A PORTION OF THE SOUTHEAST QUARTER OF SECTION 13, AND A PORTION SECTION 24, TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE 6TH PM, COUNTY OF EL PASO, STATE OF COLORADO PCD FILING NO.: SF229

#### CONTACTS:

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## LEGAL DESCRIPTION

TRACT OF LAND BEING A PORTION OF THE SOUTHEAST QUARTER OF SECTION 13, AND A PORTION OF SECTION 24, TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE WEST QUARTER CORNER OF SAID SECTION 24, SAID POINT BEING THE POINT OF BEGINNING: THENCE NOO"14'25"E ON THE WEST LINE OF THE NORTHWEST QUARTER OF SAID SECTION 24. SAID LINE ALSO BEING ON THE WEST BOUNDARY OF PARCEL 4, AS RECORDED UNDER RECEPTION NUMBER 218900072, A DISTANCE OF 2,636.99 FEET TO THE NORTHWEST CORNER OF SAID SECTION 24; THENCE N89°21'38"E ON THE NORTH LINE OF THE NORTHWEST QUARTER OF SAID SECTION 24, A DISTANCE OF 2,633.02 FEET TO THE NORTH QUARTER CORNER OF SAID SECTION 24; THENCE NOO°10'29"E ON THE WEST LINE OF THE SOUTH HALF OF THE SOUTH EAST QUARTER OF SECTION 13. TOWNSHIP 11 SOUTH, RANGE 65 WEST, A DISTANCE OF 1,321.95 FEET TO THE NORTHWEST CORNER OF THE SOUTH HALF OF THE SOUTHEAST QUARTER OF SAID SECTION 13; THENCE N89°20'26"E ON THE NORTH LINE OF THE SOUTH HALF OF THE SOUTHEAST QUARTER OF SAID SECTION 13, A DISTANCE OF 1,873.37 FEET; THENCE SO0°34'43"W, A DISTANCE OF 2,706.21 FEET; THENCE S89°15'17"E, A DISTANCE OF 155.82 FEET; THENCE SO0°17'06"W, A DISTANCE OF 239.06 FEET; THENCE N89°42'54"W, A DISTANCE OF 609.60 FEET TO A POINT ON CURVE; THENCE ON THE ARC OF A CURVE TO THE LEFT, WHOSE CENTER BEARS N85°44'53"W. HAVING A DELTA OF 05°13'06". A RADIUS OF 1.710.00 FEET. A DISTANCE OF 155.74 FEET TO A POINT ON CURVE; THENCE S89°02'00"W, A DISTANCE OF 60.00 FEET; S89°29'13"W, A DISTANCE OF 722.44 FEET; THENCE S15°45'23"W, A DISTANCE OF 1,195.74 FEET; THENCE N82°21'05"W, A DISTANCE OF 229.91 FEET; THENCE N89°29'30"W, A DISTANCE OF 757.49 FEET; THENCE S20°46'13"W, A DISTANCE OF 758.90 FEET TO A POINT ON CURVE; THENCE ON THE ARC OF A CURVE TO THE LEFT, WHOSE CENTER BEARS N22°56'03"E, HAVING A DELTA OF 03°42'28", A RADIUS OF 1,470.00 FEET, A DISTANCE OF 95.13 FEET TO A POINT ON CURVE; THENCE S19"13'35"W, A DISTANCE OF 60.00 FEET; THENCE S18°06'10"W, A DISTANCE OF 383.72 FEET TO A POINT OF CURVE; THENCE ON THE ARC OF A CURVE TO THE RIGHT, HAVING A DELTA OF 02°06'44", A RADIUS OF 1,790.00 FEET, A DISTANCE OF 65.99 FEET TO A POINT ON CURVE; THENCE N69°47'06"W, A DISTANCE OF 306.30 FEET; THENCE N89°45'39"W, A DISTANCE OF 128.26 FEET; THENCE S29°41'56"W, A DISTANCE OF 768.98 FEET; THENCE N89°41'23"W, A DISTANCE OF 820.25 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 24; THENCE NOO°14'17"E ON THE WEST LINE OF SOUTHWEST QUARTER OF SAID SECTION 24 A DISTANCE OF 1,684.27 FEET TO THE POINT OF BEGINNING.

CONTAINING A CALCULATED AREA OF 15,222,954 SQUARE FEET OR 349.471 ACRES.

#### **BENCHMARK**

A 2.5" ALUMINUM CAP BEING A 30 FOOT WITNESS CORNER NORTH OF THE SOUTHWEST CORNER OF SECTION 24, TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN.

#### BASIS OF BEARING

THE WEST LINE OF THE NORTHWEST QUARTER OF SECTION 24, TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE 6 PRINCIPAL MERIDIAN MONUMENTED ON THE SOUTHERLY END BY A 2-1/2 ALUMINUM CAP STAMPED "LS 28658" AND AT THE NORTHERLY END BY A 3-1/2" ALUMINUM CAP STAMPED "LS 12103" BEING ASSUMED TO BEAR NOO"14'25"E A DISTANCE OF 2636.99 FEET AS SHOWN IN LAND SURVEY PLAT RECORDED UNDER RECEPTION 218900072 RECORDS OF EL PASO COUNTY, COLORADO.

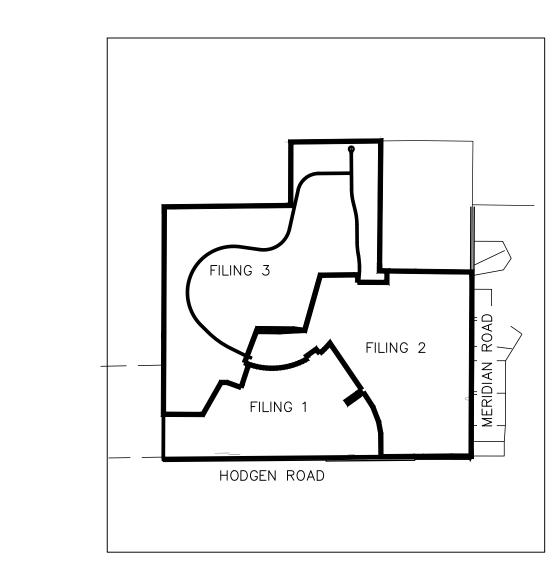
#### FLOODPLAIN NOTE

FEDERAL EMERGENCY MANAGEMENT AGENCY, FLOOD INSURANCE RATE MAP, MAP NUMBER 08041C0350G, EFFECTIVE DECEMBER 7, 2018 INDICATES THE AREA IN THE VICINITY OF THIS PARCEL OF LAND TO BE IN ZONE X (AREA DETERMINED TO BE OUT OF THE 500 YEAR FLOODPLAIN). A CONDITIONAL LETTER OF MAP REVISION HAS BEEN PROCESSED AND APPROVED FOR THIS REACH OF WEST KIOWA CREEK (FEMA CASE NO: 19-08-0185R).





Fix out of order numbering



VICINITY MAP

1"=2,000'

Sheet L	ist Table
Sheet Number	Sheet Title
C1.0	COVER SHEET
C1.1	GENERAL NOTES
C1.2	CROSS SECTIONS
C1.3	HORIZONTAL CONTROL PLAN
C1.4	GRADING PLAN
C1.5	GRADING PLAN
C1.6	GRADING PLAN
C1.7	GRADING PLAN
C1.8	GRADING PLAN DETAILS
C1.9	ALAMAR PLAN AND PROFILE
C1.10	ALAMAR PLAN AND PROFILE
C1.11	ALAMAR PLAN AND PROFILE
C1.12	ALAMAR PLAN AND PROFILE
C1.13	ALAMAR PLAN AND PROFILE
C1.14	ALAMAR PLAN AND PROFILE
C1.15	ALAMAR PLAN AND PROFILE
C1.16	ALAMAR PLAN AND PROFILE
C1.17	TWINKLING STAR PLAN AND PROFILE
C1.18	TWINKLING STAR PLAN AND PROFILE
C1.19	TWINKLING STAR PLAN AND PROFILE
C1.20	CUL-DE-SAC PLAN AND PROFILE
C1.21	SIGNING AND STRIPING PLAN
C1.22	CUT AND FILL MAP
C1.23	GEC FINAL PLAN
C1.24	GEC FINAL PLAN
C1.25	GEC FINAL PLAN
C1.26	GEC FINAL PLAN
C1.27	FIRE CISTERN PLAN
C1.28	FIRE CISTERN DETAILS
C1.32	POND 1 OVERVIEW
C1.30	POND 1 DETAILS
C1.31	POND 1 & SEDIMENT BASIN H5B DETAILS
C1.35	POND 2 OVERVIEW
C1.33	POND 2 DETAILS
C1.34	POND 2 DETAILS
C1.38	POND 4 OVERVIEW
C1.36	POND 4 DETAILS
C1.37	POND 4 DETAILS
C1.41	WQ POND A OVERVIEW
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**IUMBERING ISSUES** 

WQ POND DETAILS

WQ POND DETAILS

C1.39

C1.40

Update TOC with sheets

list should go up to C1.43

that were added in. The

**OWNER'S STATEMENT** 

THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN AND ALL OF THE SPECIFIED IN THESE DETAILED PLANS AND SPECIFICATIONS.

OWNER SIGNATURE

JOE DESJARDIN, DIRECTOR OF ENTITLEMENTS WINSOME, LLC 1864 WOODMOOR DRIVE, SUITE 100 MONUMENT, CO 80132

#### **ENGINEER'S STATEMENT**

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED ROADWAY, DRAINAGE, GRADING AND EROSION CONTROL PLANS AND SPECIFICATIONS, AND SAID PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH APPLICABLE MASTER DRAINAGE PLANS AND MASTER TRANSPORTATION PLANS. SAID PLANS AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR ROADWAY AND DRAINAGE FACILITIES ARE DESIGNED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF THESE DETAILED PLANS AND SPECIFICATIONS.

KEVIN KOFFORD, PE (CO #57234) - KIMLEY-HORN AND ASSOCIATES, INC. DATE

#### EL PASO COUNTY

cut and fill map is C1.21

check all other titles vs sheet numbers in this

> 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 MANUAL VOLUMES 1 AND 2, 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 DIRECTOR'S

JENNIFER IRVINE, PE COUNTY ENGINEER/ECM ADMINISTRATOR

DATE

DESIGNED BY: KRI DRAWN BY: A CHECKED BY: KRI DATE: 12/16/202

FILING NO. 3
ATY, COLORADO
ON DOCUMENTS
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**PRELIMINARY** FOR REVIEW ONL' NOT FOR CONSTRUCTION

Kimley-Horn and Associates, In-PROJECT NO. 196106001

Kimley»Horn

SHEET C1.0

#### EL PASO COUNTY GRADING AND EROSION CONTROL PLAN NOTES

- 1. 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.
- 2. 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 FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
- 3. A SEPARATE STORMWATER MANAGEMENT PLAN (SMWP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. MANAGEMENT OF THE SWMP DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE DESIGNATED QUALIFIED STORMWATER MANAGER OR CERTIFIED EROSION CONTROL INSPECTOR. THE SWMP SHALL BE LOCATED ON SITE AT ALL TIMES DURING CONSTRUCTION AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIFLD
- 4. ONCE THE ESQCP IS APPROVED AND A "NOTICE TO PROCEED" HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED ON THE APPROVED 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 STAFF.
- 5. CONTROL MEASURES MUST BE INSTALLED PRIOR TO COMMENCEMENT OF ACTIVITIES THAT COULD CONTRIBUTE POLLUTANTS TO STORMWATER. CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, AND DISTURBED LAND AREAS SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF THE DISTURBANCE.
- 6. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REMAIN IN EFFECTIVE OPERATING CONDITION UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND FINAL STABILIZATION IS ESTABLISHED. ALL PERSONS ENGAGED IN LAND DISTURBANCE ACTIVITIES SHALL ASSESS THE ADEQUACY OF CONTROL MEASURES AT THE SITE AND IDENTIFY IF CHANGES TO THOSE CONTROL MEASURES ARE NEEDED TO ENSURE THE CONTINUED EFFECTIVE PERFORMANCE OF THE CONTROL MEASURES. ALL CHANGES TO TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES MUST BE INCORPORATED INTO THE STORMWATER MANAGEMENT PLAN.
- 7. TEMPORARY STABILIZATION SHALL BE IMPLEMENTED ON DISTURBED AREAS AND STOCKPILES WHERE GROUND DISTURBING CONSTRUCTION ACTIVITY HAS PERMANENTLY CEASED OR TEMPORARILY CEASED FOR LONGER THAN 14 DAYS.
- 8. FINAL STABILIZATION MUST BE IMPLEMENTED AT ALL APPLICABLE CONSTRUCTION SITES. FINAL STABILIZATION IS ACHIEVED WHEN ALL GROUND DISTURBING ACTIVITIES ARE COMPLETE AND ALL DISTURBED AREAS EITHER HAVE A UNIFORM VEGETATIVE COVER WITH INDIVIDUAL PLANT DENSITY OF 70 PERCENT OF PRE-DISTURBANCE LEVELS ESTABLISHED OR EQUIVALENT PERMANENT ALTERNATIVE STABILIZATION METHOD IS IMPLEMENTED. ALL TEMPORARY SEDIMENT AND EROSION CONTROL
- MEASURES SHALL BE REMOVED UPON FINAL STABILIZATION AND BEFORE PERMIT CLOSURE.

  9. ALL PERMANENT STORMWATER MANAGEMENT FACILITIES SHALL BE INSTALLED AS DESIGNED IN THE APPROVED PLANS. ANY PROPOSED CHANGES THAT EFFECT THE DESIGN OR FUNCTION OF PERMANENT STORMWATER MANAGEMENT STRUCTURES MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO IMPLEMENTATION.
- 10. EARTH DISTURBANCES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY MINIMIZE 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. PRE-EXISTING VEGETATION SHALL BE PROTECTED AND MAINTAINED WITHIN 50 HORIZONTAL FEET OF A WATERS OF THE STATE UNLESS SHOWN TO BE INFEASIBLE AND SPECIFICALLY REQUESTED AND APPROVED.
- 11. COMPACTION OF SOIL MUST BE PREVENTED IN AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES OR WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATIVE COVER. AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED. IF COMPACTION PREVENTION IS NOT FEASIBLE DUE TO SITE CONSTRAINTS, ALL AREAS DESIGNATED FOR INFILTRATION AND VEGETATION CONTROL MEASURES MUST BE LOOSENED PRIOR TO INSTALLATION OF THE CONTROL MEASURE(S).
- 12. ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE A STABILIZED CONVEYANCE DESIGNED TO MINIMIZE EROSION AND THE DISCHARGE OF SEDIMENT OFF SITE.
- 13. CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO ENTER STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES. CONCRETE WASHOUTS SHALL NOT BE LOCATED IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT, OR WITHIN 50 FEET OF A SURFACE WATER BODY, CREEK OR STREAM.
- 14. DURING DEWATERING OPERATIONS OF UNCONTAMINATED GROUND WATER MAY BE DISCHARGED ON SITE, BUT SHALL NOT LEAVE THE SITE IN THE FORM OF SURFACE RUNOFF UNLESS AN APPROVED STATE DEWATERING PERMIT IS IN PLACE.
- 15. EROSION CONTROL BLANKETING OR OTHER PROTECTIVE COVERING SHALL BE USED ON SLOPES STEEPER THAN 3:1.
- 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. 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. CONTROL MEASURES MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.
- 18. TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF—SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF—SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
- 19. THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, SOIL, AND SAND THAT MAY ACCUMULATE IN ROADS, STORM DRAINS AND OTHER DRAINAGE CONVEYANCE SYSTEMS AND STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.
- 20. 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.
- 21. NO CHEMICAL(S) HAVING THE POTENTIAL TO BE RELEASED IN STORMWATER ARE TO BE STORED OR USED ONSITE UNLESS PERMISSION FOR THE USE OF SUCH CHEMICAL(S) IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING APPROVAL FOR THE USE OF SUCH CHEMICAL(S), SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
- 22. BULK STORAGE OF ALLOWED PETROLEUM PRODUCTS OR OTHER ALLOWED LIQUID CHEMICALS IN EXCESS OF 55 GALLONS SHALL REQUIRE ADEQUATE SECONDARY CONTAINMENT PROTECTION TO CONTAIN ALL SPILLS ONSITE AND TO PREVENT ANY SPILLED MATERIALS FROM ENTERING STATE WATERS, ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR OTHER FACILITIES.
- 23. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER OR DITCH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.
- 24. OWNER/DEVELOPER AND THEIR AGENTS 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 OF THE LAND DEVELOPMENT CODE, DCM VOLUME II AND THE ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (1041, NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC.). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND OTHER LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL, STATE, LOCAL, OR COUNTY AGENCIES, THE MOST RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.

- 25. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS POINTS.
- 26. PRIOR TO CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.

  27. A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND SHALL BE UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
- 28. THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY ENTECH ENGINEERING, INC. DATED JANUARY 26, 2021 AND SHALL BE CONSIDERED A PART OF THESE PLANS.
- 29. AT LEAST TEN (10) DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB ONE (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

#### STANDARD NOTES FOR EL PASO COUNTY CONSTRUCTION PLANS

- 1. ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
- 2.CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD NOTIFICATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).
- 3.CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT, AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES, INCLUDING THE FOLLOWING:

  a.EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
- b.CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2 c.COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION d.CDOT M & S STANDARDS
- 4.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 FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING. ANY MODIFICATIONS NECESSARY TO MEET CRITERIA AFTER—THE—FACT WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- 5.IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ONSITE AND OFFSITE, ON THE CONSTRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- 6.CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT (PCD) INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.
- 7.IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS—ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.
- 8.CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND PCD. CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.
- 9. ALL STORM DRAIN PIPE SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED AND APPROVED BY PCD.
- 10. CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY PCD PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT.
- 11. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
- 12. SIGHT VISIBILITY TRIANGLES AS IDENTIFIED IN THE PLANS SHALL BE PROVIDED AT ALL INTERSECTIONS. OBSTRUCTIONS GREATER THAN 18 INCHES ABOVE FLOWLINE ARE NOT ALLOWED WITHIN SIGHT TRIANGLES.
- 13. SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DOT AND MUTCD CRITERIA. [IF APPLICABLE, ADDITIONAL SIGNING AND STRIPING NOTES WILL BE PROVIDED.]
- 14. CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DOT, INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
- 15. THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF—SITE DISTURBANCE, GRADING, OR CONSTRUCTION.

HOND ASSOCIATES, INC.

