USING STAINLESS STEEL HARDWARE.
 3. TRASH RACK OPEN AREAS ARE FOR SPECIFIED TRASH RACK MATERIALS. TOTAL TRASH RACK SIZE MAY NEED TO BE ADJUSTED FOR MATERIALS HAVING DIFFERENT OPEN AREA/GROSS AREA RATIO (R VALUE).
 4. STRUCTURAL DESIGN OF TRASH RACKS SHALL BE BASED ON FULL HYDROSTATIC HEAD WITH ZERO HEAD DOWNSTREAM OF THE RACK.
- OVERFLOW SAFETY GRATES:**
1. ALL SAFETY GRATES SHALL BE MOUNTED USING STAINLESS STEEL HARDWARE AND PROVIDED WITH HINGED AND LOCKABLE OR BOLTABLE ACCESS PANELS.
 2. SAFETY GRATES SHALL BE STAINLESS STEEL, ALUMINUM, OR STEEL. STEEL GRATES SHALL BE HOT DIP GALVANIZED AND MAY BE HOT POWDER COATED AFTER GALVANIZING.
 3. SAFETY GRATES SHALL BE DESIGNED SUCH THAT THE DIAGONAL DIMENSION OF EACH OPENING IS SMALLER THAN THE DIAMETER OF THE OUTLET PIPE.
 4. STRUCTURAL DESIGN OF SAFETY GRATES SHALL BE BASED ON FULL HYDROSTATIC HEAD WITH ZERO HEAD DOWNSTREAM OF THE RACK.

Figure OS-4. Orifice plate and trash rack detail and notes

OS-10 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2015

November 2015 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 OS-7



FILTER DIAPHRAGM

FINAL PLANS
THURSDAY, JUNE 27, 2019

REVIEWED FOR CONSTRUCTION:
BY _____
DATE _____

NO.	DATE	DESCRIPTION	BY

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SHEET TITLE: POND DETAILS	FIELD BOOK NO. N/A
SCALE: NOTED	DATE: NOTED
PROJECT: LOT 8 AKERS ACRES COLORADO SPRINGS, COLORADO GRADING & DRAINAGE IMPROVEMENTS	DESIGNED BY: CLD
PREPARED BY: Obering, Wurth & Associates Consulting Civil Engineers Professional Land Surveyors	CHECKED BY: RGO
1042 Elkton Drive Colorado Springs, Colorado Phone (719) 531-6200 - Fax (719) 531-6286 E-mail Address: owacivil@mindspring.com	DRAWN BY: CLD
PCD FILE NO. PPR 1848	PROJECT NO. 18022
EPC 7/15/19	SHEET NO. C5
	OF 8 SHEETS

PROJECT NAME: STAGECO DRAINAGE IMPROVEMENTS
DRAWN BY: CLD
CHECKED BY: RGO
DATE: 6/27/2019 7:40 AM
PROJECT NO. 18022

ASPHALT RECOVERY
SPECIALISTS, INC.

CONSTRUCTION SITE BOUNDARY

PROPERTY LINE

PROPOSED TOE

PROPOSED EPC
TY A C&G

PROPOSED ASPHALT
PAVEMENT

PROPOSED
ASPHALT
YARD

PROPOSED ASPHALT
PAVEMENT

PROPOSED EPC
TY A C&G

CWA

IP

PROPOSED EPC
TY A C&G

SF

EROSION CONTROL BLANKET
ON ALL SLOPES STEEPER THAN
3:1; INCLUDES SLOPES ADJ TO
PROPOSED ASPHALT LOT

LOT 8 AKER'S ACRES SUB. NO. 1
(PLAT BK H-2, PG 48) REC. NO.
432490 AP #53320-02-014
OWNER: KINGSTROM GROUP LLC

BMP SYMBOL KEY

- TEMPORARY BMP
- PERMANENT BMP
- CHECK DAM
- CONSTRUCTION ENTRANCE
- INLET PROTECTION
- SILT FENCE
- PERMANENT SEEDING
- MULCHING
- CONCRETE WASHOUT AREA
- VEHICLE TRACKING CONTROL
- SEDIMENT BASIN
- GRASS LINED SWALE

10' UTIL EASE

0 20' 40'