2 North Nevada Avenue Suite 300

Colorado Springs, Colorado 80903 (719) 453-0180

DATE: 12/16/202

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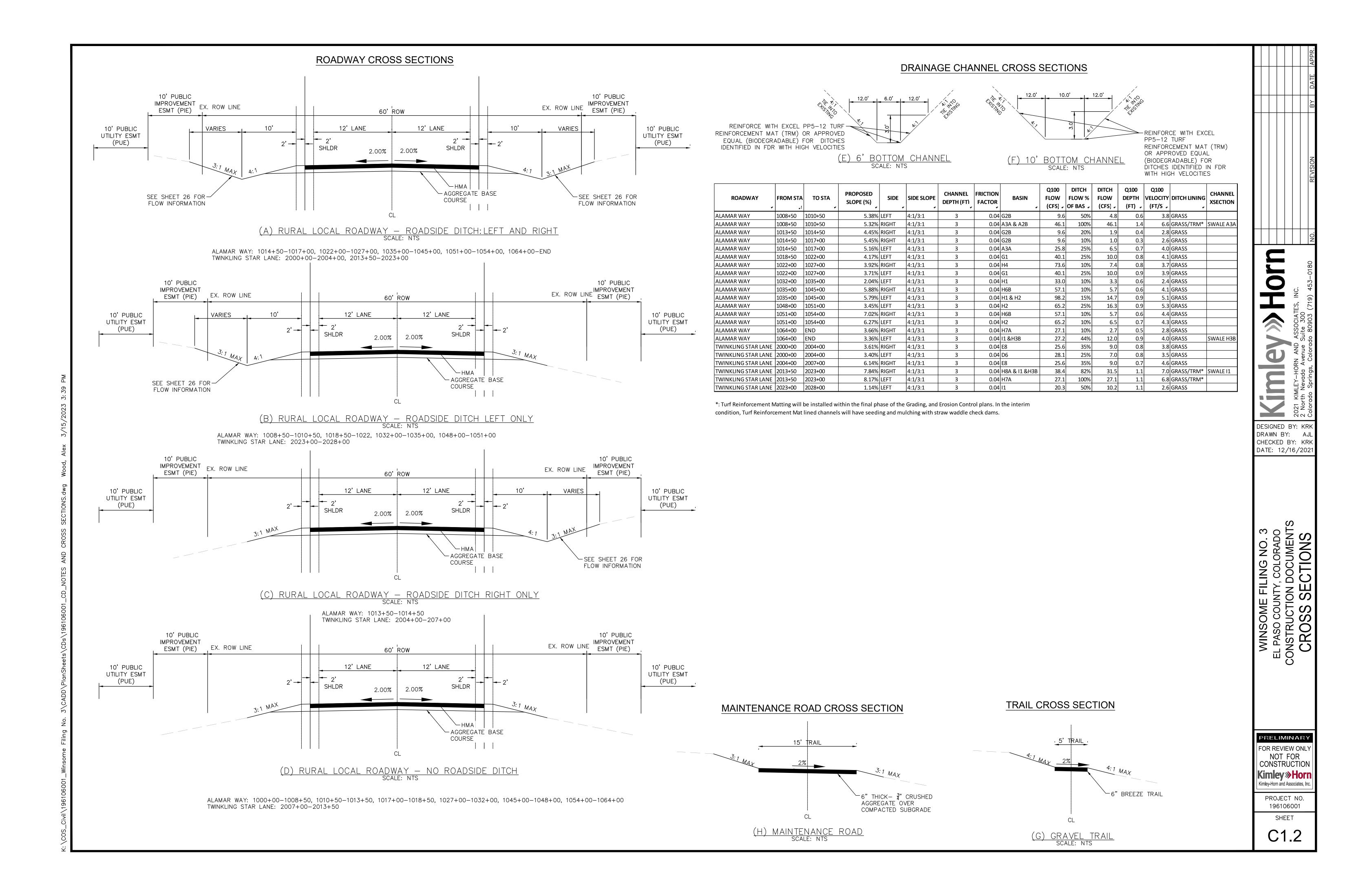
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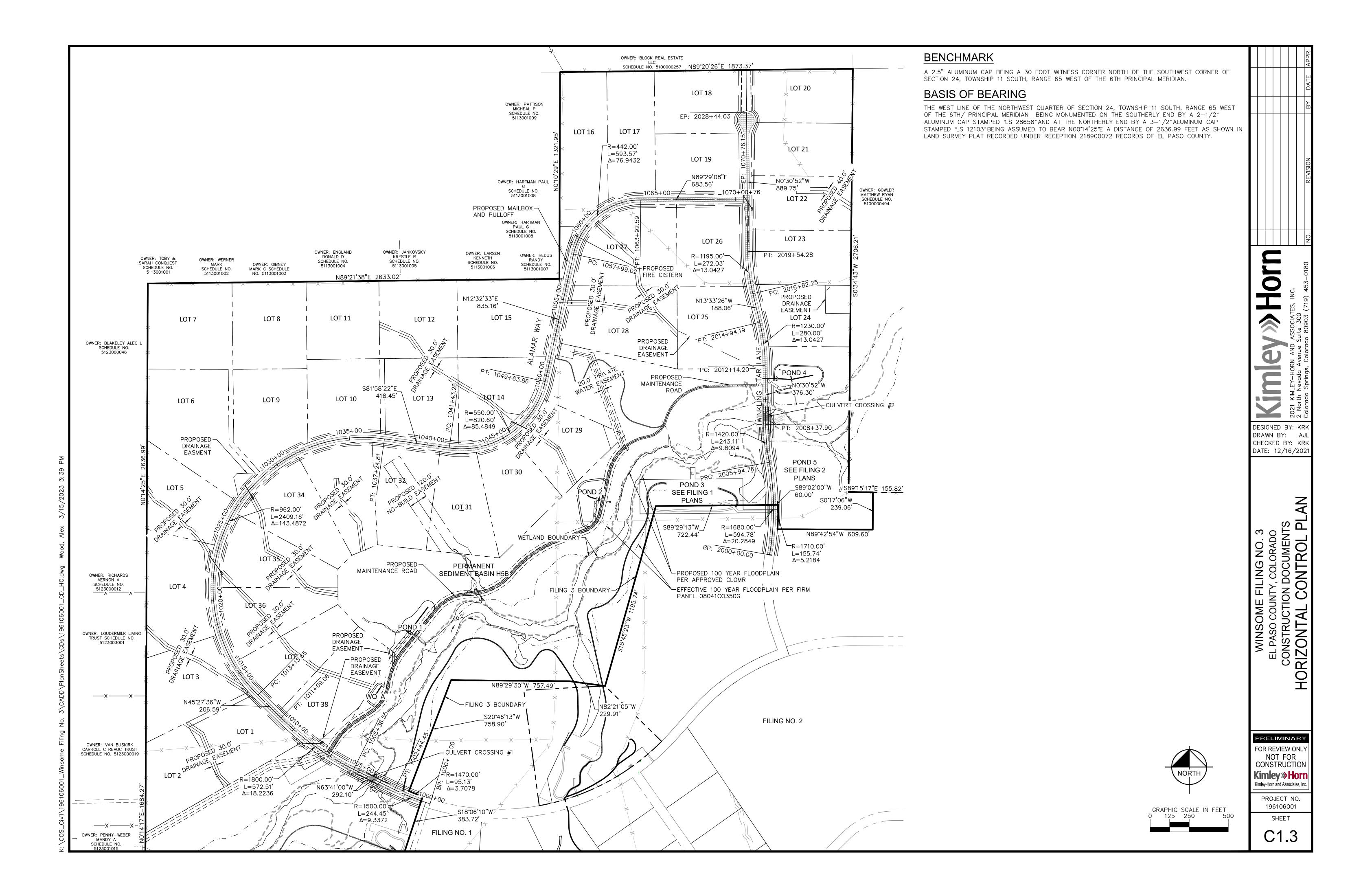
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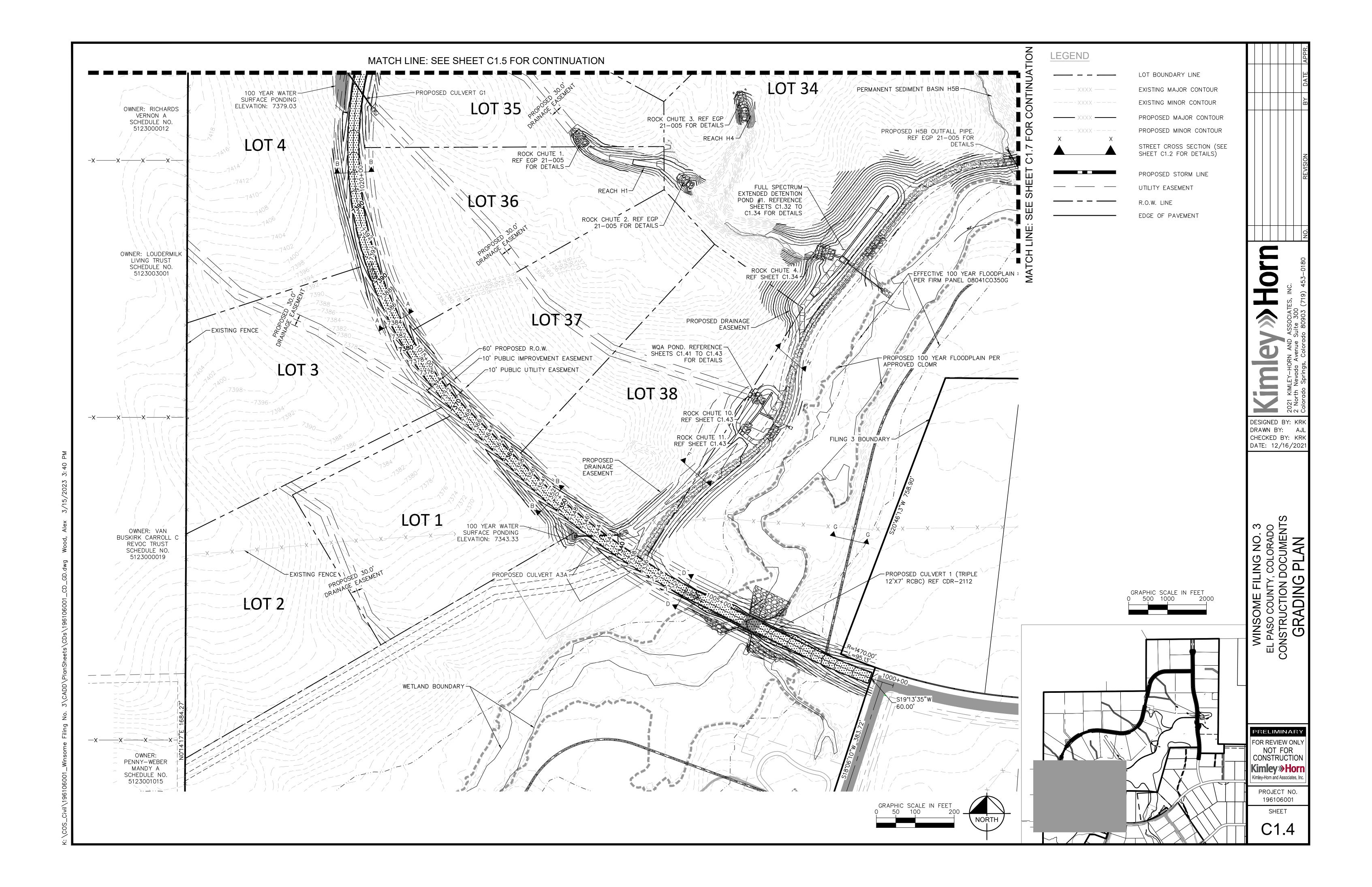
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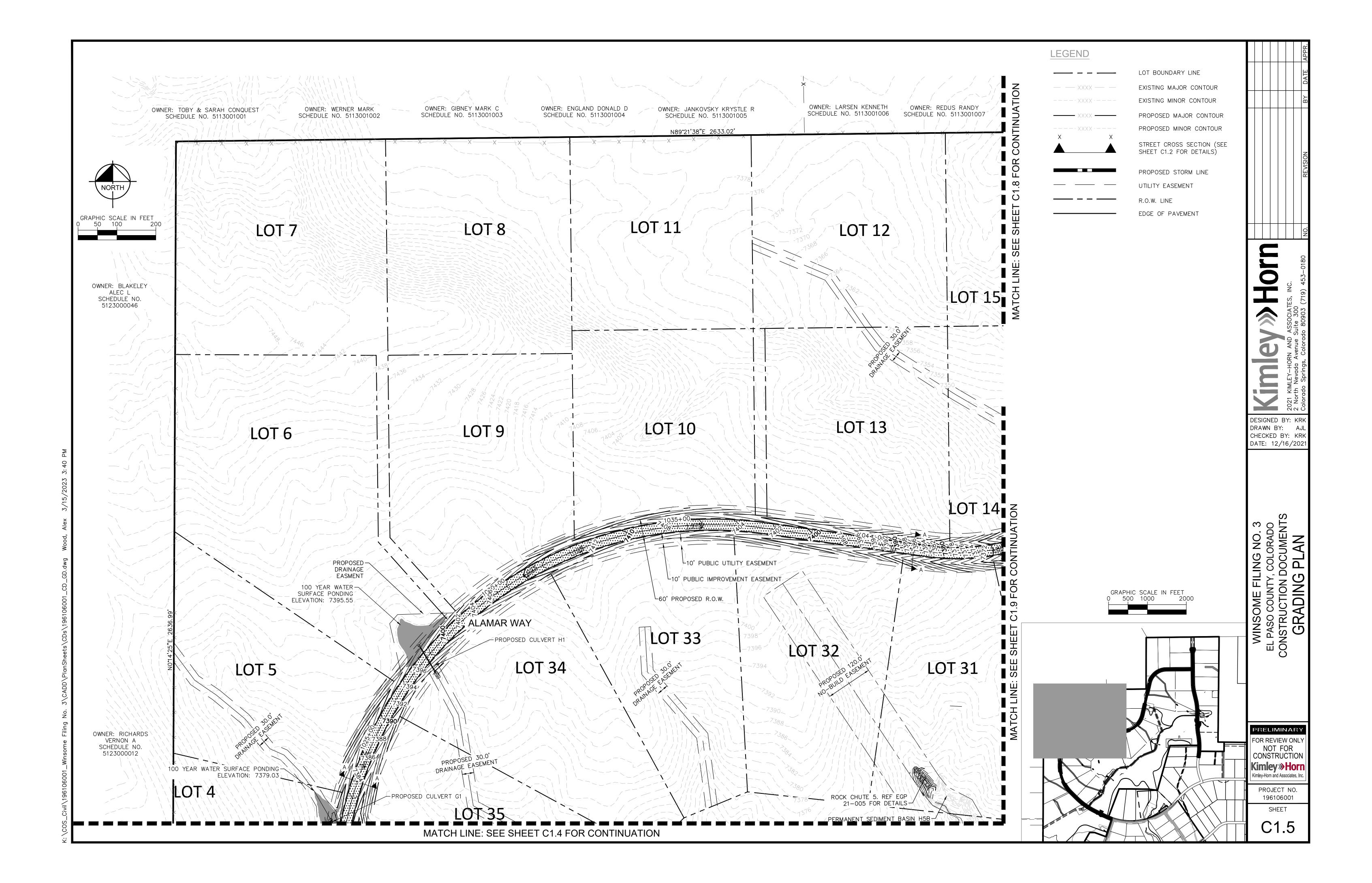
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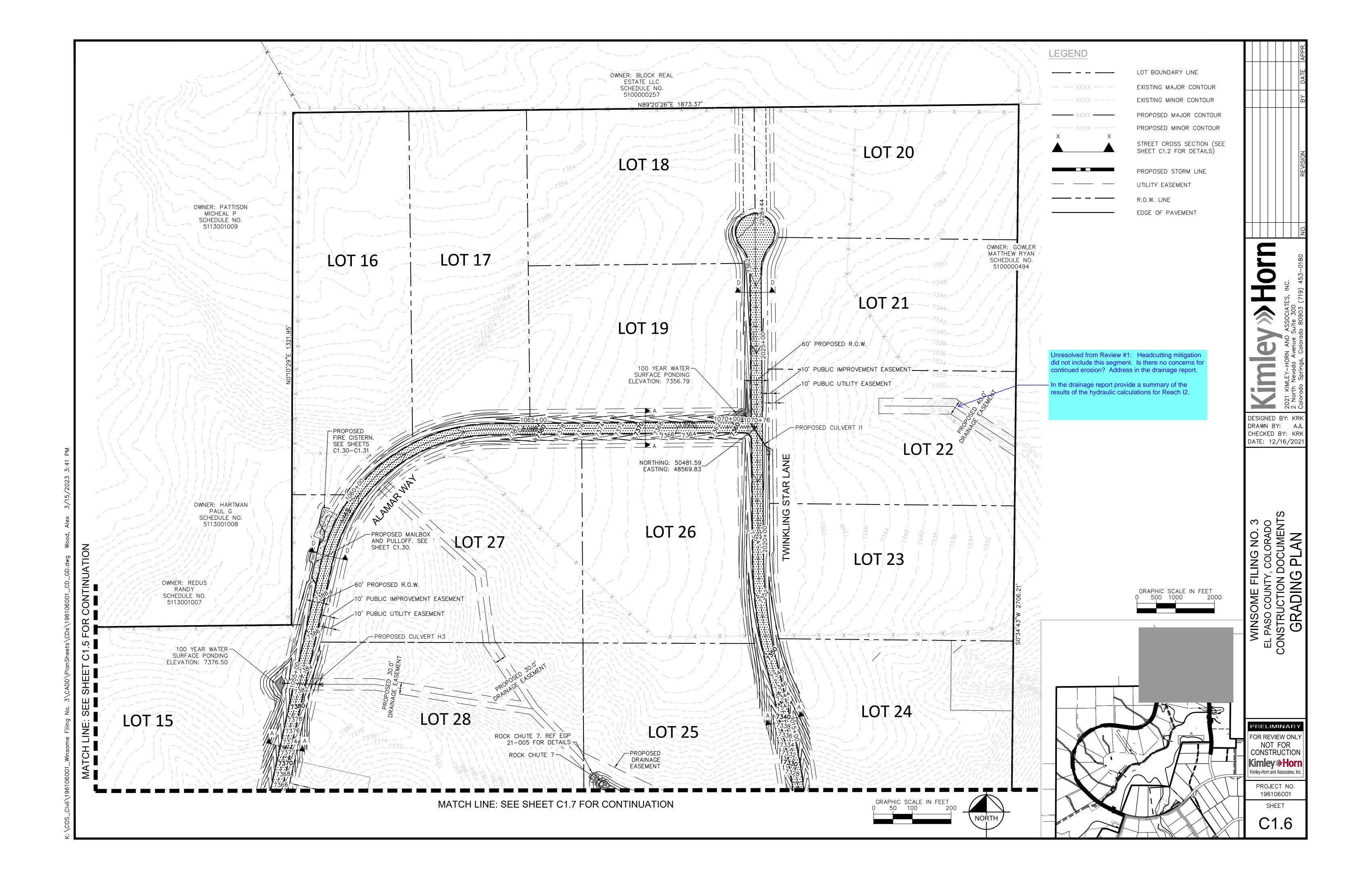
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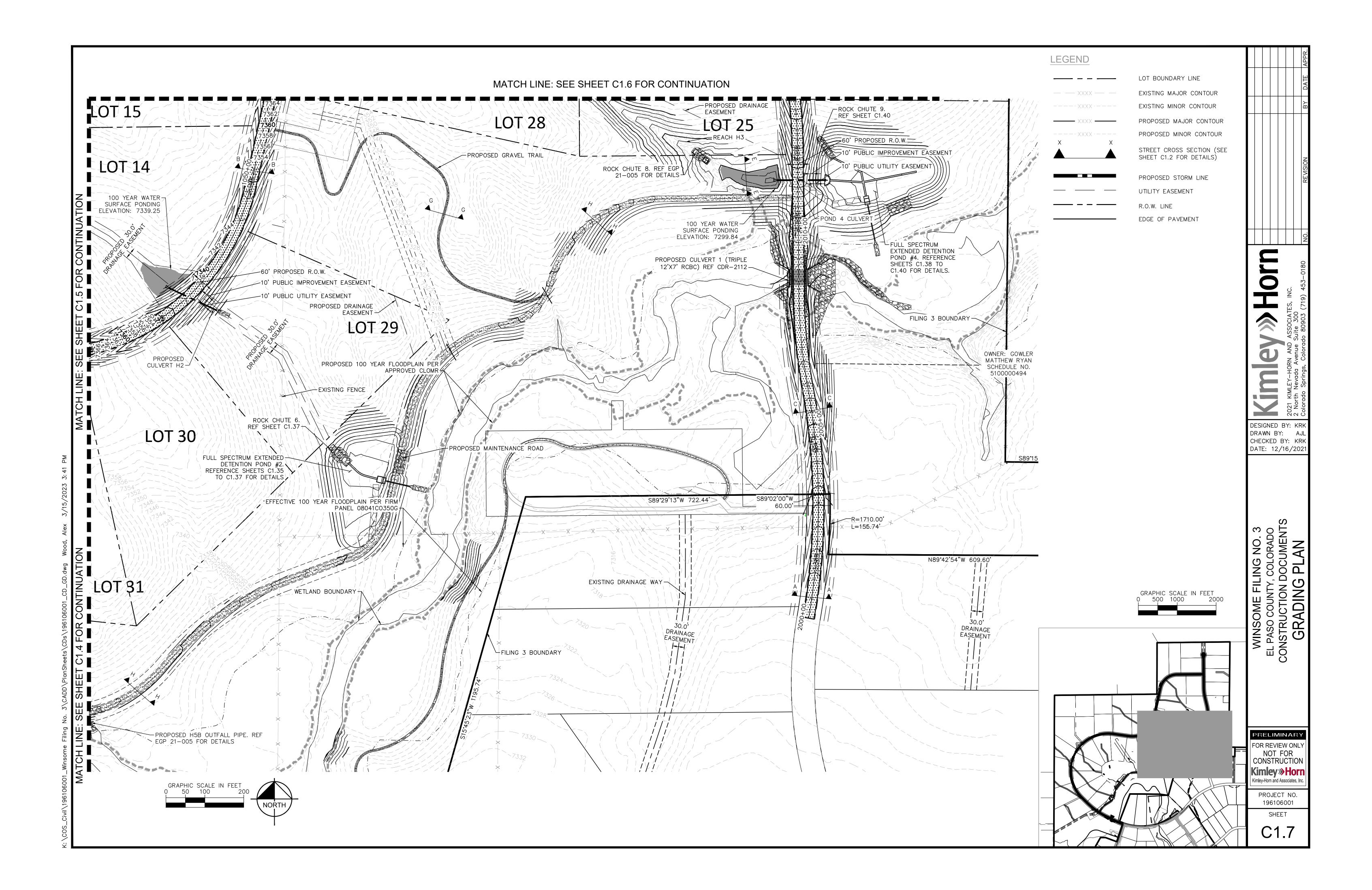


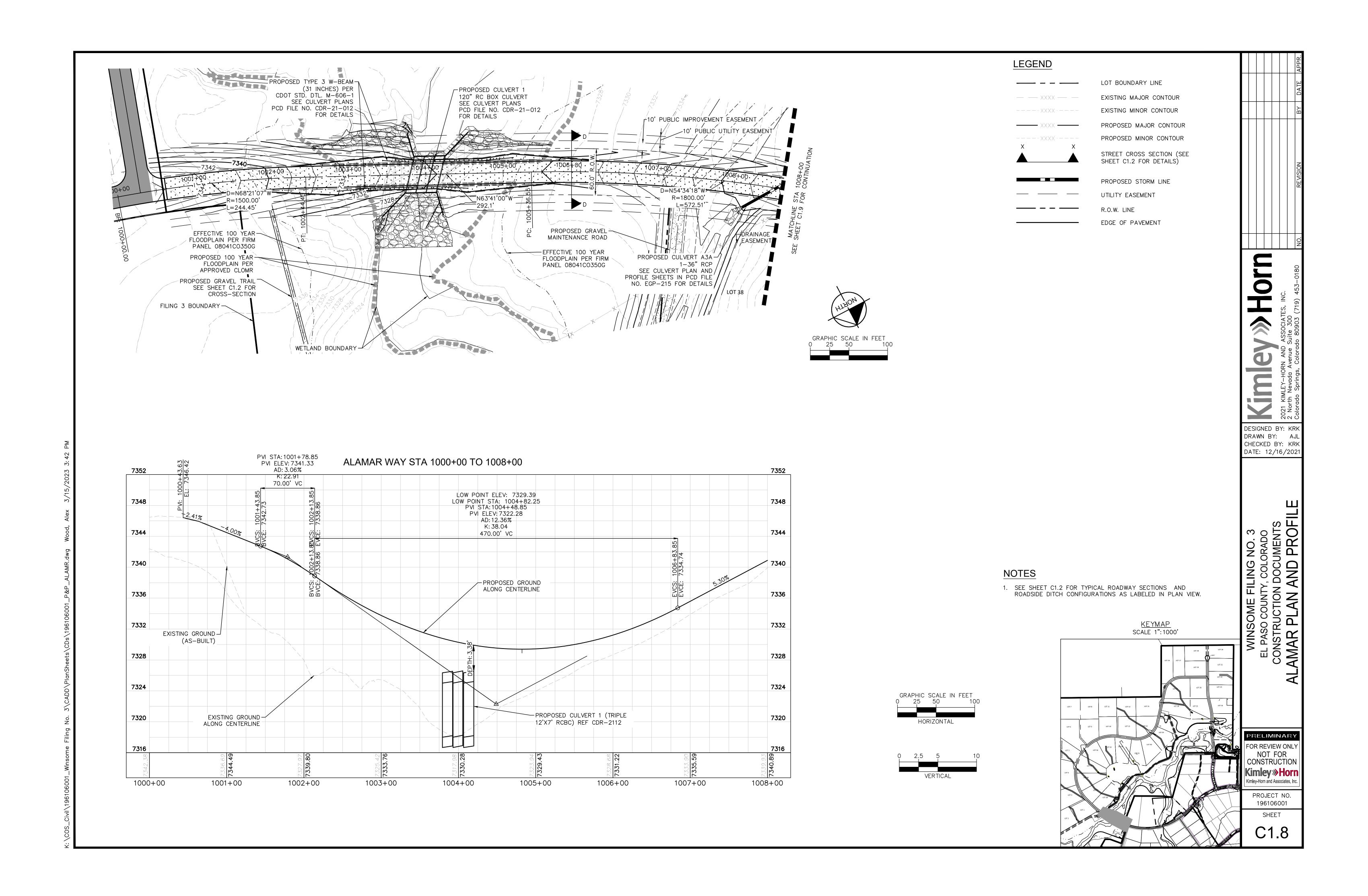


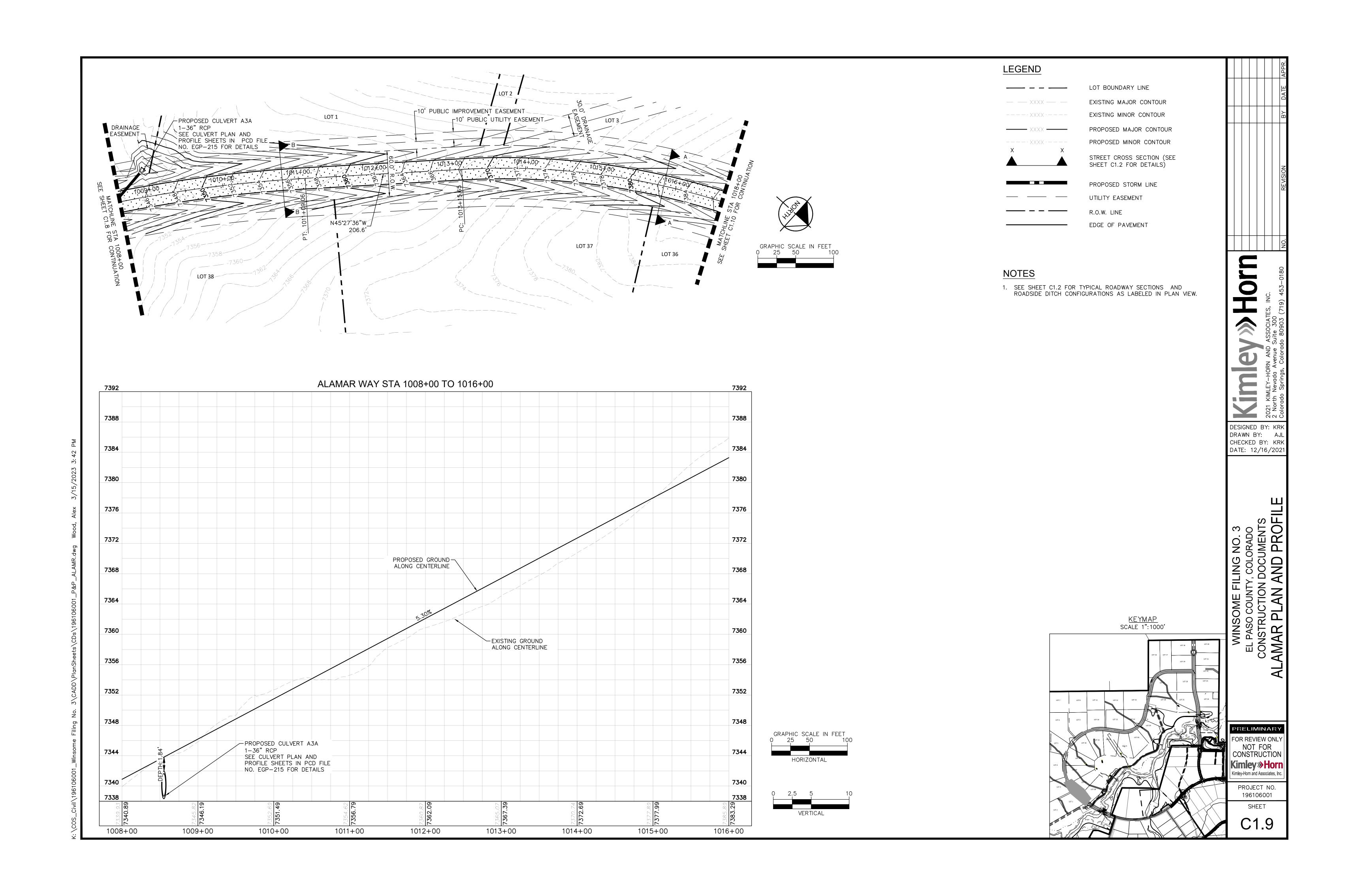


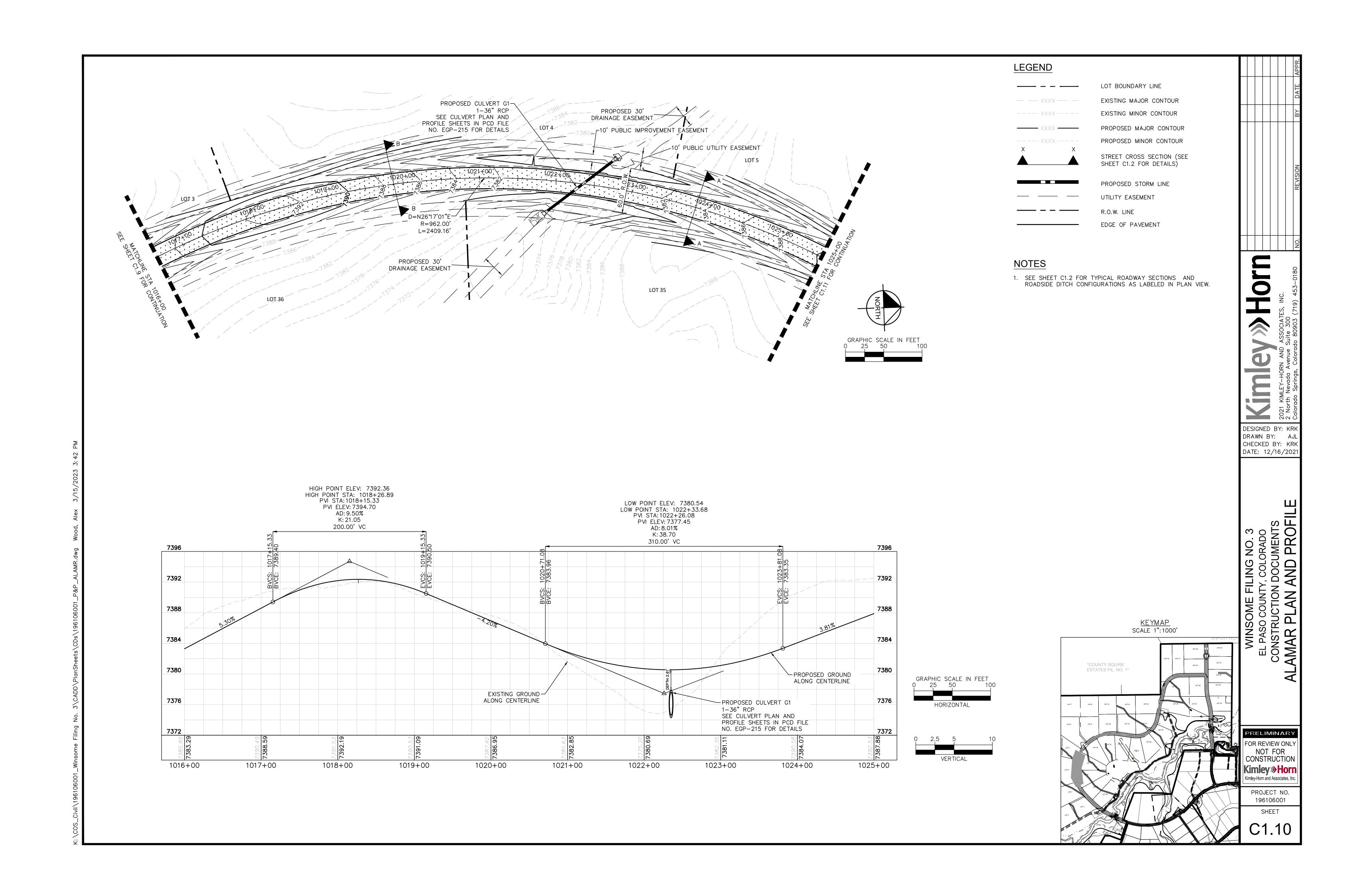


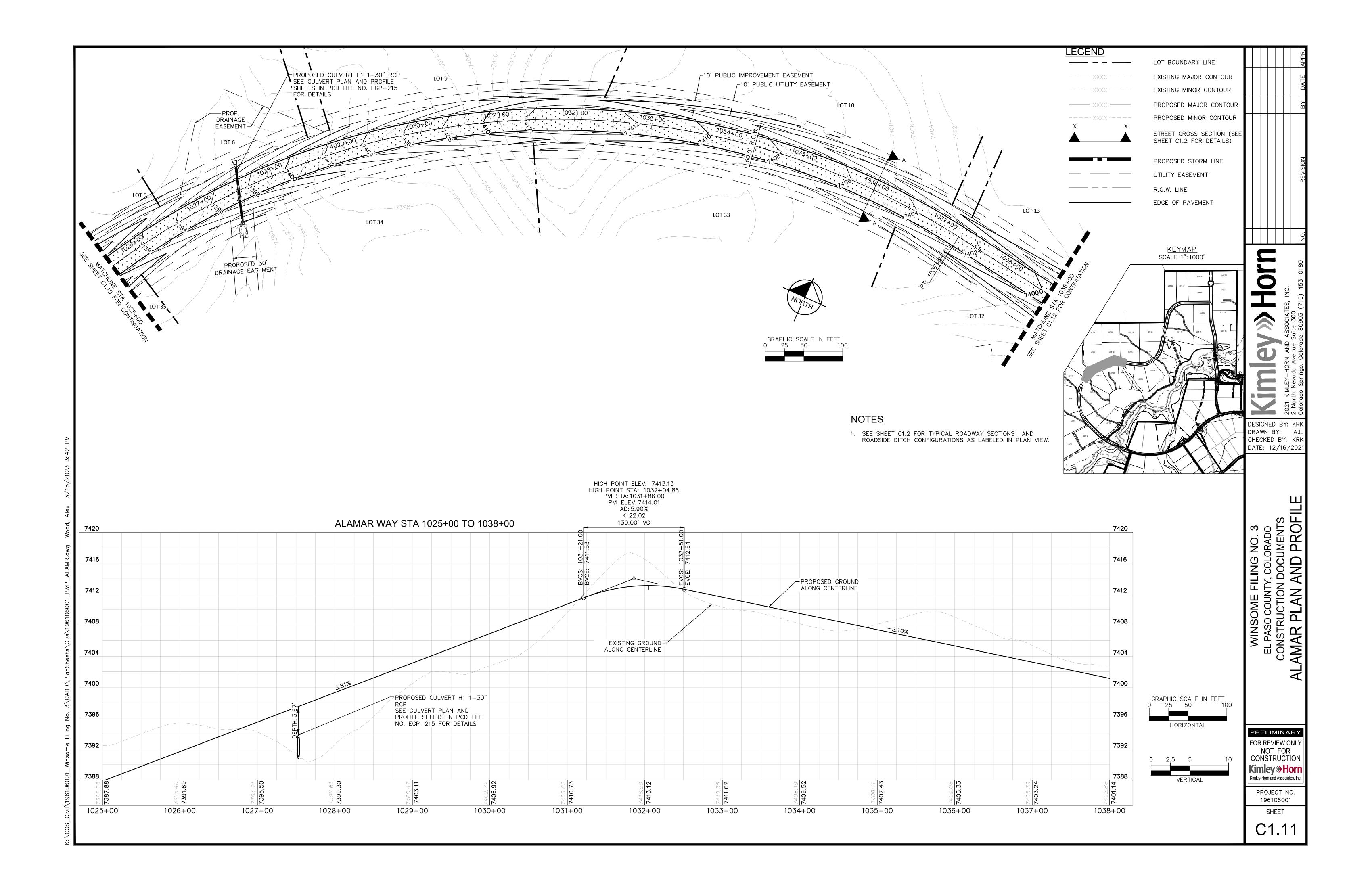


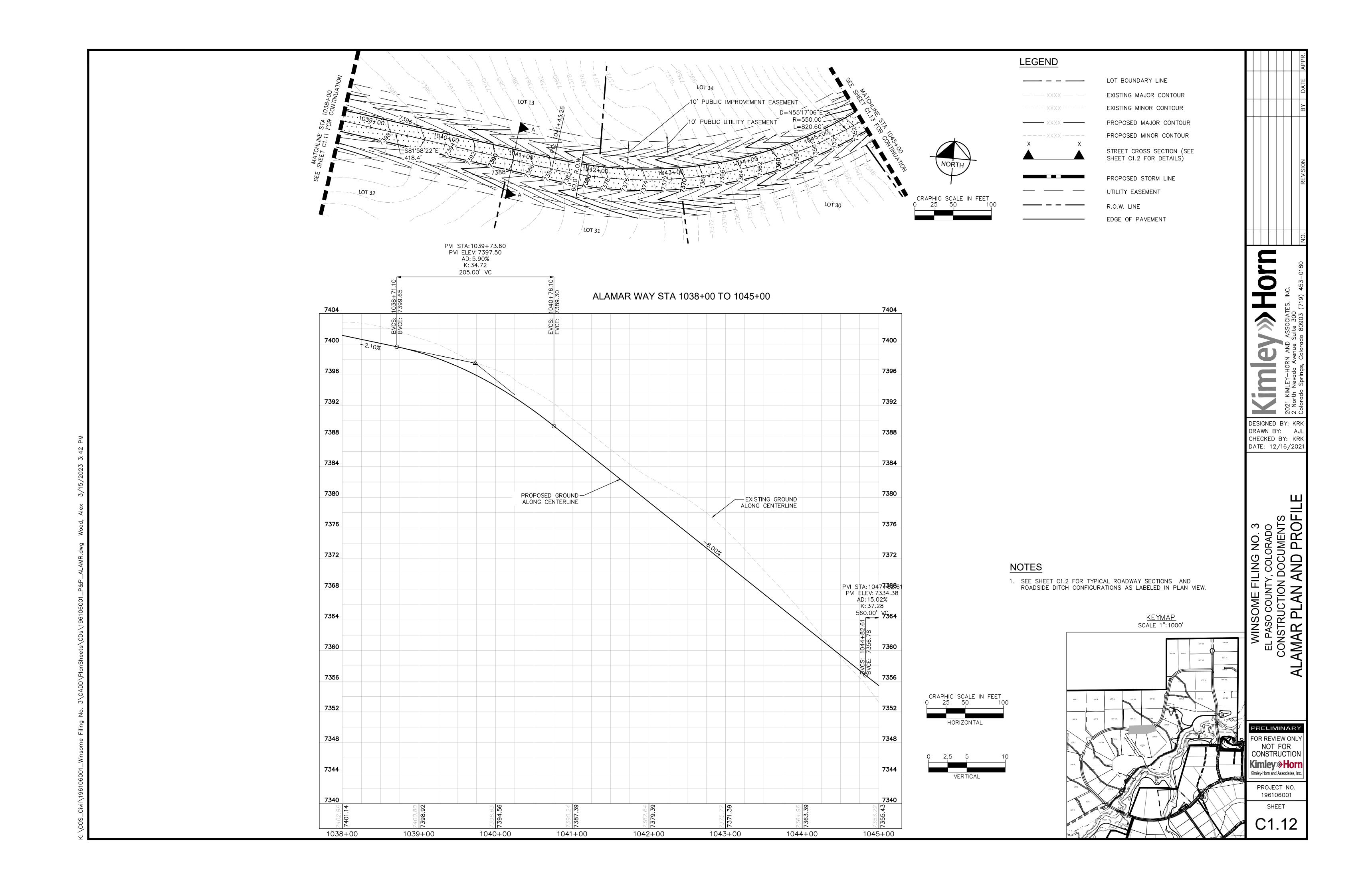


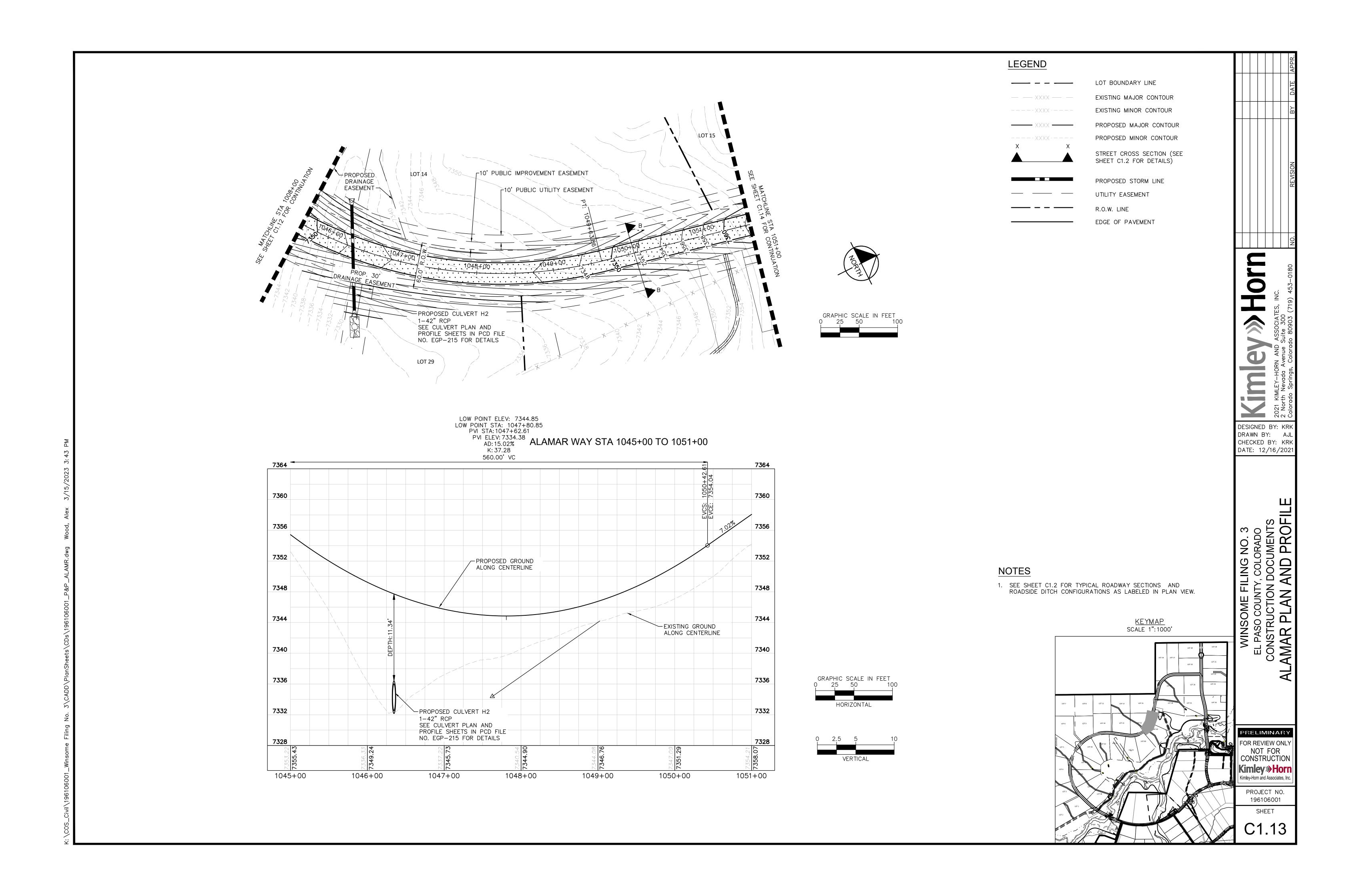


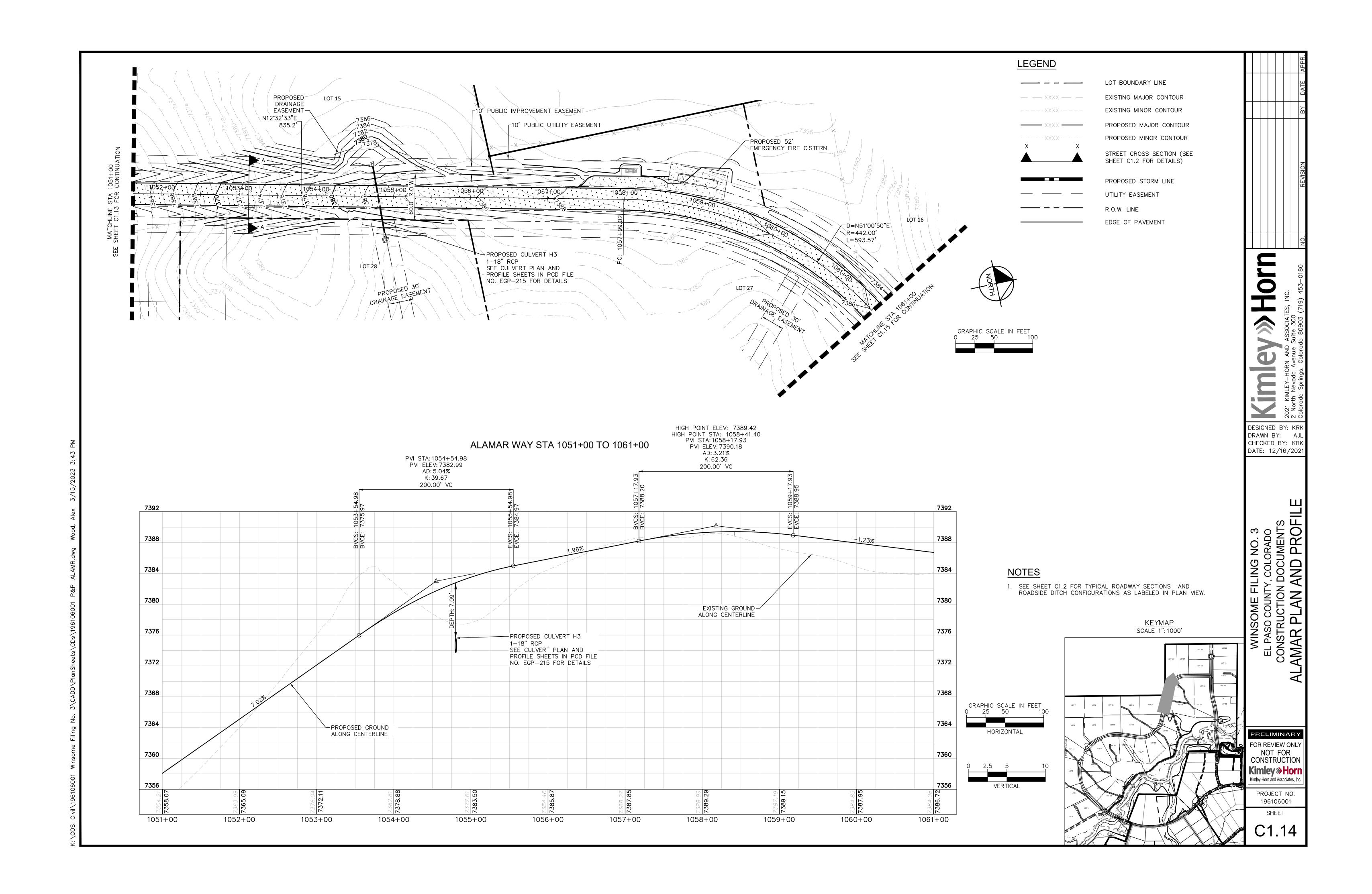


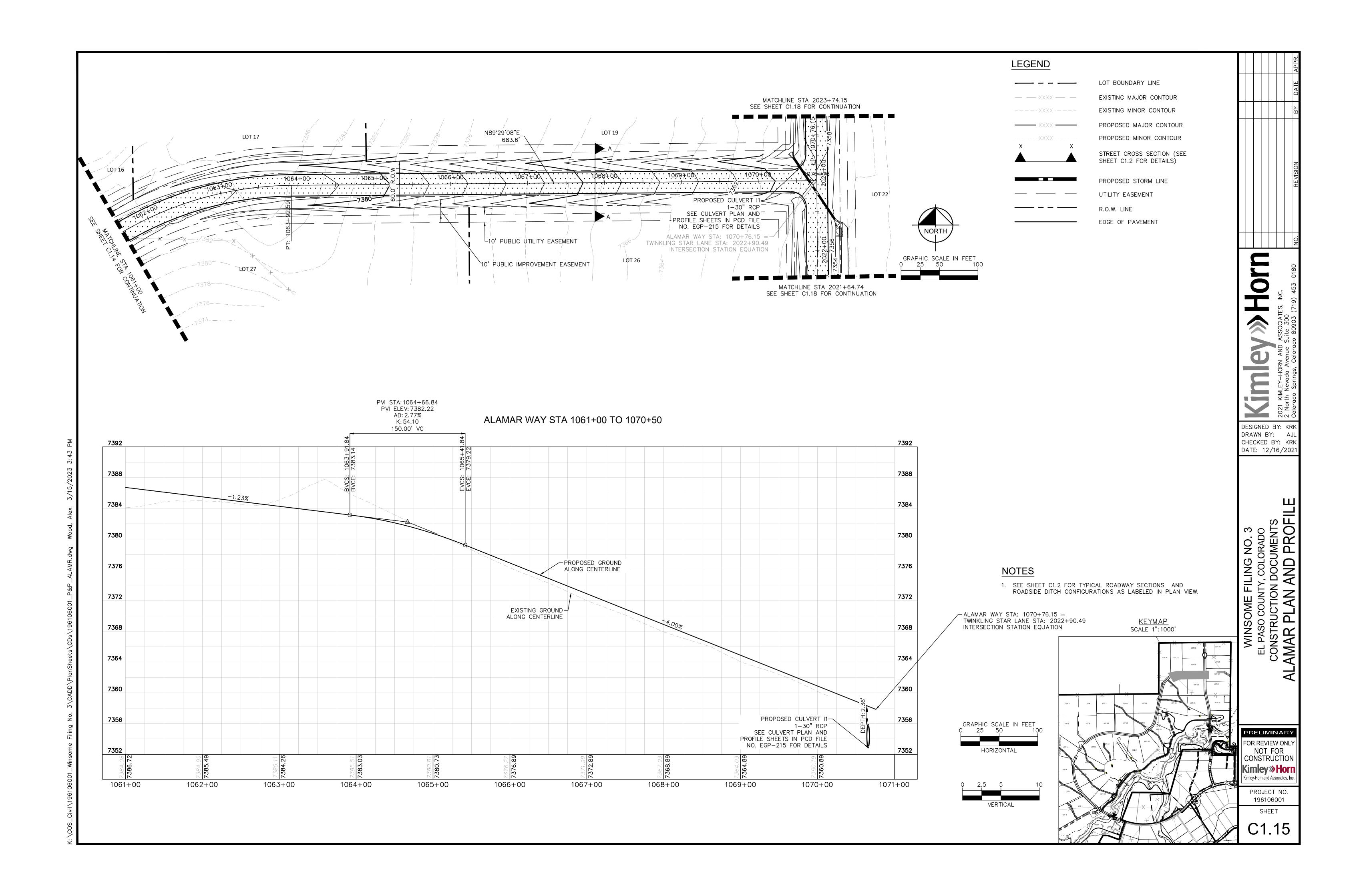


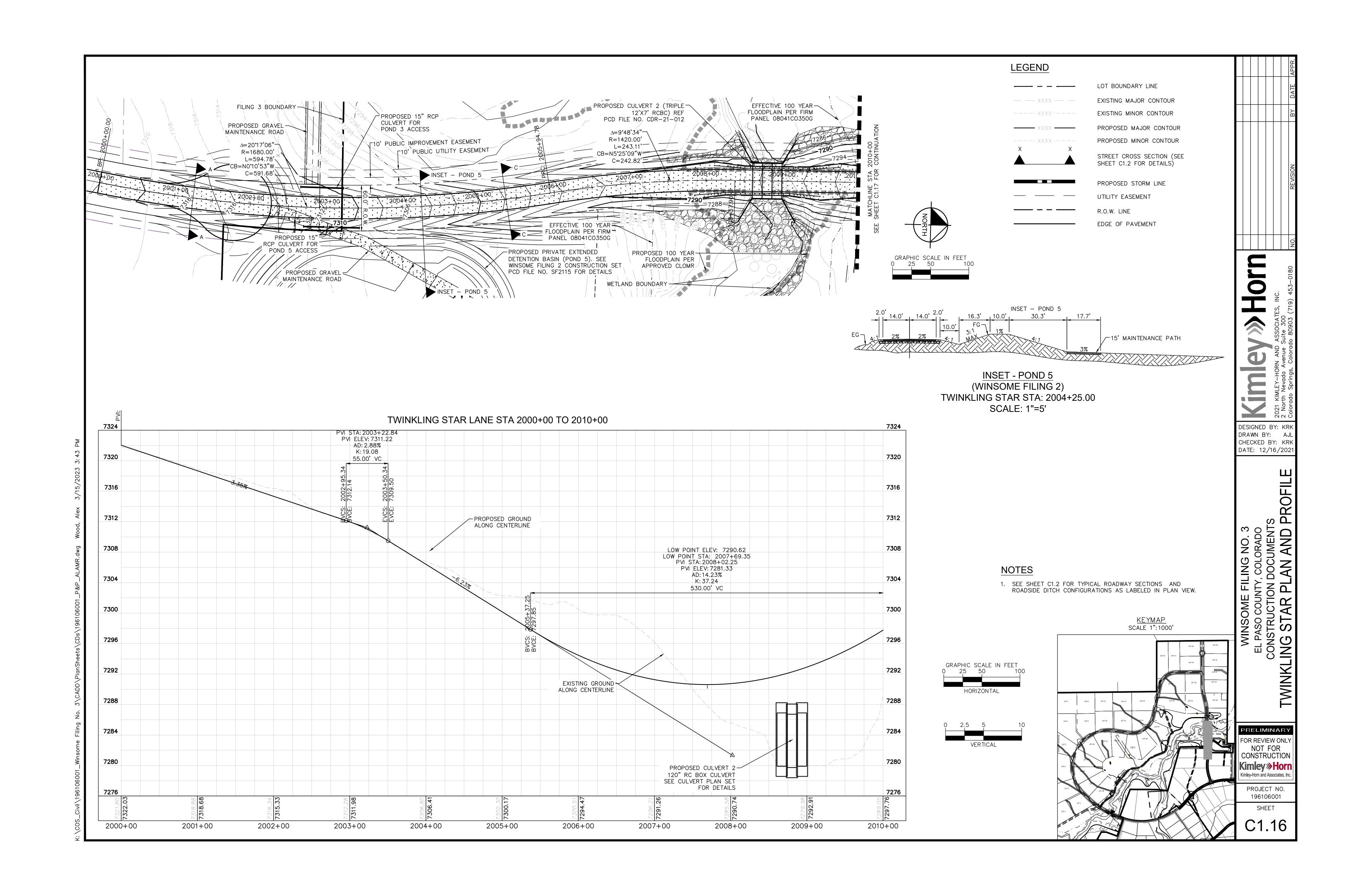


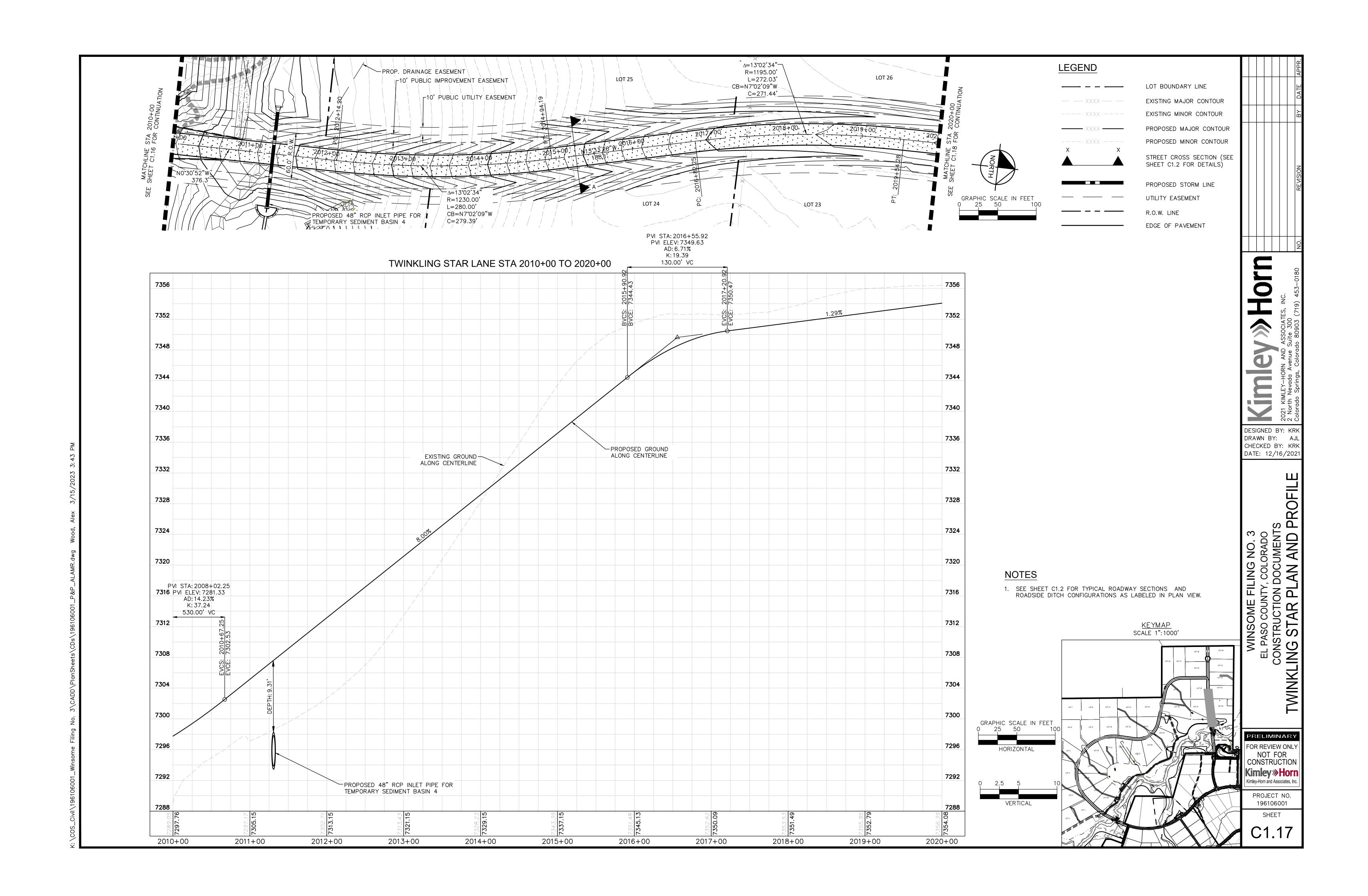


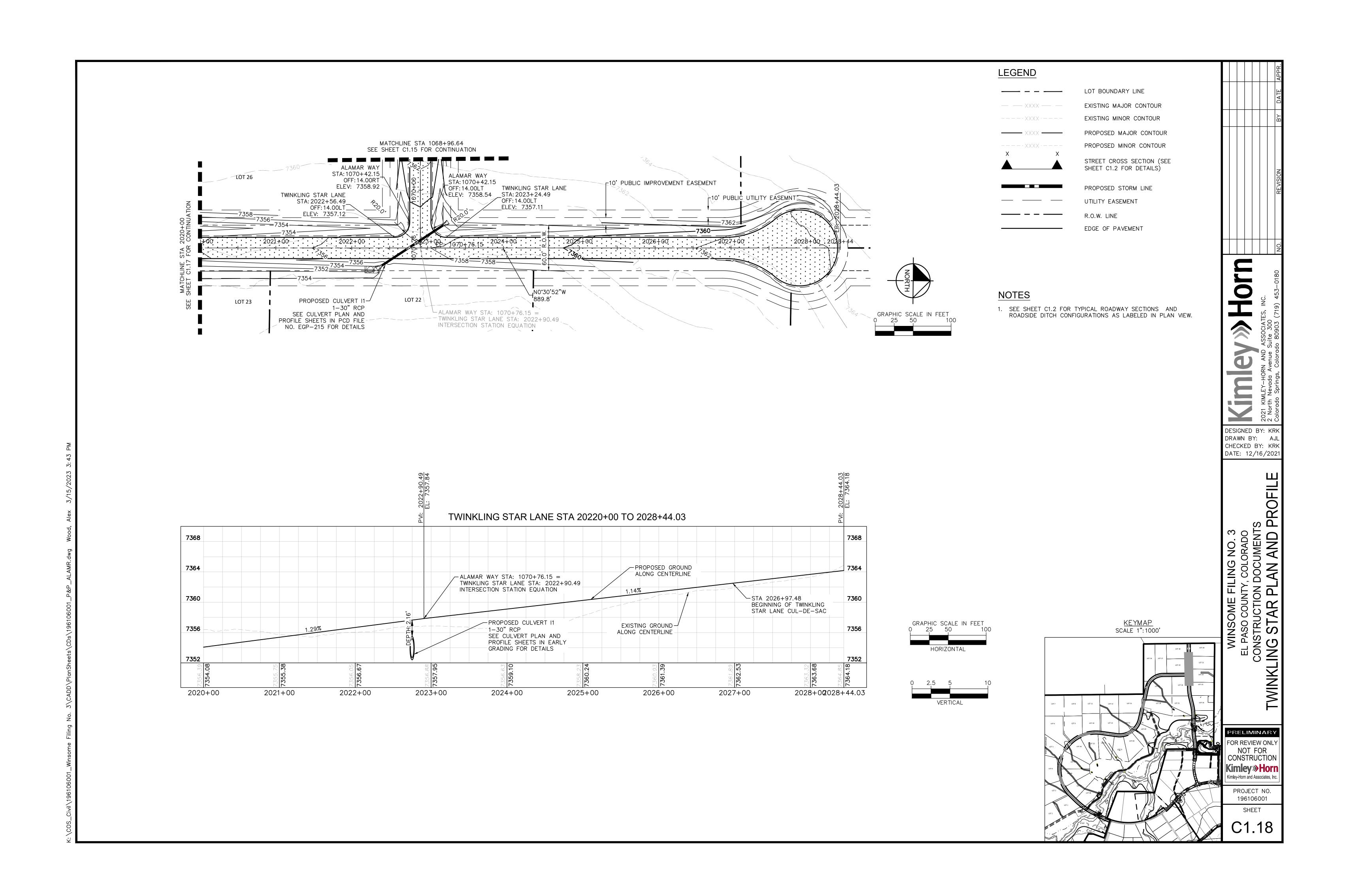


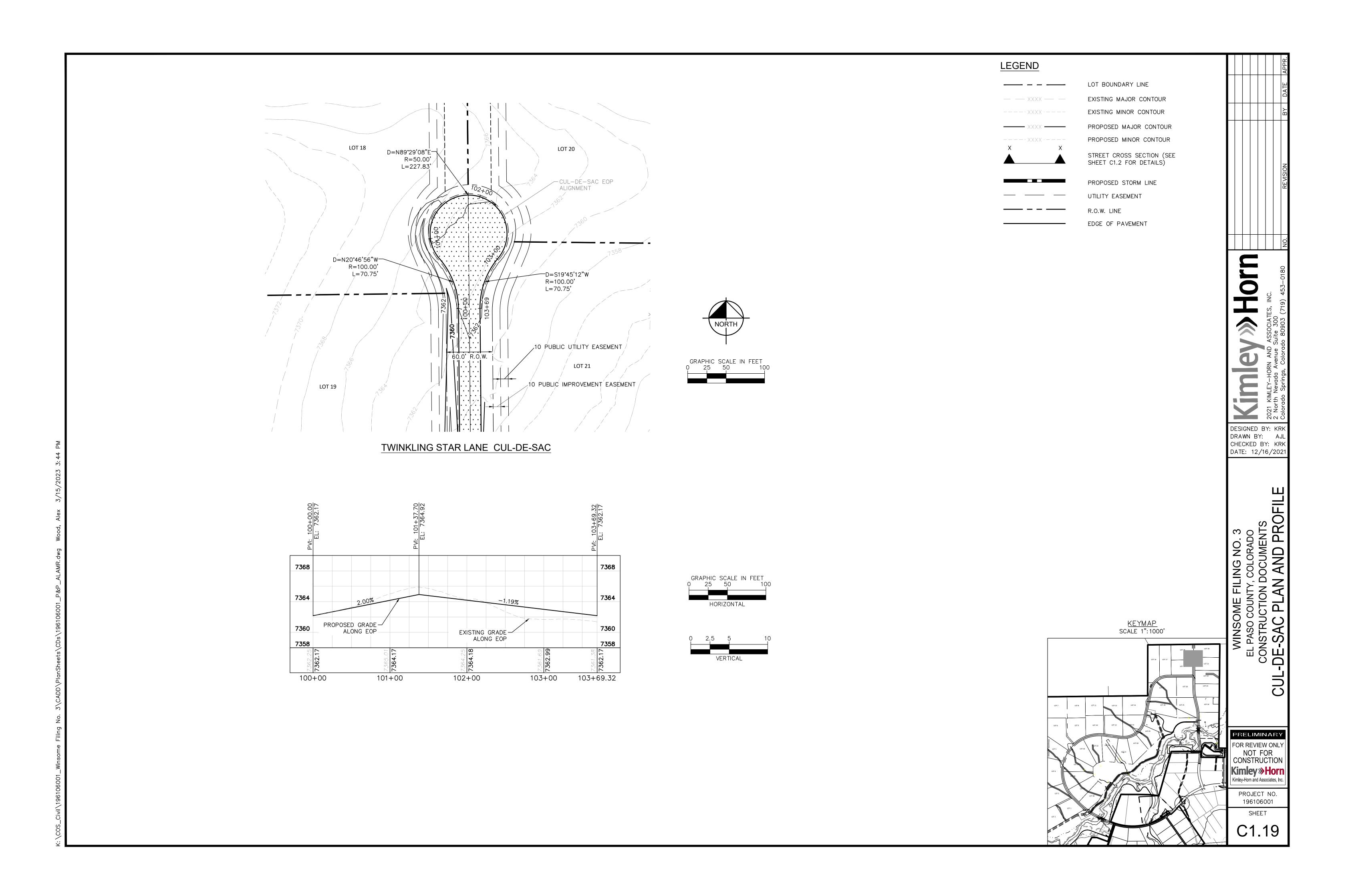


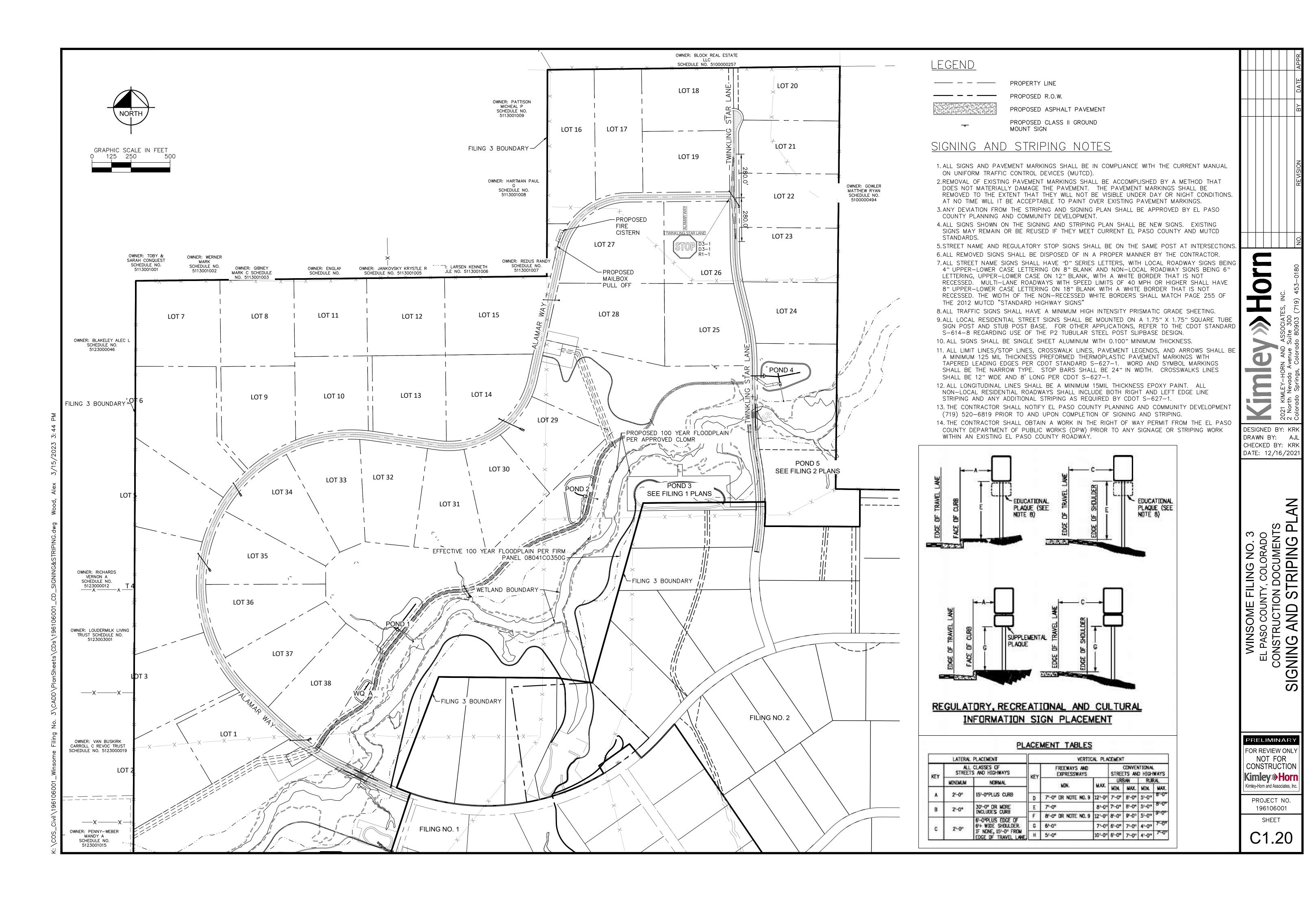


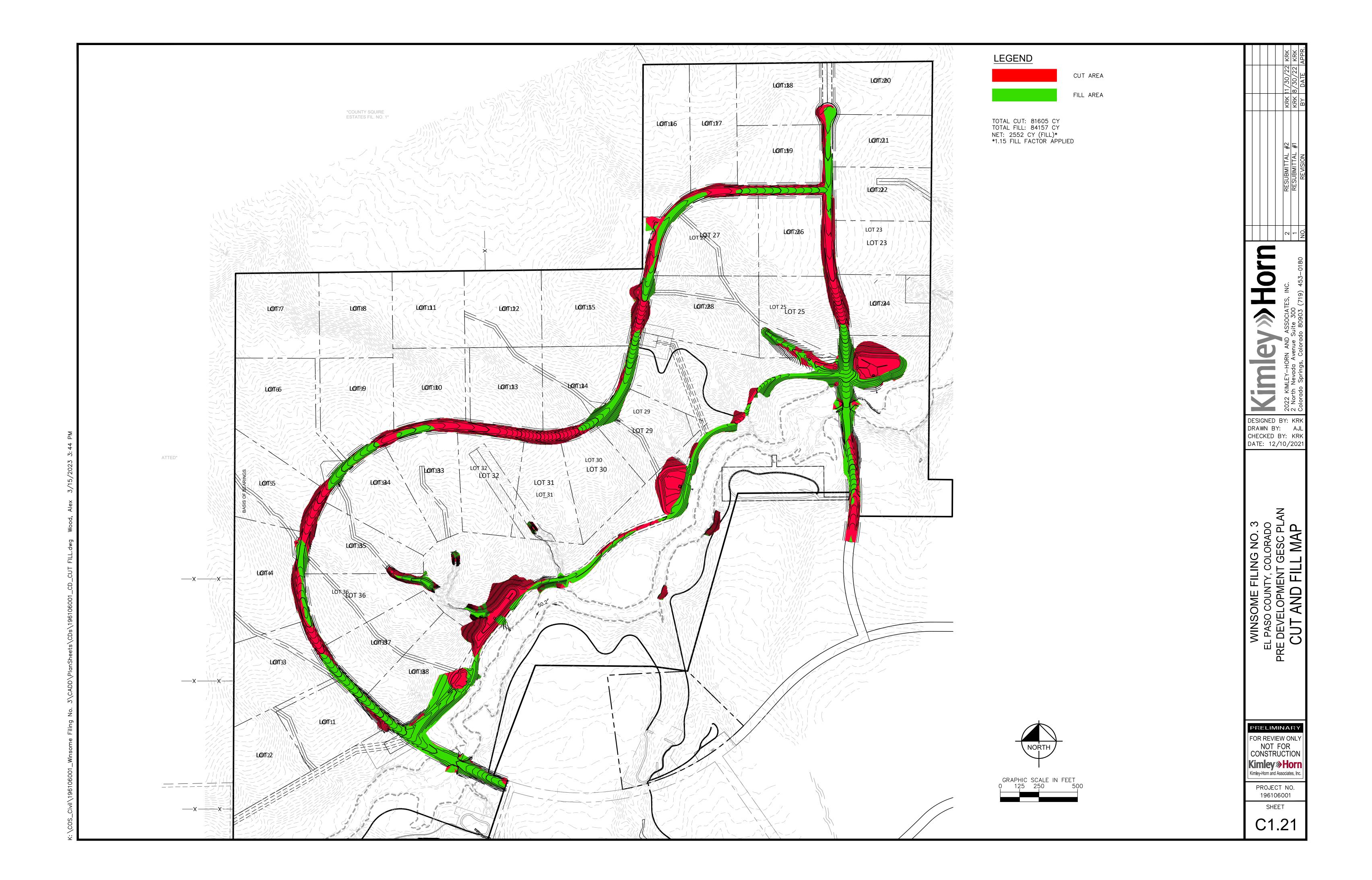


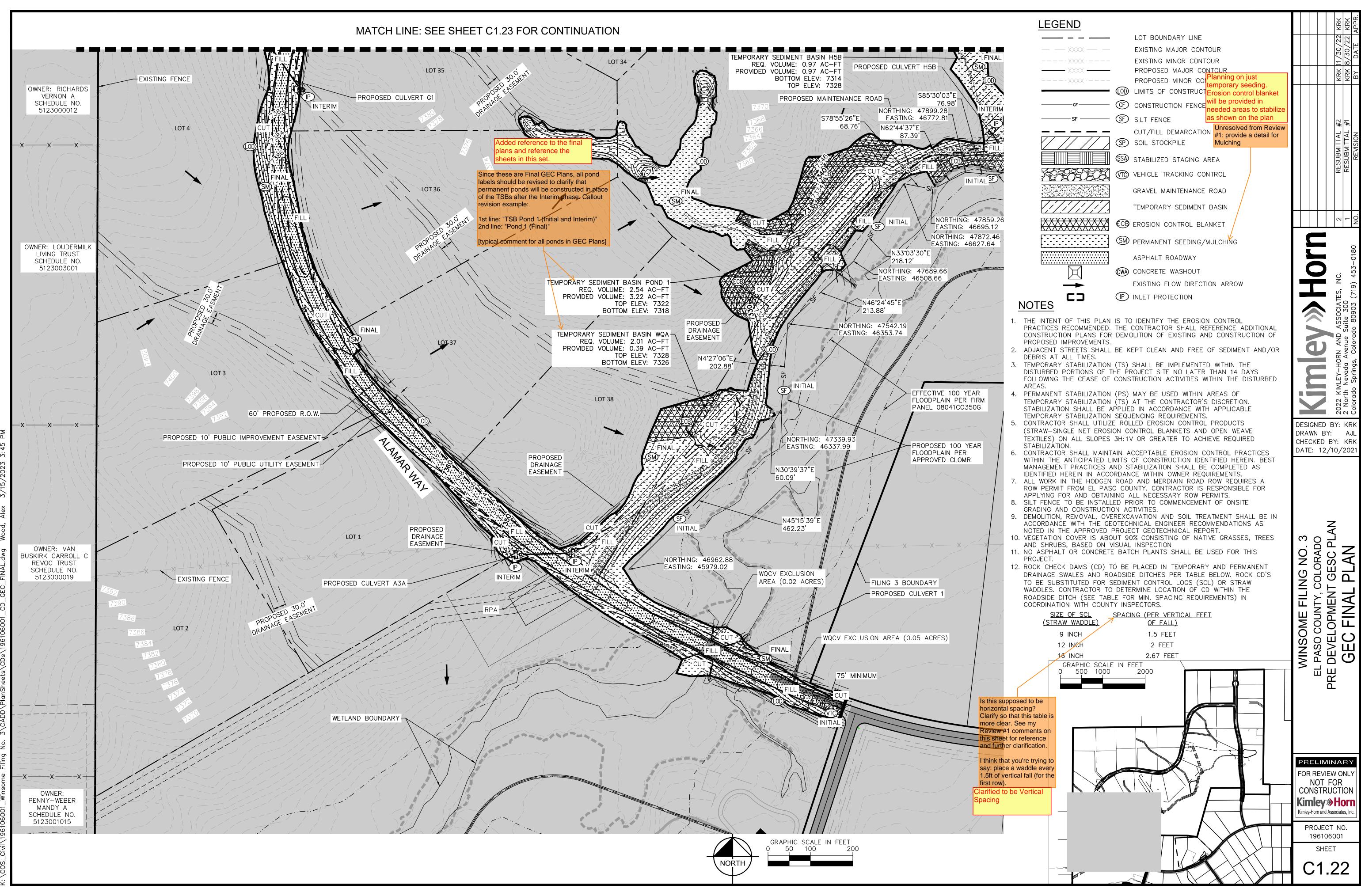


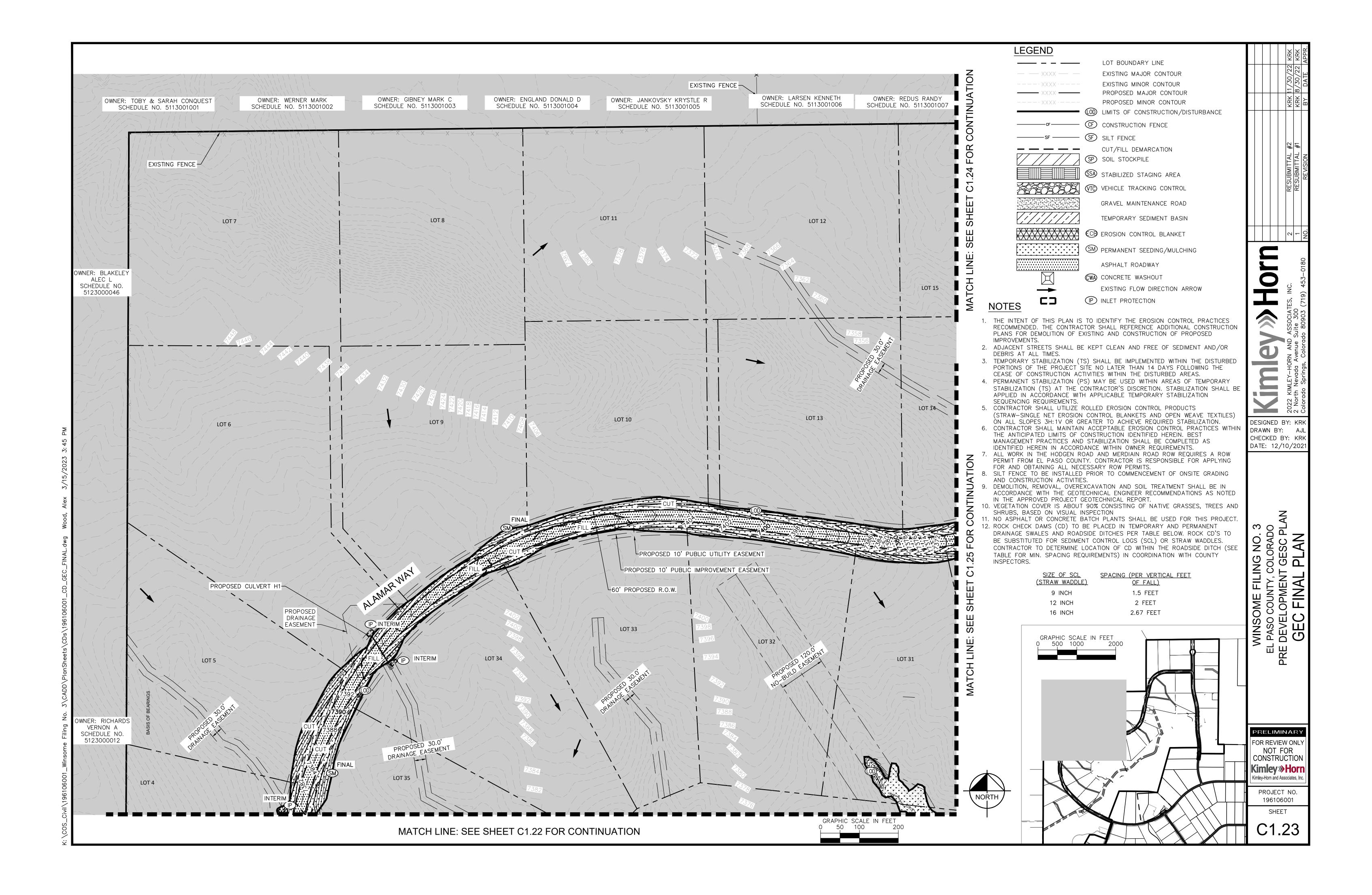


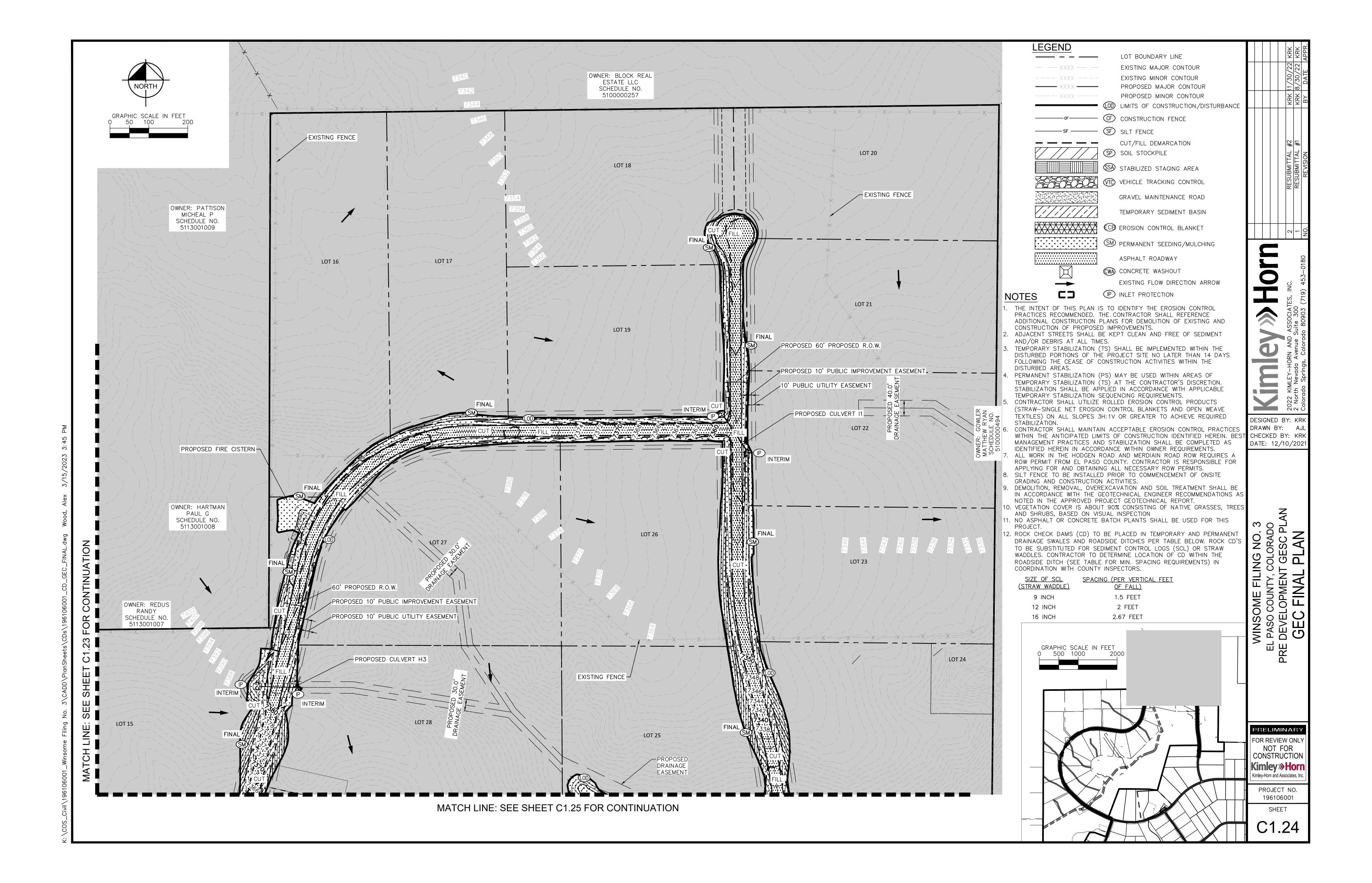


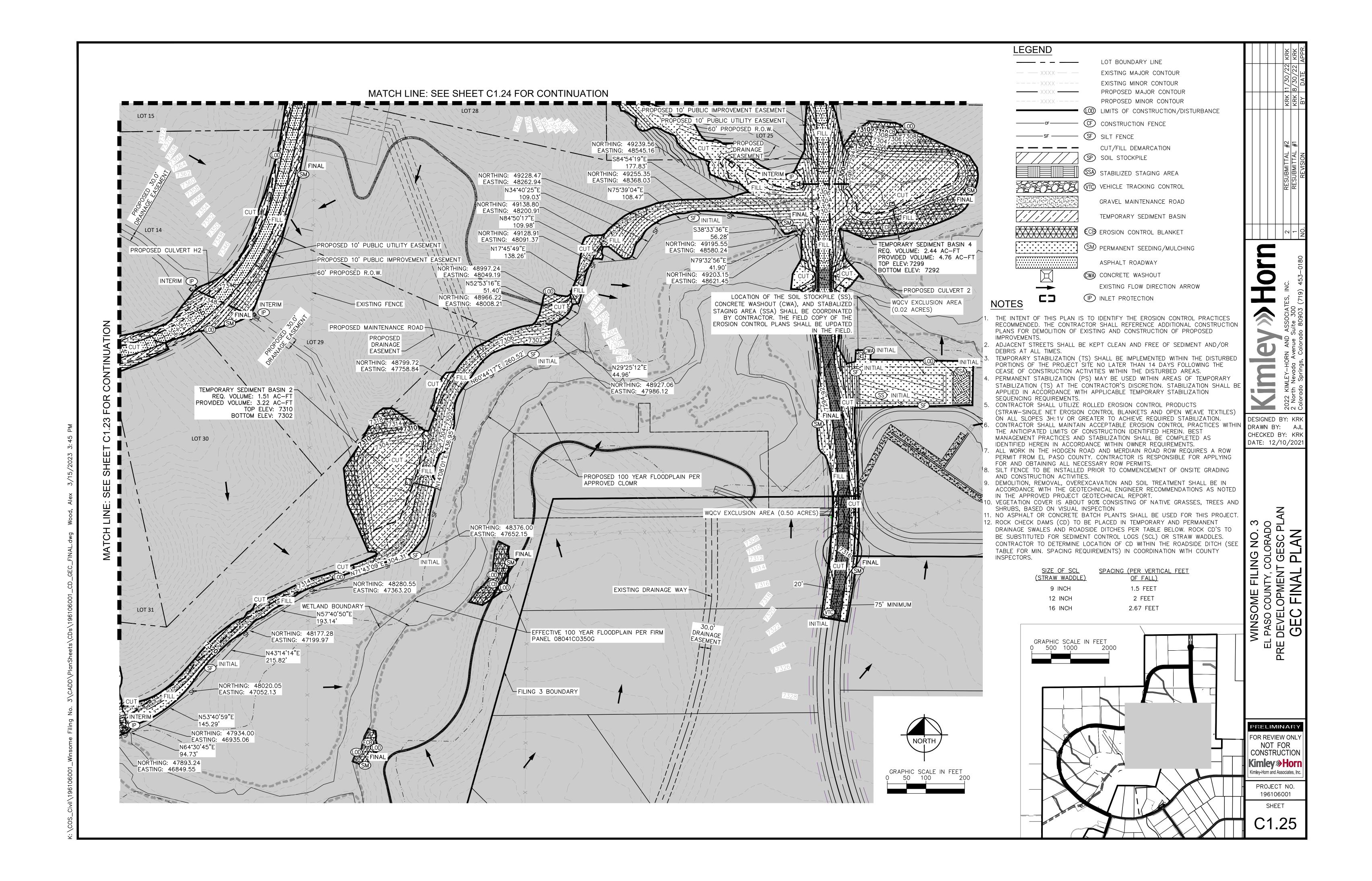


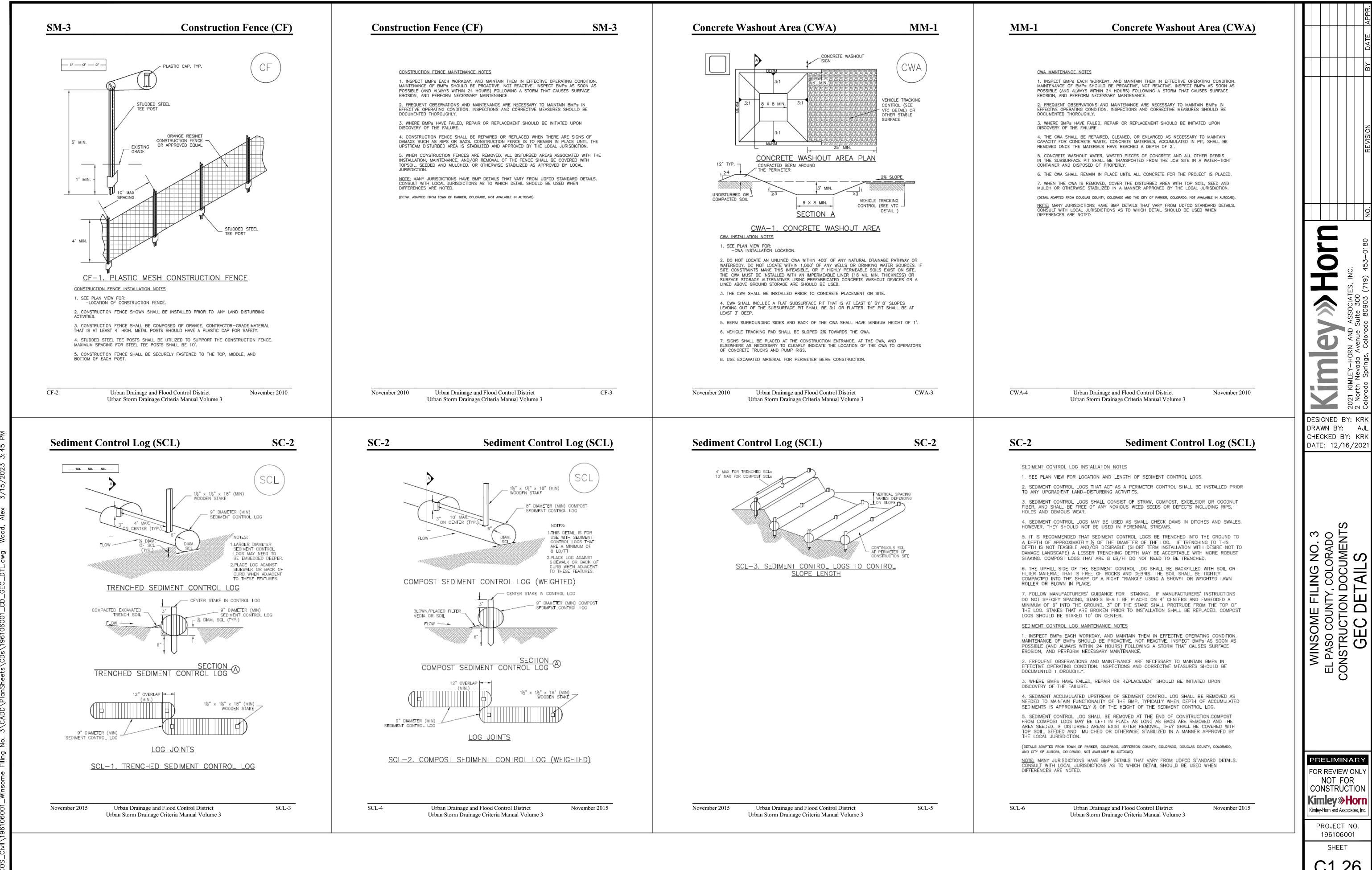












#### **Temporary and Permanent Seeding (TS/PS)**

Seeding dates for the highest success probability of perennial species along the Front Range are generally in the spring from April through early May and in the fall after the first of September until the ground freezes. If the area is irrigated, seeding may occur in summer months, as well. See Table TS/PS-3 for appropriate seeding dates.

#### Table TS/PS-1. Minimum Drill Seeding Rates for Various Temporary Annual Grasses

Species <sup>a</sup> (Common name)	Growth Season <sup>b</sup>	Pounds of Pure Live Seed (PLS)/acre <sup>c</sup>	Planting Depth (inches)