PROJECT NAME: STAGECO DRAINAGE IMPROVEMENTS
DRAWN BY: CLD, WURTH & ASSOCIATES
DATE: 6/27/2019 7:48 AM
PROJECT NO: 18020

FINAL PLANS
THURSDAY, JUNE 27, 2019

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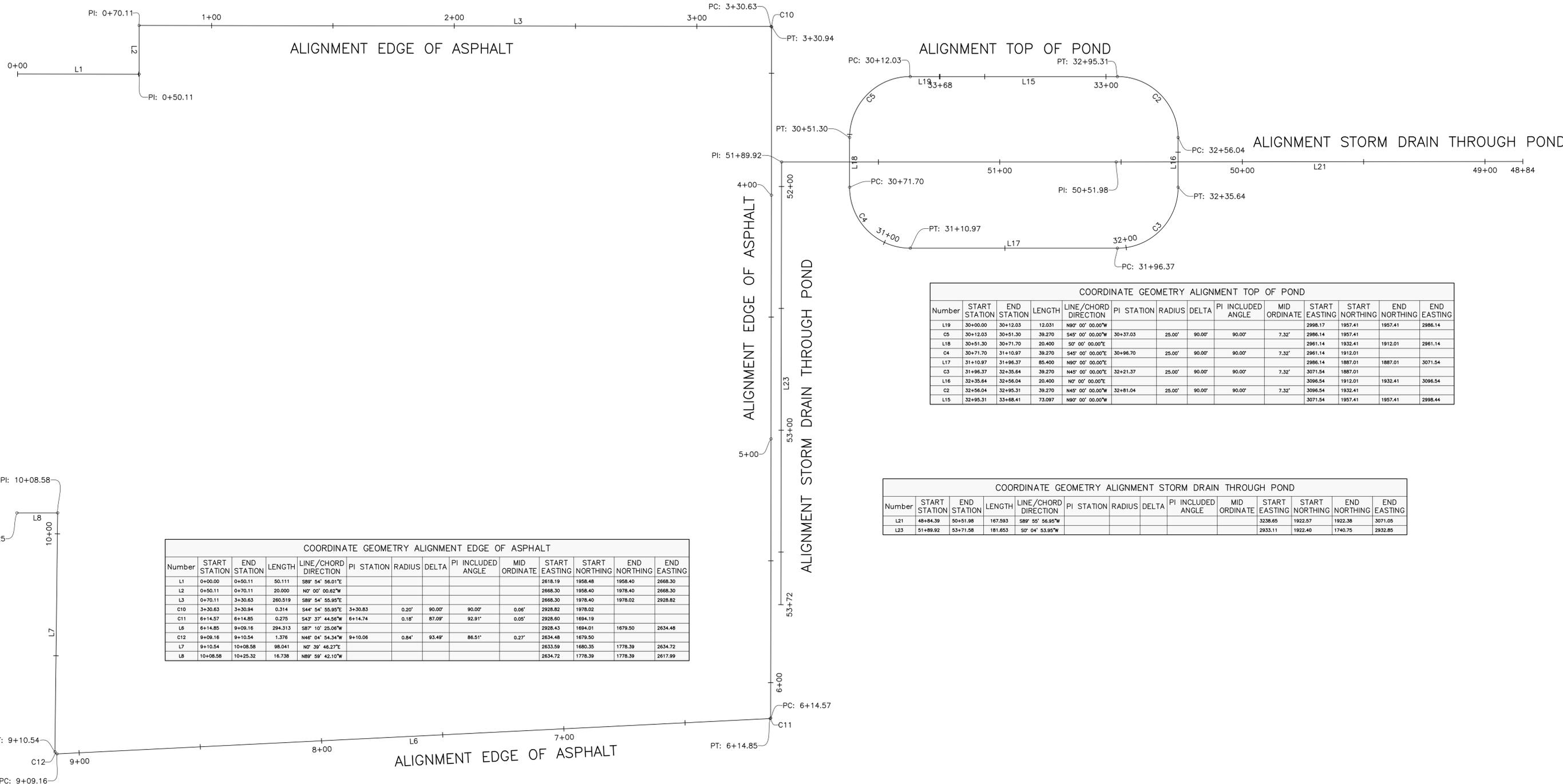
SHEET TITLE:
**STORMWATER MANAGEMENT
PLAN**

PROJECT:
**LOT 8 AKER'S ACRES
COLORADO SPRINGS, COLORADO
GRADING & DRAINAGE IMPROVEMENTS**

PREPARED BY:
Obering, Wurth & Associates
Consulting Civil Engineers
Professional Land Surveyors

1042 Elkton Drive
Colorado Springs, Colorado
Phone (719) 531-6200 - Fax (719) 531-6286
E-mail Address: owacivil@mindspring.com

FIELD BOOK NO.: N/A
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PROJECT NO: 18022
SHEET NO: **C6**
OF 8 SHEETS



COORDINATE GEOMETRY ALIGNMENT EDGE OF ASPHALT

Number	START STATION	END STATION	LENGTH	LINE/CHORD DIRECTION	PI STATION	RADIUS	DELTA	PI INCLUDED ANGLE	MID ORDINATE	START EASTING	START NORTHING	END NORTHING	END EASTING
L1	0+00.00	0+50.11	50.111	S89° 54' 56.01"E						2618.19	1958.48	1958.40	2668.30
L2	0+50.11	0+70.11	20.000	N0° 00' 00.62"W						2668.30	1958.40	1978.40	2668.30
L3	0+70.11	3+30.63	260.519	S89° 54' 55.95"E						2668.30	1978.40	1978.02	2928.82
C10	3+30.63	3+30.94	0.314	S44° 54' 55.95"E	3+30.83	0.20'	90.00'	90.00'	0.06'	2928.82	1978.02		
C11	6+14.57	6+14.85	0.275	S43° 37' 44.56"W	6+14.74	0.18'	87.09'	92.91'	0.05'	2928.60	1694.19		
L6	6+14.85	9+09.16	294.313	S87° 10' 25.06"W						2928.43	1694.01	1679.50	2634.48
C12	9+09.16	9+10.54	1.378	N46° 04' 54.34"W	9+10.06	0.84'	93.49'	86.51'	0.27'	2634.48	1679.50		
L7	9+10.54	10+08.58	88.041	N0° 30' 48.27"E						2633.59	1680.35	1778.39	2634.72
L8	10+08.58	10+25.32	16.738	N89° 59' 42.10"W						2634.72	1778.39	1778.39	2617.99

COORDINATE GEOMETRY ALIGNMENT TOP OF POND

Number	START STATION	END STATION	LENGTH	LINE/CHORD DIRECTION	PI STATION	RADIUS	DELTA	PI INCLUDED ANGLE	MID ORDINATE	START EASTING	START NORTHING	END NORTHING	END EASTING
L19	30+00.00	30+12.03	12.031	N80° 00' 00.00"W						2998.17	1957.41	1957.41	2998.14
C5	30+12.03	30+51.30	39.270	S45° 00' 00.00"W	30+37.03	25.00'	90.00'	90.00'	7.32'	2998.14	1957.41	1912.01	2961.14
L18	30+51.30	30+71.70	20.400	S0° 00' 00.00"E						2961.14	1932.41	1912.01	2961.14
C4	30+71.70	31+10.97	39.270	S45° 00' 00.00"E	30+96.70	25.00'	90.00'	90.00'	7.32'	2961.14	1912.01	1887.01	3071.54
L17	31+10.97	31+96.37	85.400	N90° 00' 00.00"E						2961.14	1887.01	1887.01	3071.54
C3	31+96.37	32+56.64	39.270	N45° 00' 00.00"E	32+21.37	25.00'	90.00'	90.00'	7.32'	3071.54	1887.01	1932.41	3096.54
L16	32+56.64	32+56.04	20.400	N0° 00' 00.00"E						3096.54	1912.01	1932.41	3096.54
C2	32+56.04	32+95.31	39.270	N45° 00' 00.00"W	32+81.04	25.00'	90.00'	90.00'	7.32'	3096.54	1932.41	1932.41	3096.54
L15	32+95.31	33+68.41	73.097	N90° 00' 00.00"W						3071.54	1957.41	1957.41	2998.44

COORDINATE GEOMETRY ALIGNMENT STORM DRAIN THROUGH POND

Number	START STATION	END STATION	LENGTH	LINE/CHORD DIRECTION	PI STATION	RADIUS	DELTA	PI INCLUDED ANGLE	MID ORDINATE	START EASTING	START NORTHING	END NORTHING	END EASTING
L21	48+84.39	50+51.98	167.593	S89° 55' 56.95"W						3238.65	1922.57	1922.38	3071.05
L23	51+89.92	53+71.58	181.653	S0° 04' 53.95"W						2933.11	1922.40	1740.75	2932.85

FINAL PLANS
THURSDAY, JUNE 27, 2019

PROJECT NAME: STAGE COORDINATE IMPROVEMENTS
 CLIENT: COLORADO SPRINGS, COLORADO
 PROJECT NO: 18022
 DATE: 6/27/2019 7:48 AM

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PROJECT: LOT 8 AKERS ACRES COLORADO SPRINGS, COLORADO GRADING & DRAINAGE IMPROVEMENTS

PREPARED BY: Obering, Wurth & Associates Consulting Civil Engineers Professional Land Surveyors

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