1. Oats	Cool	35 - 50	1 - 2
2. Spring wheat	Cool	25 - 35	1 - 2
3. Spring barley	Cool	25 - 35	1 - 2
4. Annual ryegrass	Cool	10 - 15	1/2
5. Millet	Warm	3 - 15	1/2 - 3/4
6. Sudangrass	Warm	5–10	1/2 - 3/4
7. Sorghum	Warm	5–10	1/2 - 3/4
8. Winter wheat	Cool	20–35	1 - 2
9. Winter barley	Cool	20–35	1 - 2
10. Winter rye	Cool	20–35	1 - 2
11. Triticale	Cool	25–40	1 - 2
<sup>a</sup> Successful seeding of ann	nual grass resul	ting in adequate plant	growth will

usually produce enough dead-plant residue to provide protection from wind and water erosion for an additional year. This assumes that the cover is not disturbed or mowed closer than 8 inches.

Hydraulic seeding may be substituted for drilling only where slopes are steeper than 3:1 or where access limitations exist. When hydraulic seeding is used, hydraulic mulching should be applied as a separate operation, when practical, to prevent the seeds from being encapsulated in

See Table TS/PS-3 for seeding dates. Irrigation, if consistently applied,

may extend the use of cool season species during the summer months. Seeding rates should be doubled if seed is broadcast, or increased by 50 percent if done using a Brillion Drill or by hydraulic seeding.

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STOCKPILE.

TS/PS-3

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#### **Temporary and Permanent Seeding (TS/PS)**

#### Table TS/PS-2. Minimum Drill Seeding Rates for Perennial Grasses (cont.)

Common Name				Seeds/ Pound	Pounds of PLS/acre
Sandy Soil Seed Mix					
Blue grama	Bouteloua gracilis	Warm	Sod-forming bunchgrass	825,000	0.5
Camper little bluestem	Schizachyrium scoparium 'Camper'	Warm	Bunch	240,000	1.0
Prairie sandreed	Calamovilfa longifolia	Warm	Open sod	274,000	1.0
Sand dropseed	Sporobolus cryptandrus	Cool	Bunch	5,298,000	0.2
Vaughn sideoats grama	Bouteloua curtipendula 'Vaughn'	Warm	Sod	191,000	2.
Arriba western wheatgrass	Agropyron smithii 'Arriba'	Cool	Sod	110,000	5.
Total					10.2
Heavy Clay, Rocky Foothill Seed	d Mix				
Ephriam crested wheatgrass <sup>d</sup>	Agropyron cristatum 'Ephriam'	Cool	Sod	175,000	1.
Oahe Intermediate wheatgrass	Agropyron intermedium 'Oahe'	Cool	Sod	115,000	5.
Vaughn sideoats grama <sup>e</sup>	Bouteloua curtipendula 'Vaughn'	Warm	Sod	191,000	2.
Lincoln smooth brome	Bromus inermis leyss 'Lincoln'	Cool	Sod	130,000	3.
Arriba western wheatgrass	Agropyron smithii 'Arriba'	Cool	Sod	110,000	5.
Total					17.

doubled if seed is broadcast and should be increased by 50 percent if the seeding is done using a Brillion Drill or is applied through hydraulic seeding. Hydraulic seeding may be substituted for drilling only where slopes are steeper than 3:1. If hydraulic seeding is used, hydraulic mulching should be done as a separate operation.

See Table TS/PS-3 for seeding dates.

June 2012

If site is to be irrigated, the transition turf seed rates should be doubled.

Crested wheatgrass should not be used on slopes steeper than 6H to 1V.

Can substitute 0.5 lbs PLS of blue grama for the 2.0 lbs PLS of Vaughn sideoats grama.

#### **Temporary and Permanent Seeding (TS/PS)**

Table TS/PS-3. Seeding Dates for Annual and Perennial Grasses

	(Numbers in	l Grasses table reference able TS/PS-1)	Perennial Grasses		
Seeding Dates	Warm	Cool	Warm	Cool	
January 1–March 15			✓	✓	
March 16–April 30	4	1,2,3	✓	✓	
May 1–May 15	4		✓		
May 16–June 30	4,5,6,7				
July 1–July 15	5,6,7				
July 16–August 31					
September 1–September 30		8,9,10,11			
October 1–December 31			✓	✓	

Cover seeded areas with mulch or an appropriate rolled erosion control product to promote establishment of vegetation. Anchor mulch by crimping, netting or use of a non-toxic tackifier. See the Mulching BMP Fact Sheet for additional guidance.

#### **Maintenance and Removal**

Monitor and observe seeded areas to identify areas of poor growth or areas that fail to germinate. Reseed and mulch these areas, as needed.

An area that has been permanently seeded should have a good stand of vegetation within one growing season if irrigated and within three growing seasons without irrigation in Colorado. Reseed portions of the site that fail to germinate or remain bare after the first growing season.

Seeded areas may require irrigation, particularly during extended dry periods. Targeted weed control may

Protect seeded areas from construction equipment and vehicle access.

TS/PS-6

TS/PS-5

Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

June 2012

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DESIGNED BY: KRI DRAWN BY: A CHECKED BY: KRI

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**Stockpile Management (SP)** 

MM-2

SP

SILT FENCE (SEE SF DETAIL FOR INSTALLATION REQUIREMENTS)

SILT FENCE (SEE SF DETAIL FOR

INSTALLATION REQUIREMENTS)

#### **Stockpile Management (SM)**

**Temporary and Permanent Seeding (TS/PS)** 

Cool

Cool

Warm

Cool

Growth

Sod

Sod

Sod

Sod

Bunch

Sod

Sod

Form

Seeds/

Pound

165,000

110,000

175,000

110,000

900,000

68,000

130,000

389,000

79,000

130,000

Open sod 5,000,000

Pounds of

2.0

3.0

1.0

5.5

10.75

3.0

PLS/acre

Table TS/PS-2. Minimum Drill Seeding Rates for Perennial Grasses

Sporobolus airoides

Festuca ovina 'duriuscula' Bromus inermis leyss

Agropyron riparium 'Sodar'

Agropyron smithii 'Arriba'

Alopecurus pratensis

Phalaris arundinacea

Bromus inermis leyss

Panicum virgatum

Agropyron elongatum

Lolium perenne 'Citation'

Bromus inermis leyss

'Lincoln'

Agrostis alba

'Lincoln'

Elymus cinereus

Alakali Soil Seed Mix

Sodar streambank wheatgrass Jose tall wheatgrass Arriba western wheatgrass

Fertile Loamy Soil Seed Mix

Ephriam crested wheatgrass

Dural hard fescue

Meadow foxtail

Reed canarygrass

Lincoln smooth brome

Pathfinder switchgrass

Alkar tall wheatgrass

Transition Turf Seed Mix<sup>c</sup>

Ruebens Canadian bluegrass

Citation perennial ryegrass

Lincoln smooth brome

TS/PS-4

MM-2

Lincoln smooth brome Sodar streambank wheatgrass

Arriba western wheatgrass

High Water Table Soil Seed Mix

Alkali sacaton

Basin wildrve

#### STOCKPILE PROTECTION MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON

STOCKPILE PROTECTION MAINTENANCE NOTES

4. IF PERIMETER PROTECTION MUST BE MOVED TO ACCESS SOIL STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORKDAY.

5. STOCKPILE PERIMETER CONTROLS CAN BE REMOVED ONCE ALL THE MATERIAL FROM THE

(DETAILS ADAPTED FROM PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

#### SECTION A

STOCKPILE PROTECTION PLAN

SP-1. STOCKPILE PROTECTION STOCKPILE PROTECTION INSTALLATION NOTES

SEE PLAN VIEW FOR:
 -LOCATION OF STOCKPILES.
 -TYPE OF STOCKPILE PROTECTION.

2. INSTALL PERIMETER CONTROLS IN ACCORDANCE WITH THEIR RESPECTIVE DESIGN DETAILS. SILT FENCE IS SHOWN IN THE STOCKPILE PROTECTION DETAILS; HOWEVER, OTHER TYPES OF PERIMETER CONTROLS INCLUDING SEDIMENT CONTROL LOGS OR ROCK SOCKS MAY BE SUITABLE IN SOME CIRCUMSTANCES. CONSIDERATIONS FOR DETERMINING THE APPROPRIATE TYPE OF PERIMETER CONTROL FOR A STOCKPILE INCLUDE WHETHER THE STOCKPILE IS LOCATED ON A PERVIOUS OR IMPERVIOUS SURFACE, THE RELATIVE HEIGHTS OF THE PERIMETER CONTROL AND STOCKPILE, THE ABILITY OF THE PERIMETER CONTROL TO CONTAIN THE STOCKPILE WITHOUT FAILING IN THE EVENT THAT MATERIAL FROM THE STOCKPILE SHIFTS OR SLUMPS AGAINST THE PERIMETER, AND OTHER FACTORS.

3. STABILIZE THE STOCKPILE SURFACE WITH SURFACE ROUGHENING, TEMPORARY SEEDING AND MULCHING, EROSION CONTROL BLANKETS, OR SOIL BINDERS. SOILS STOCKPILED FOR AN EXTENDED PERIOD (TYPICALLY FOR MORE THAN 60 DAYS) SHOULD BE SEEDED AND MULCHED WITH A TEMPORARY GRASS COVER ONCE THE STOCKPILE IS PLACED (TYPICALLY WITHIN 14 DAYS), USE OF MULCH ONLY OR A SOIL BINDER IS ACCEPTABLE IF THE STOCKPILE WILL BE IN PLACE FOR A MORE LIMITED TIME PERIOD (TYPICALLY 30-60 DAYS).

4. FOR TEMPORARY STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DOWNGRADIENT CONTROLS, INCLUDING PERIMETER CONTROL, ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.

November 2010

Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 SP-3

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November 2010

#### **Rolled Erosion Control Products (RECP) EC-6**

Urban Drainage and Flood Control District

Urban Storm Drainage Criteria Manual Volume 3

#### Table RECP-1. ECTC Standard Specification for Temporary Rolled Erosion Control Products (Adapted from Erosion Control Technology Council 2005)

<b>Product Description</b>	Slo Applica		Channel Applications*	Minimum Tensile Strength <sup>1</sup>	Expected Longevity	
	Maximum Gradient	C Factor <sup>2,5</sup>	Max. Shear Stress <sup>3,4,6</sup>			
Mulch Control Nets	5:1 (H:V)	≤0.10 @ 5:1	0.25 lbs/ft <sup>2</sup> (12 Pa)	5 lbs/ft (0.073 kN/m)		
Netless Rolled Erosion Control Blankets	4:1 (H:V)	≤0.10 @ 4:1	0.5 lbs/ft <sup>2</sup> (24 Pa)	5 lbs/ft (0.073 kN/m)	Up to 12	
Single-net Erosion Control Blankets & Open Weave Textiles	3:1 (H:V)	≤0.15 @ 3:1	1.5 lbs/ft <sup>2</sup> (72 Pa)	50 lbs/ft (0.73 kN/m)	months	
Double-net Erosion Control Blankets	2:1 (H:V)	≤0.20 @ 2:1	1.75 lbs/ft <sup>2</sup> (84 Pa)	75 lbs/ft (1.09 kN/m)	I	
Mulch Control Nets	5:1 (H:V)	≤0.10 @ 5:1	0.25 lbs/ft <sup>2</sup> (12 Pa)	25 lbs/ft (0.36 kN/m)	24 months	
Erosion Control Blankets & Open Weave Textiles (slowly degrading)	1.5:1 (H:V)	≤0.25 @ 1.5:1	2.00 lbs/ft <sup>2</sup> (96 Pa)	100 lbs/ft (1.45 kN/m)	24 months	
Erosion Control Blankets & Open Weave Textiles	1:1 (H:V)	≤0.25 @ 1:1	2.25 lbs/ft <sup>2</sup> (108 Pa)	125 lbs/ft (1.82 kN/m)	36 months	

\* C Factor and shear stress for mulch control nettings must be obtained with netting used in conjunction with pre-applied mulch material. (See Section 5.3 of Chapter 7 Construction BMPs for more information

<sup>2</sup> C Factor calculated as ratio of soil loss from RECP protected slope (tested at specified or greater gradient, H:V) to ratio of soil loss from unprotected (control) plot in large-scale testing.

<sup>1</sup> Minimum Average Roll Values, Machine direction using ECTC Mod. ASTM D 5035.

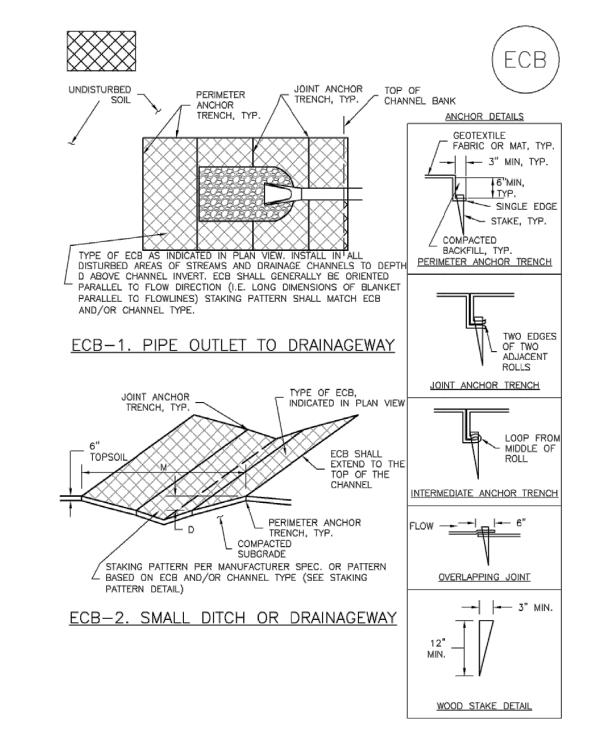
<sup>3</sup> Required minimum shear stress RECP (unvegetated) can sustain without physical damage or excess erosion (> 12.7 mm (0.5 in) soil loss) during a 30-minute flow event in large-scale testing. <sup>4</sup> The permissible shear stress levels established for each performance category are based on historical

experience with products characterized by Manning's roughness coefficients in the range of 0.01 - 0.05. <sup>5</sup> Acceptable large-scale test methods may include ASTM D 6459, or other independent testing deemed

<sup>6</sup> Per the engineer's discretion. Recommended acceptable large-scale testing protocol may include ASTM D 6460, or other independent testing deemed acceptable by the engineer.

Urban Drainage and Flood Control District RECP-3 Urban Storm Drainage Criteria Manual Volume 3

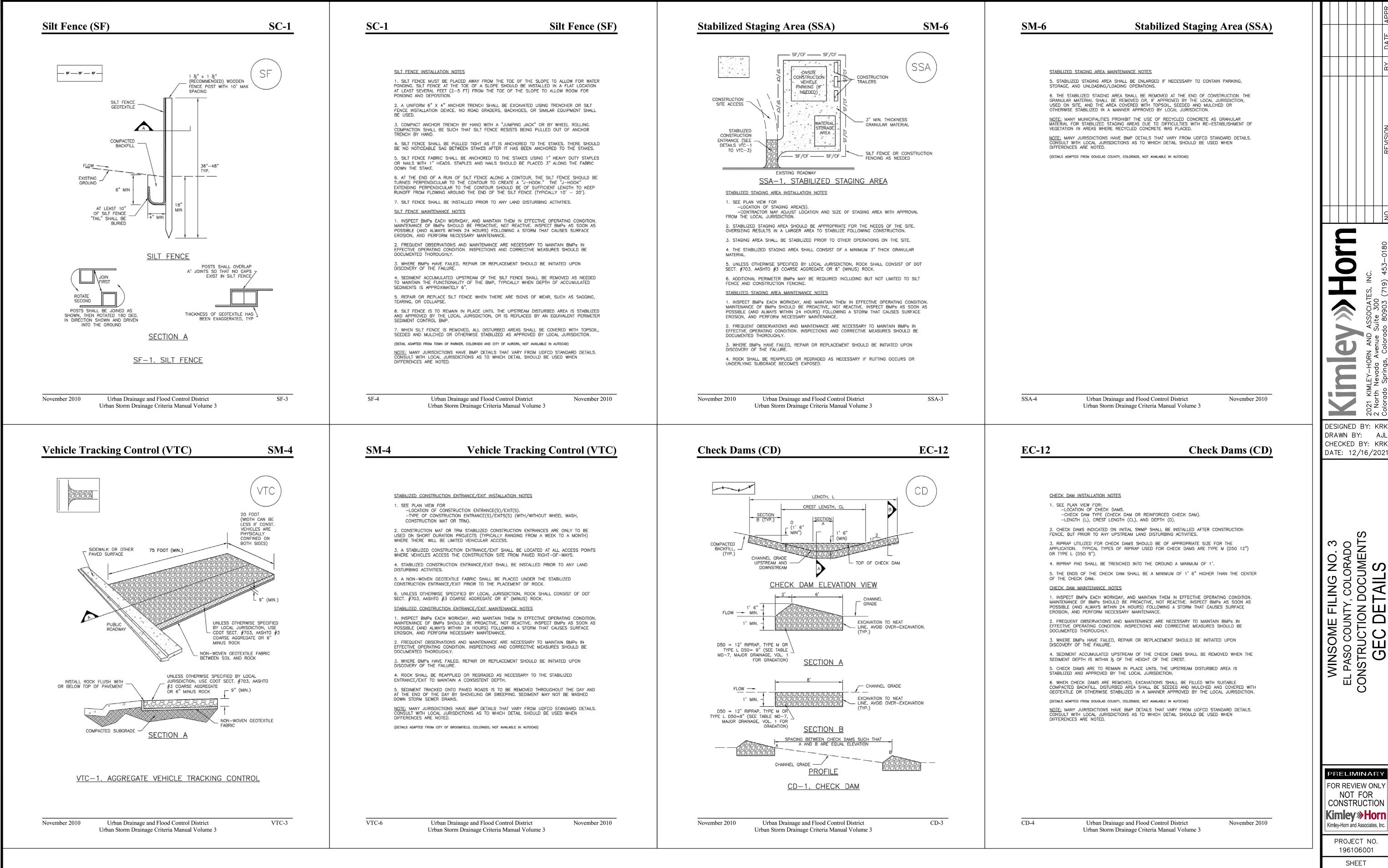
#### **Rolled Erosion Control Products (RECP)**



RECP-6

Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

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**SC-6 Inlet Protection (IP)** GENERAL INLET PROTECTION INSTALLATION NOTES SEE PLAN VIEW FOR:
 --LOCATION OF INLET PROTECTION.
 --TYPE OF INLET PROTECTION (IP.1, IP.2, IP.3, IP.4, IP.5, IP.6) INLET PROTECTION SHALL BE INSTALLED PROMPTLY AFTER INLET CONSTRUCTION OR PAVING IS COMPLETE (TYPICALLY WITHIN 48 HOURS). IF A RAINFALL/RUNOFF EVENT IS FORECAST, INSTALL INLET PROTECTION PRIOR TO ONSET OF EVENT. 3. MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED. INLET PROTECTION MAINTENANCE NOTES 1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION.
MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS
POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE. 2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY. 3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE. 4. SEDIMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED AS NECESSARY TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN STORAGE VOLUME REACHES 50% OF CAPACITY, A DEPTH OF 6" WHEN SILT FENCE IS USED, OR 1/4 OF THE HEIGHT FOR 5. INLET PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED, UNLESS THE LOCAL JURISDICTION APPROVES EARLIER REMOVAL OF INLET PROTECTION IN STREETS. 6. WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION. (DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD) NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED. NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF INLET PROTECTION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY PROPRIETARY INLET PROTECTION METHODS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY INLET PROTECTION; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS. IN THE MANUFACTURER'S DETAILS. NOTE: SOME MUNICIPALITIES DISCOURAGE OR PROHIBIT THE USE OF STRAW BALES FOR INLET PROTECTION. CHECK WITH LOCAL JURISDICTION TO DETERMINE IF STRAW BALE INLET PROTECTION IS ACCEPTABLE.

O 222 DESIGNED BY: KRK DRAWN BY: AJ CHECKED BY: KRK

DATE: 12/16/202

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Kimley Horn
Kimley-Horn and Associates, Inc.

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Urban Drainage and Flood Control District

SEDIMENT DEPTH IS 1/2 THE HEIGHT OF THE ROCK SOCK.

(DETAILS ADAPTED FROM AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

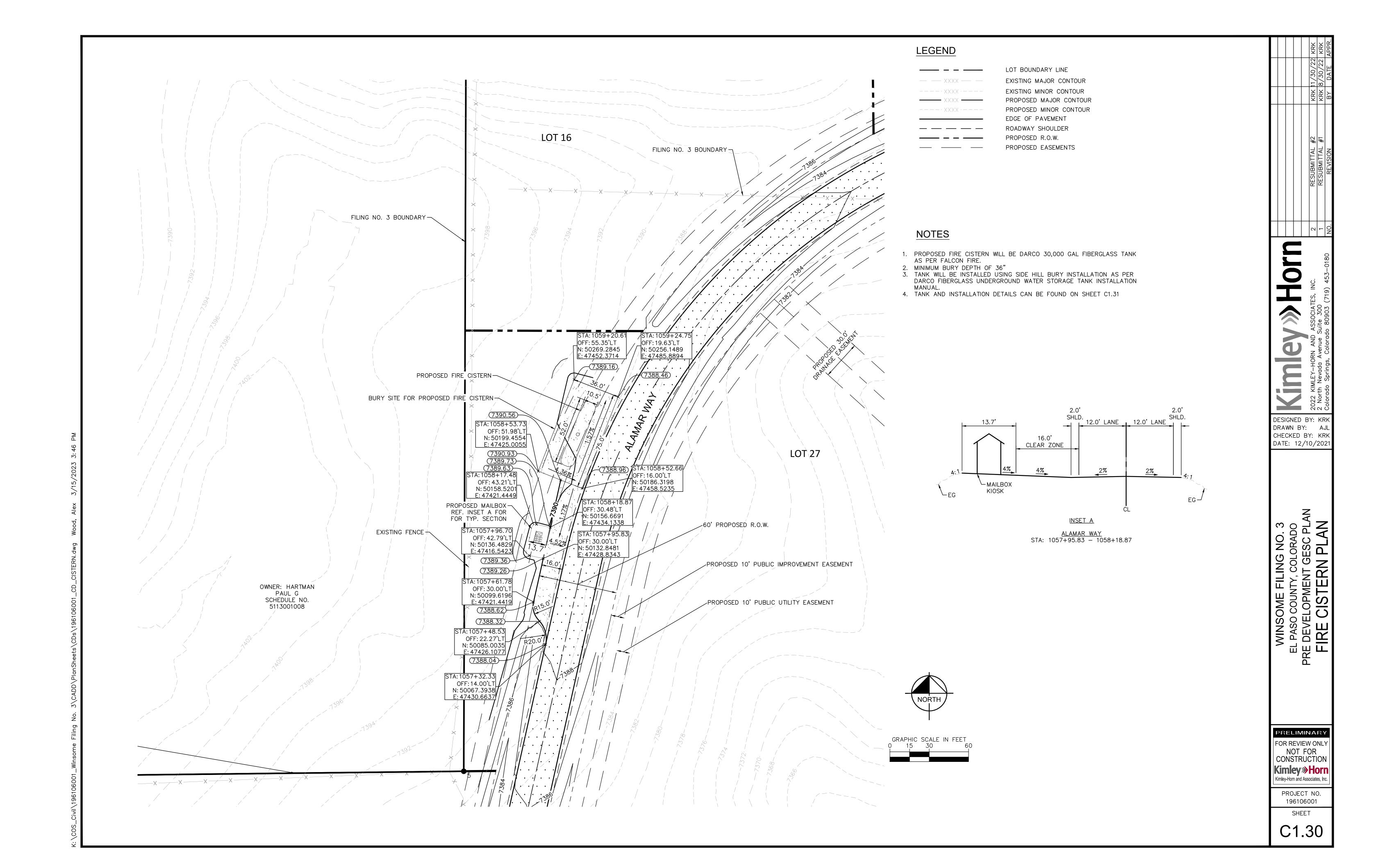
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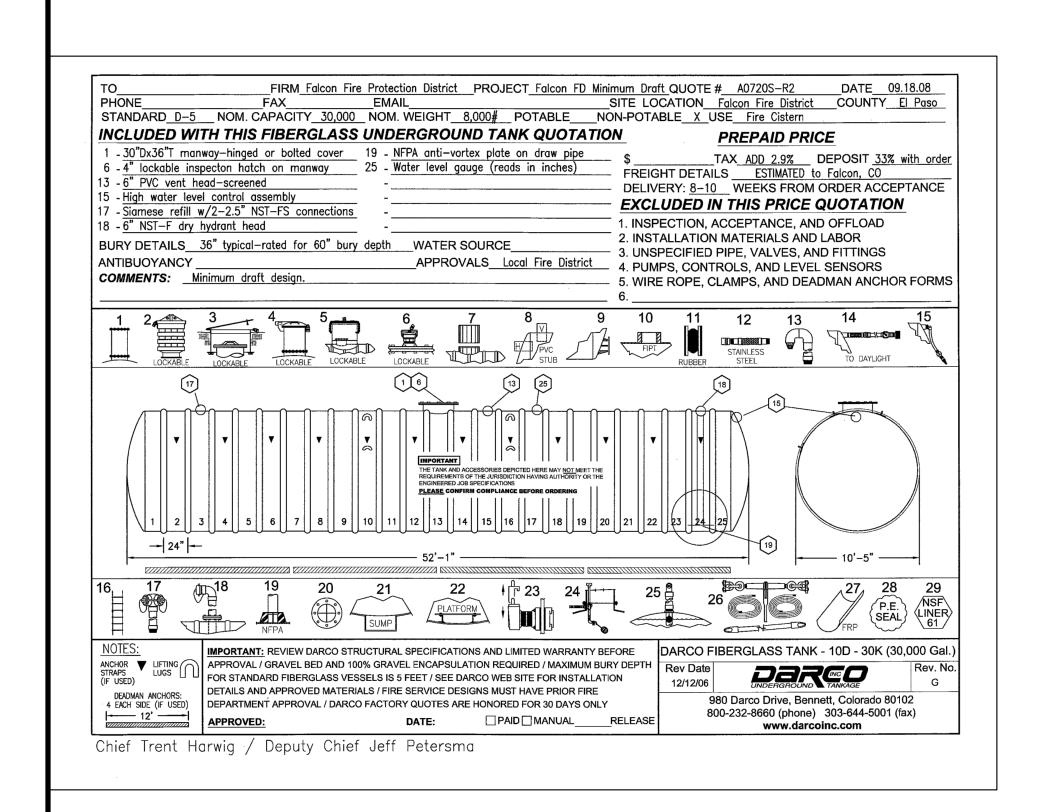
5. CULYERT INLET PROTECTION SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

IP-7

IP-8 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3





## 2. SIDE HILL installations require that no less than the bottom half of the tank be captured in a pocket of undisturbed natural soil for proper support. If high ground water or perched water is probable, install a **sub-drain** or bed drain running down hill to daylight to relieve any water trapped in the tank bedding material. Side hill bury installation 36" Bury depth — Original grade Seotextile fabric between gravel and soil cover DARCO UNDERGROUND **WATER TANK** tank must be captured in an undisturbed Fabric sock

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INTRODUCTION

CONCRETE -SLAB ANCHOR 🟂 SIDE PROJECTION SLAB ANCHOR DETAILS EXTREME CONDITIONS - LOCATE ANCHOR LUGS PER YOUR QUOTE DRAWING ANCHOR END PROJECTION (also see Anti-Flotation Slab Anchors sheet 1) UNDERGROUND TANKAGE ANTI-FLOTATION SLAB ANCHOR DETAILS  $ilde{ riangle}$  use full slab anchor if ground water is anticipated above spring line (extreme conditions). DARCO INCORPORATED 800-232-8660 www.darcoinc.com IMPORTANT - NOT ALL TANKS REQUIRE ANCHORING. NOT TO SCALE, FOR ILLUSTRATION ONLY

DESIGNED BY: KRK DRAWN BY: AJ CHECKED BY: KRK

0

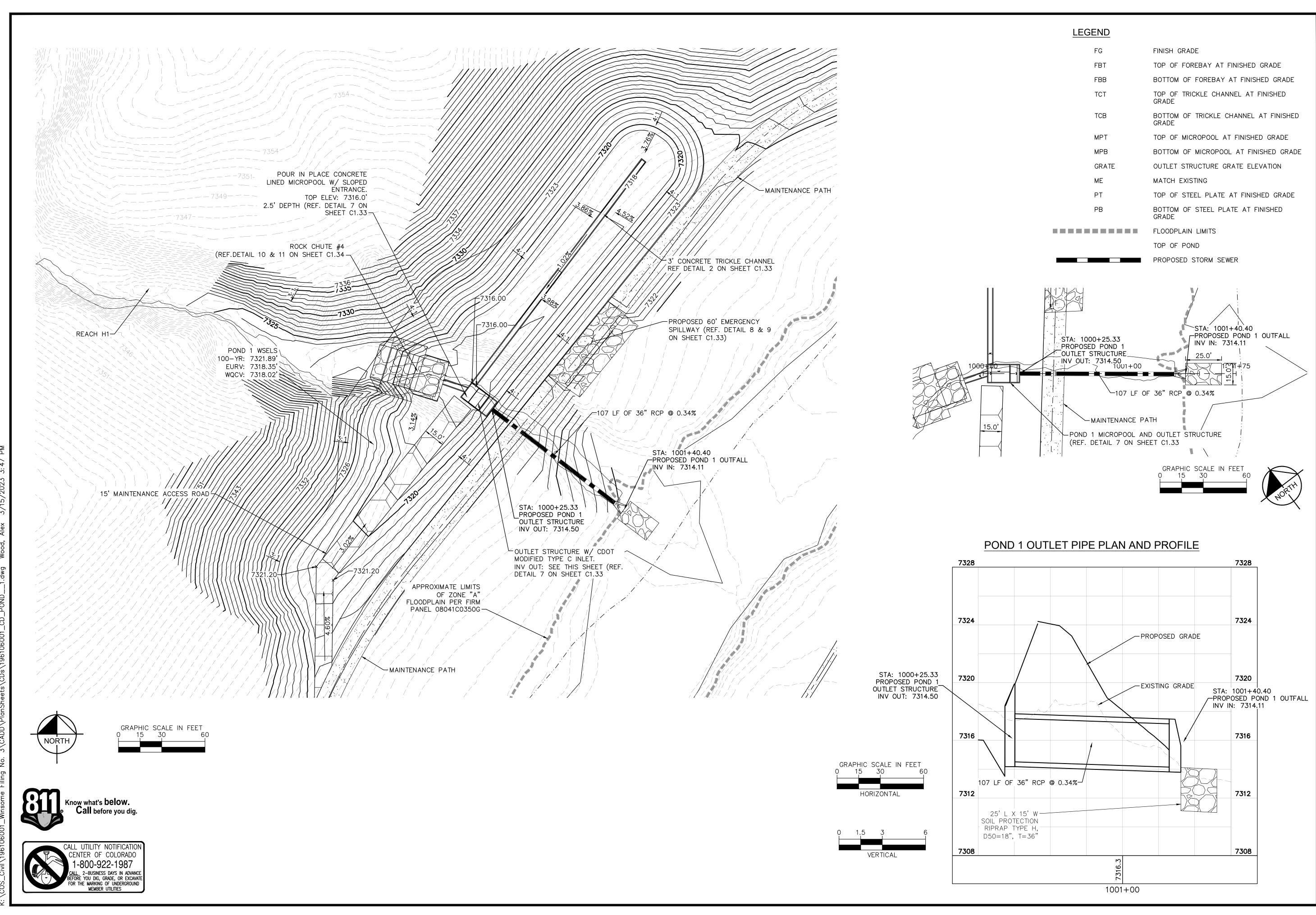
DATE: 12/10/202

WINSOME FILING NO. 3
EL PASO COUNTY, COLORADO
PRE DEVELOPMENT GESC PLAN
FIRE CISTERN DETAILS

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CONSTRUCTION
Kimley Horn
Kimley-Horn and Associates, Inc.

PROJECT NO. 196106001 SHEET



DESIGNED BY: KRK

DRAWN BY: AJ CHECKED BY: KRK DATE: 12/16/202<sup>-</sup>

WINSOME FILING NO. 3
EL PASO COUNTY, COLORADO
CONSTRUCTION DOCUMENTS
POND 1 OVERVIEW

PRELIMINARY FOR REVIEW ONLY NOT FOR CONSTRUCTION Kimley» Horn

Kimley-Horn and Associates, Inc

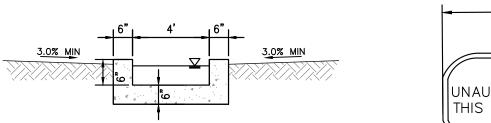
PROJECT NO. 196106001 SHEET

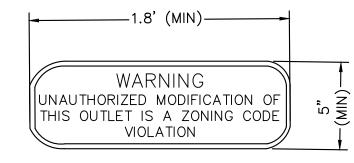
## **MAINTENANCE ROAD**

CONCRETE

TRICKLE CHANNEL

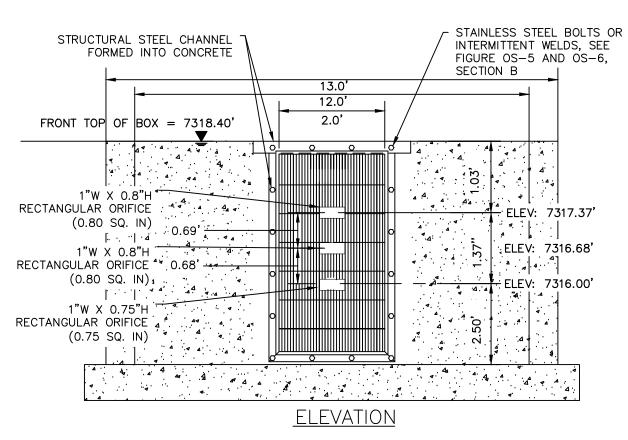
MAINTENANCE PATH NOTES MAINTENANCE PATH SHALL INCLUDE SUBGRADE PREPARATION, GRAVEL BASE, AND COMPACTION.





### **OUTLET SIGNAGE**

<u>OUTLET SIGNAGE NOTES</u> 1. SIGN SHALL BE A MINIMUM OF 0.75 SQUARE FEET AND SHALL BE ATTACHED TO THE OUTLET OR POSTED NEARBY.



# ORIFICE PLATE AND TRASH RACK DETAIL

ORIFICE PLATE NOTES

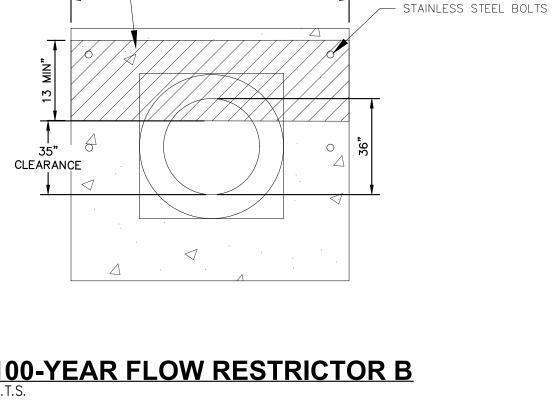
1. PROVIDE CONTINUOUS NEOPRENE GASKET MATERIAL BETWEEN THE ORIFICE PLATE AND CONCRETE. 2. BOLT PLATE TO CONCRETE 12" MAX. ON CENTER. WITH A PLATE THICKNESS OF 0.25".

#### EURV AND WQCV 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

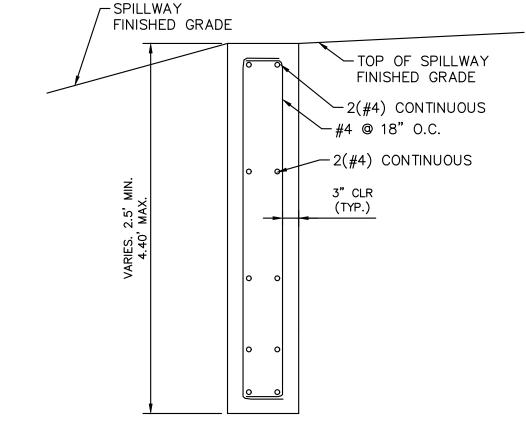
#### OVERFLOW SAFETY GRATES

- 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.



## 100-YEAR FLOW RESTRICTOR B

STAINLESS STEEL RESTRICTOR PLATE -THICKNESS = 0.25"



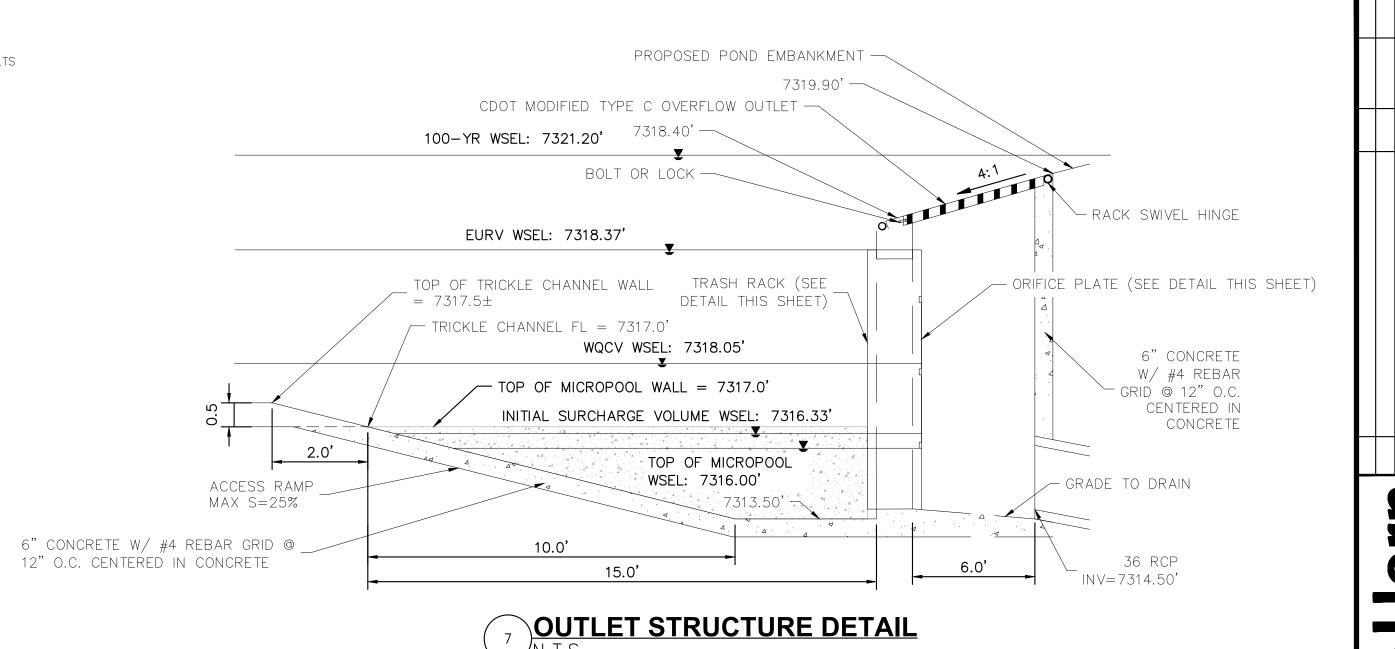
# SECTION CREST WALL DETAIL

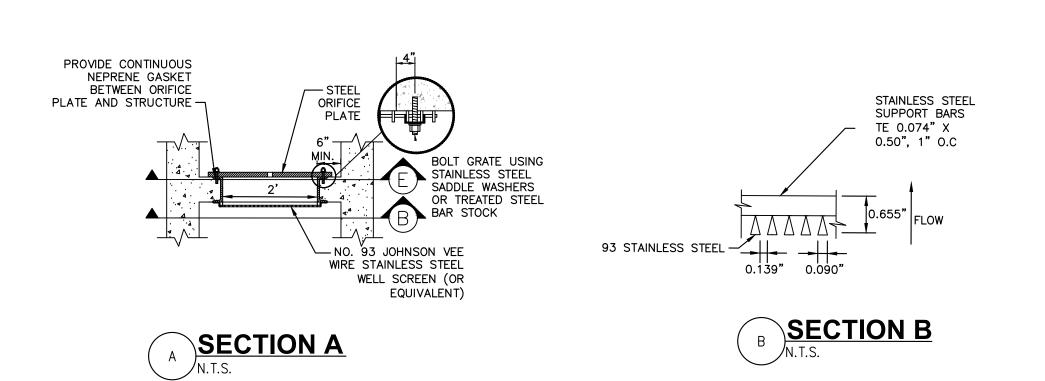
#### RIPRAP NOTES:

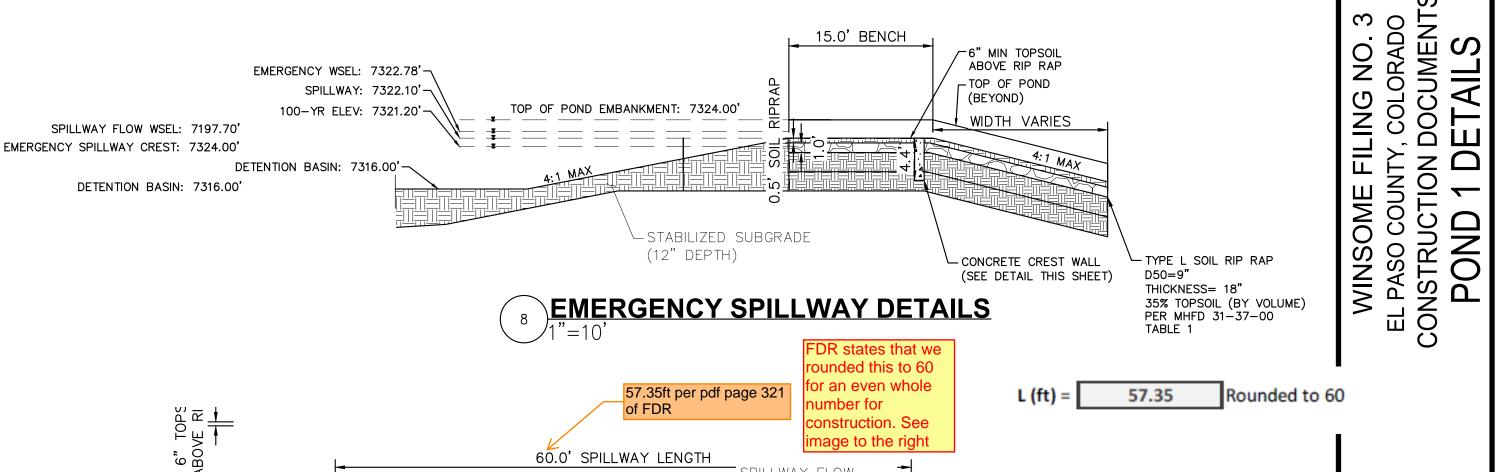
COLORADO DEPARTMENT OF TRANSPORTATION SECTION 506 REQUIREMENTS APPLY TO ALL RIPRAP.

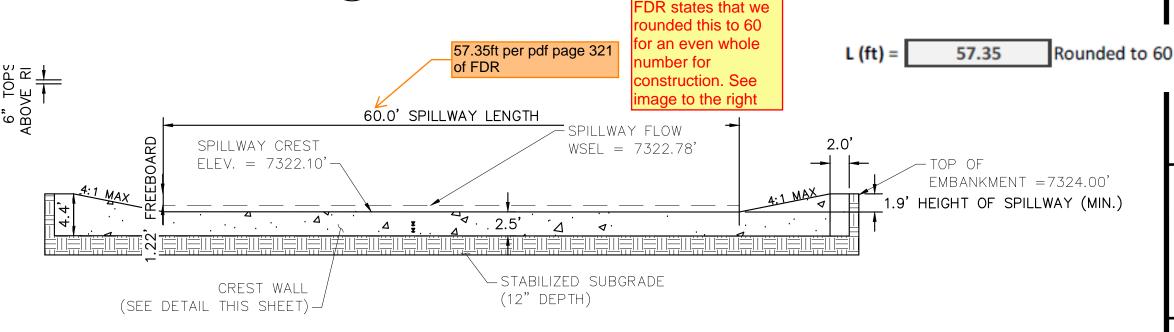
#### **Table 506-2**

Stone Size d50 <sup>1</sup> (Inches)	Material Smaller Than Typical Stone <sup>2</sup> 70-100 50-70	Typical Stone Dimensions <sup>3</sup> (Inches)	Typical Stone Weight <sup>4</sup> (Pounds)	
6	50-70	11.500	85	
	35-50 2-10	9 6 2	85 35 10 0.4	
9	70-100	15	160	
	50-70	12	85	
	35-50	9	35	
	2-10	3	1.3	
12	70-100	21	440	
	50-70	18	275	
	35-50	12	85	
	2-10	4	3	
18	100	30	1280	
	50-70	24	650	
	35-50	18	275	
	2-10	6	10	
24	100	42	3500	
	50-70	33	1700	
	35-50	24	650	
	2-10	9	35	
	12 18 24 stone size al rock mass	35-50 2-10 70-100 50-70 35-50 2-10 18 100 50-70 35-50 2-10 24 100 50-70 35-50 2-10	35-50 9 2-10 3  70-100 21 50-70 18 35-50 12 2-10 4  100 30 50-70 24 35-50 18 2-10 6  24 100 42 50-70 33 35-50 24 21 50-70 33 35-50 24 21 50-70 32 35-50 24 21 50-70 32 35-50 24 21 50-70 33 35-50 24 21 50-70 33	









**EMERGENCY SPILLWAY** 

CALL UTILITY NOTIFICATION CENTER OF COLORADO 2-BUSINESS DAYS IN ADVANCE E YOU DIG, GRADE, OR EXCAVATE THE MARKING OF UNDERGROUND MEMBER UTILITIES

Know what's **below**...

Call before you dig.

C1.33

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CONSTRUCTION

**Kimley** » Horn

Kimley-Horn and Associates, Inc

PROJECT NO.

196106001

SHEET

DESIGNED BY: KRH

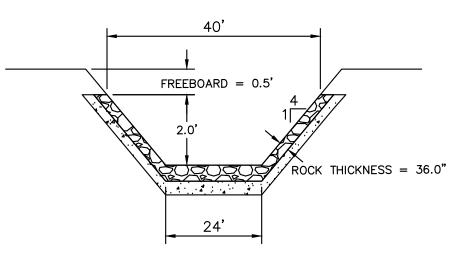
DRAWN BY: AJ

CHECKED BY: KRK

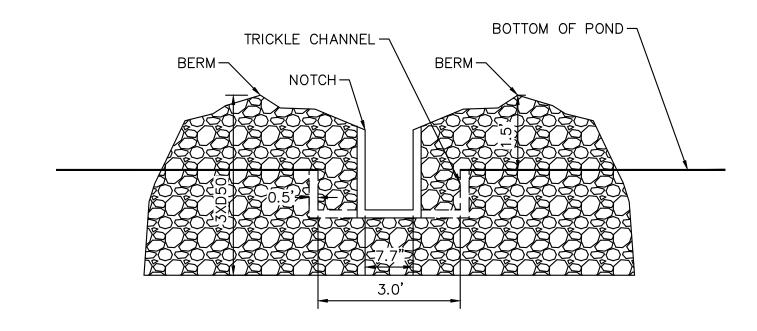
ZΩ

DATE: 12/16/202

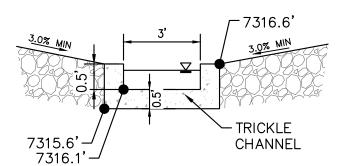
ROCK CHUTE #4 PROFILE- CROSS SECTION 1



ROCK CHUTE #4 PROFILE- CROSS SECTION 2



ROCK CHUTE #4 PROFILE- CROSS SECTION 2



ROCK CHUTE TO TRICKLE CHANNEL TRANSITION





Review these zoomed in Plan

JNDERSTOOD. REVIEWED.

Review these zoomed in Plan details for all ponds as they are all new with this submittal.

Per previous comment in Review #1, MHFD recommends that the "floor of forebays should be concrete or lined with grouted boulders to define sediment removal limits."

Typical comment for all forebays.

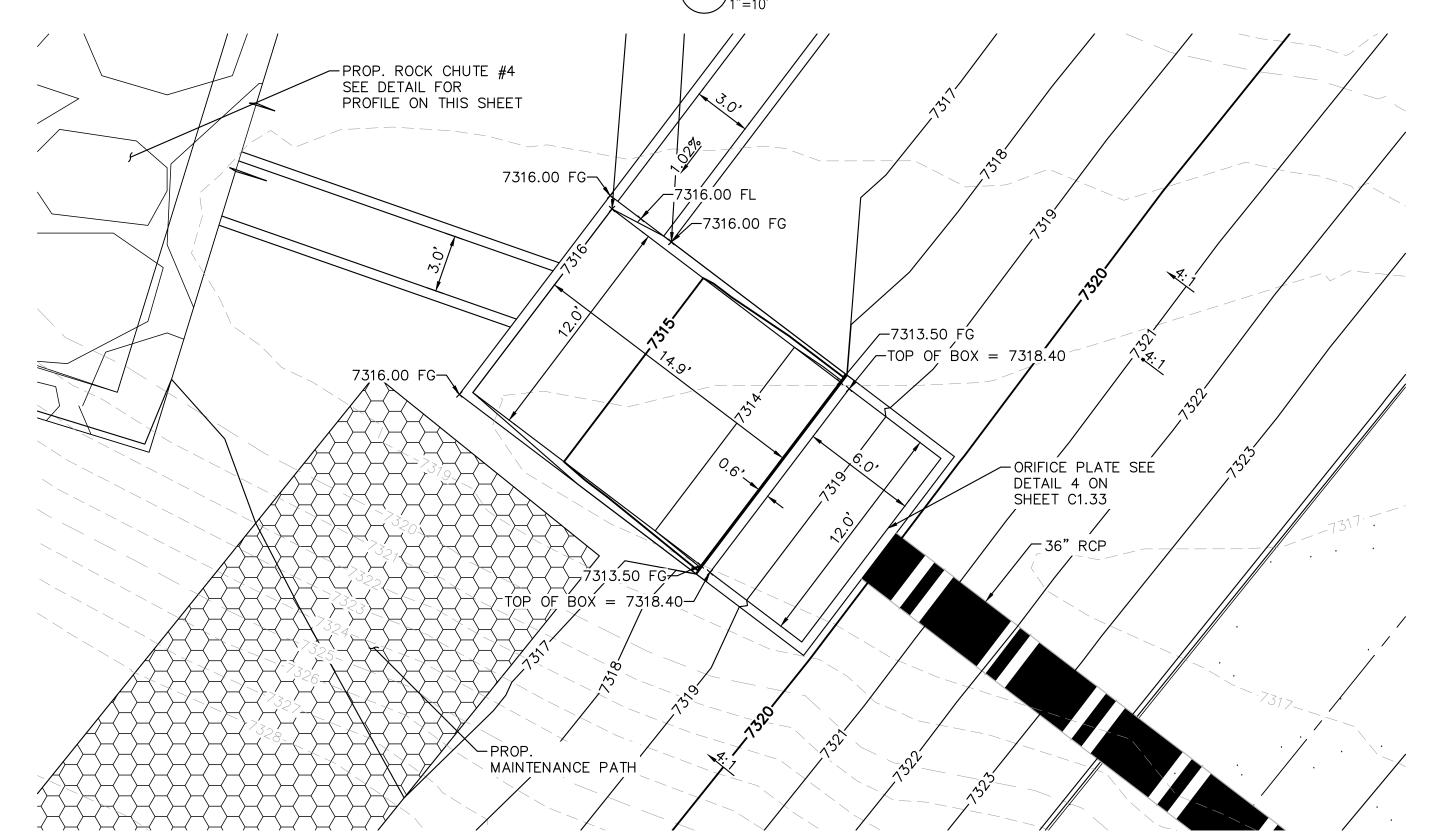
PER COORDIANTION WTIH
GLENN, NO CONCRETE
BOTTOM OR GROUTED
BOULDER BOTTOM WILL BE
REQUIRED AS PRECENDENCE
FROM FILING NO. 2

oor of lined

15.0' BENCH 6" MIN TOPSOIL ABOVE RIP RAP EMERGENCY WSEL: 7322.78'--TOP OF POND SPILLWAY: 7322.10'-(BEYOND) TOP OF POND EMBANKMENT: 7324.00' 100-YR ELEV: 7321.20'-WIDTH VARIES SPILLWAY FLOW WSEL: 7197.70' EMERGENCY SPILLWAY CREST: 7324.00' DETENTION BASIN: 7316.00' DETENTION BASIN: 7316.00' - STABILIZED SUBGRADE (12" DEPTH) - TYPE L SOIL RIP RAP CONCRETE CREST WALL (SEE DETAIL THIS SHEET) THICKNESS= 18" **EMERGENCY SPILLWAY DETAILS** 

35% TOPSOIL (BY VOLUME) PER MHFD 31-37-00 TABLE 1 60.0' SPILLWAY LENGTH SPILLWAY FLOW SPILLWAY CREST WSEL = 7322.78'Duplicate details already ELEV. = 7322.10' on previous sheet. I EMBANKMENT =7324.00think that they can be 1.9' HEIGHT OF SPILLWAY (MIN.) 2.5' ⊿ ⊲ DUPLICATE DETAILS REMOVED - STABILIZED SUBGRADE CREST WALL (12" DEPTH) (SEE DETAIL THIS SHEET) -

EMERGENCY SPILLWAY



OUTLET STRUCTURE PLAN VIEW DETAIL

				Drop (ft)									
			Upstream	(Inlet Apron		Downstream					Min Rock		
	Channel		Inlet Apron	to Outlet	Chute Length	Outlet Apron			Rock Chute		Chute Depth	<b>Rock Chute</b>	Top Chute
<b>Rock Chute ID</b>	Location	Flow (cfs)	Length (ft)	Apron)	(ft)	Length (ft)	Chute Width (ft)	D50 (in)	Thickness (in)	Radius (ft)	(ft)	Depth (ft)	Width (ft)
4	Pond 1	107	10	6	24	15	24	18	36	50	1.27	1.50	40
6	Pond 2	110	10	8	32	18	17	18	36	50	1.57	2.00	33
11	Pond 4	26	10	10	40	11	10	9	18	25	0.85	1.50	26
12	WQ Pond	100	11	5	20	20	12	18	36	50	1.81	2.00	28
13	WQ Pond	57	10	3	12	16	10	18	36	50	1.38	1.50	26

STANDARD ROCK CHUTE DIMENSION TABLE

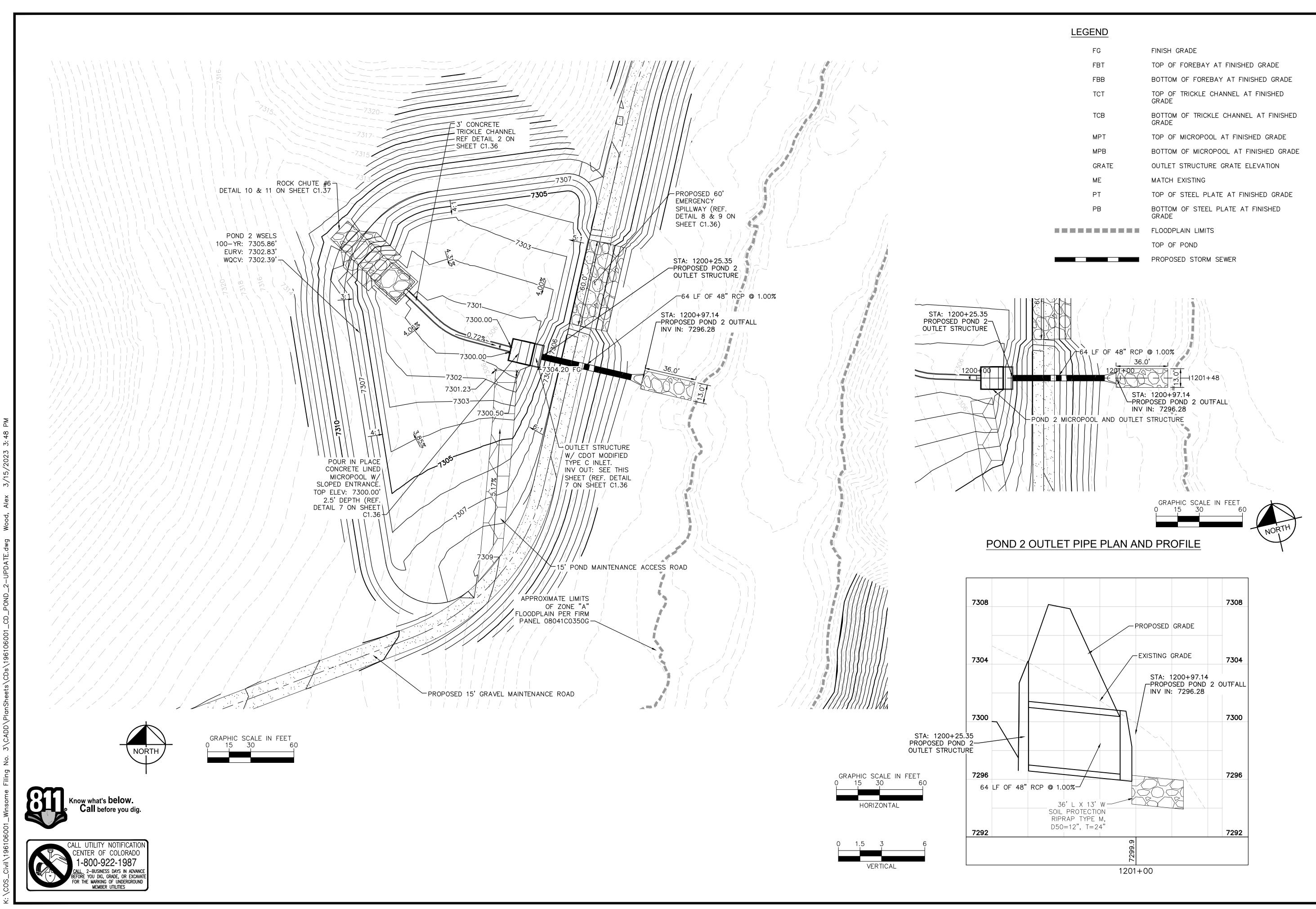
1. SEE GRADING PLANS FOR ROCK CHUTE LOCATIONS

2021 KIMLEY—HORN AND ASSOCIATE 2 North Nevada Avenue Suite 300

DESIGNED BY: KRK DRAWN BY: AJL CHECKED BY: KRK DATE: 12/16/202

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EL PASO COUNTY, COLORADO
CONSTRUCTION DOCUMENTS
POND 1 DETAILS

PROJECT NO. 196106001 SHEET



DESIGNED BY: KRK CHECKED BY: KRK

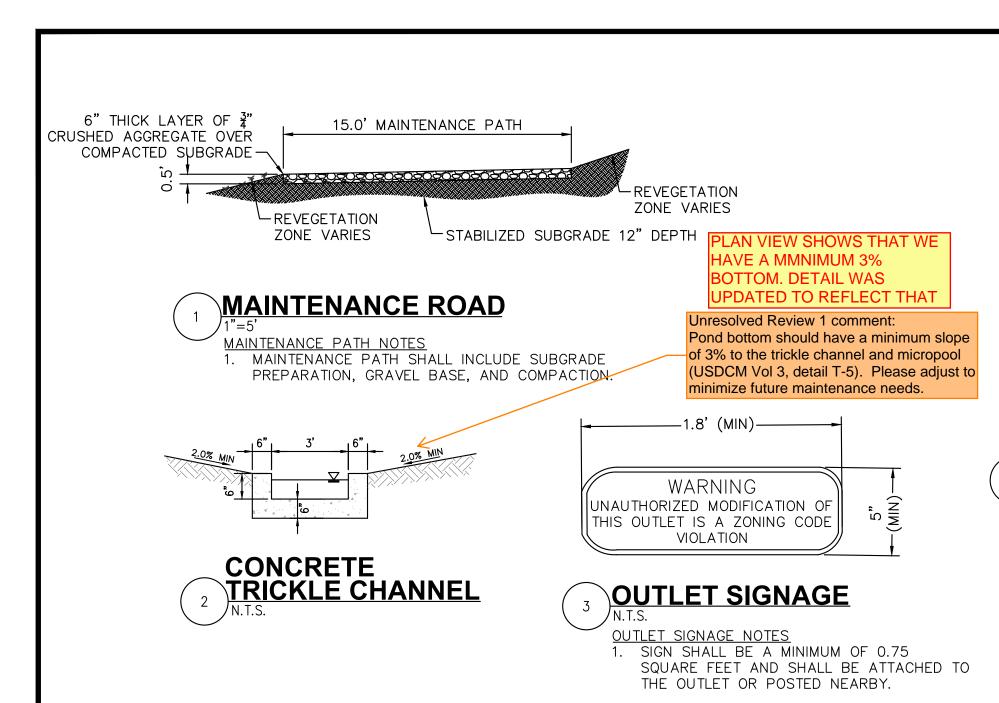
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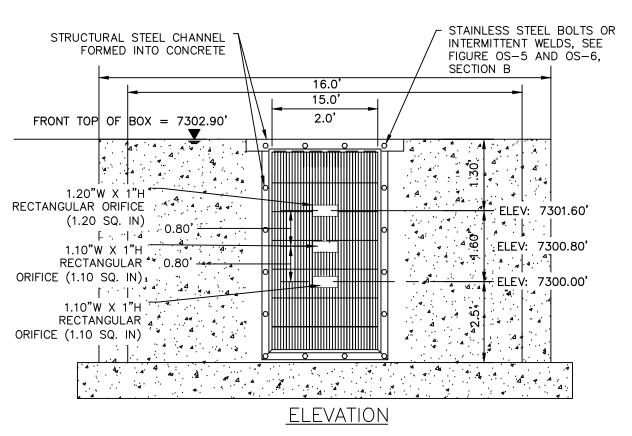
WINSOME FILING NO. 3
EL PASO COUNTY, COLORADO
CONSTRUCTION DOCUMENTS
POND 2 OVERVIEW

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Kimley-Horn and Associates, Inc





### ORIFICE PLATE AND TRASH RACK DETAIL

#### ORIFICE PLATE NOTES

1. PROVIDE CONTINUOUS NEOPRENE GASKET MATERIAL BETWEEN THE ORIFICE PLATE AND CONCRETE.
2. BOLT PLATE TO CONCRETE 12" MAX. ON CENTER. WITH A PLATE THICKNESS OF 0.25".

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- 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
- 4. STRUCTURAL DESIGN OF TRASH RACKS SHALL BE BASED ON FULL HYDROSTATIC HEAD WITH ZERO HEAD DOWNSTREAM OF THE RACK.

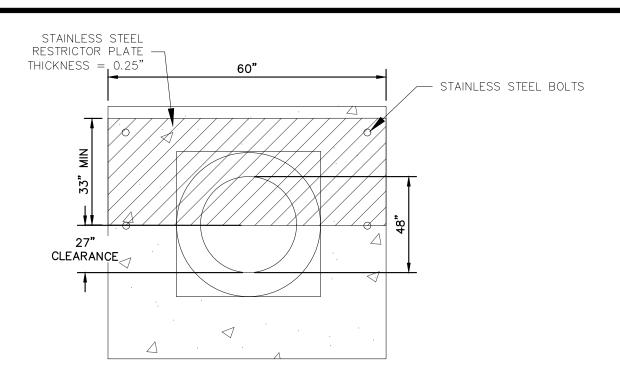
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- DIP GALVANIZED AND MAY BE HOT POWDER COATED AFTER GALVANIZING.

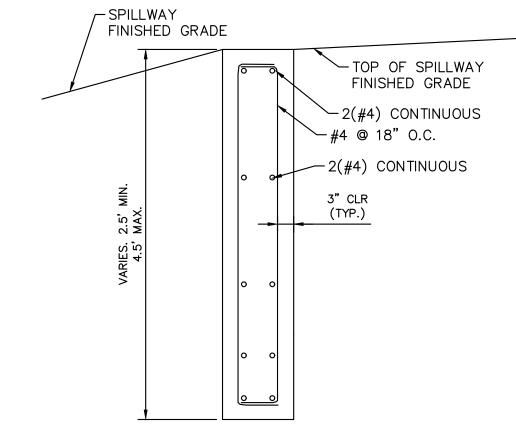
  3. SAFETY GRATES SHALL BE DESIGNED SUCH THAT THE DIAGONAL DIMENSION OF EACH OPENING IS
- SMALLER THAN THE DIAMETER OF THE OUTLET PIPE.
- 4. STRUCTURAL DESIGN OF SAFETY GRATES SHALL BE BASED ON FULL HYDROSTATIC HEAD WITH ZERO HEAD DOWNSTREAM OF THE RACK.







## 100-YEAR FLOW RESTRICTOR B



# SECTION CREST WALL DETAIL 8 N.T.S.

#### RIPRAP NOTES:

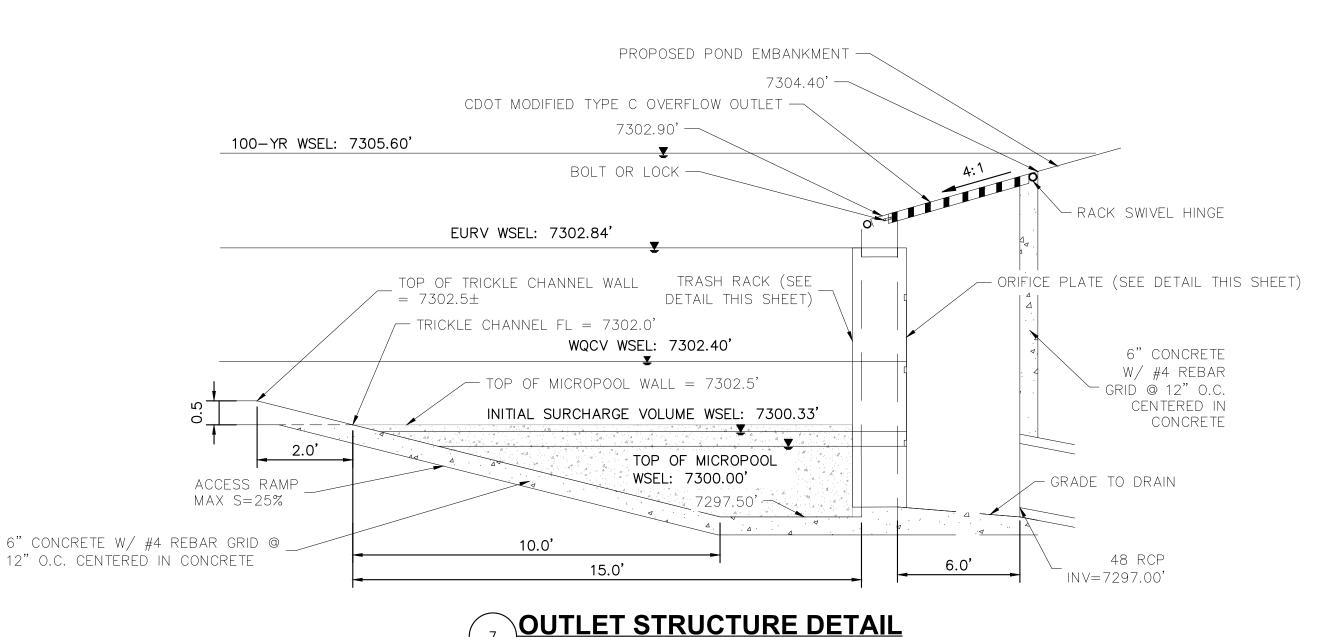
<sup>3</sup>equivalent spherical diameter

based on a specific gravity = 2.5

COLORADO DEPARTMENT OF TRANSPORTATION SECTION 506 REQUIREMENTS APPLY TO ALL RIPRAP.

### Table 506-2

Pay Item		Percent of			
	Stone Size d50 <sup>1</sup> (Inches)	Material Smaller Than Typical Stone <sup>2</sup>	Typical Stone Dimensions <sup>3</sup> (Inches)	Typical Stone Weight <sup>4</sup> (Pounds)	
Riprap	6	70-100 50-70 35-50 2-10	12 9 6 2	85 35 10 0.4	
Riprap	9	70-100 50-70 35-50 2-10	15 12 9 3	160 85 35 1.3	
Riprap	12	70-100 50-70 35-50 2-10	21 18 12 4	440 275 85 3	
Riprap	18	100 50-70 35-50 2-10	30 24 18 6	1280 650 275 10	
Riprap	24	100 50-70 35-50 2-10	42 33 24 9	3500 1700 650 35	



PROVIDE CONTINUOUS
NEPRENE GASKET
BETWEEN ORIFICE
PLATE AND STRUCTURE

ORIFICE
PLATE

BOLT GRATE USING
STAINLESS STEEL
SUPPORT BARS
TE 0.074" X
0.50", 1" 0.C

BOLT GRATE USING
STAINLESS STEEL
SUPPORT BARS
TE 0.074" X
0.50", 1" 0.C

BAR STOCK

- NO. 93 JOHNSON VEE

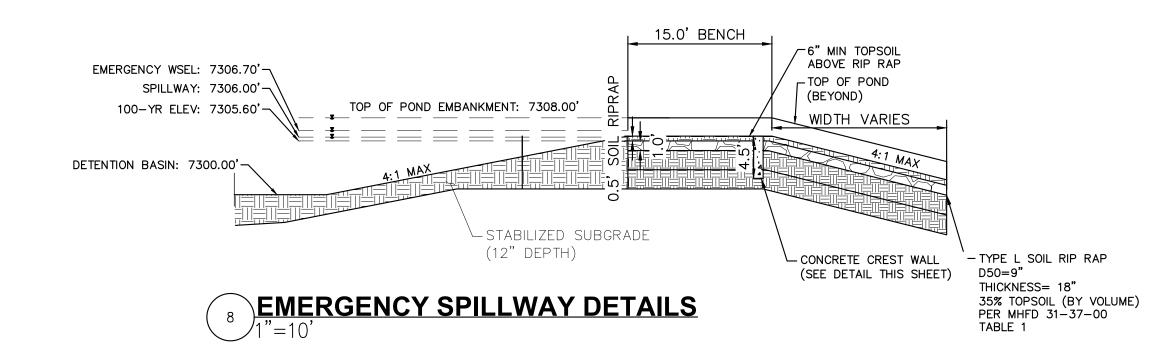
WIRE STAINLESS STEEL

WELL SCREEN (OR

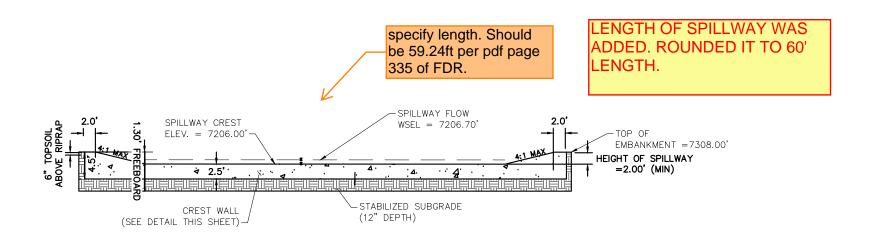
EQUIVALENT)







93 STAINLESS STEEL





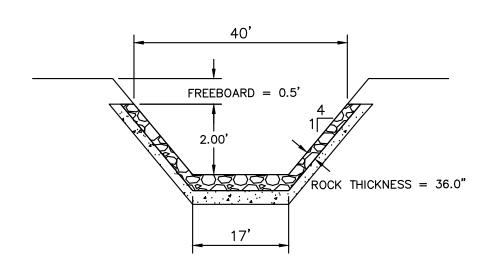
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WINSOME FILING NO. 3
EL PASO COUNTY, COLORADO
CONSTRUCTION DOCUMENTS
POND 2 DETAILS

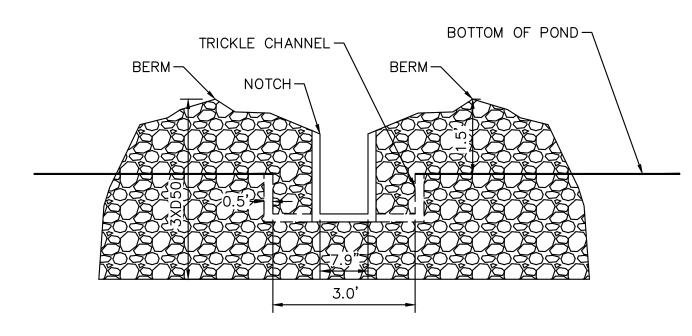
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CONSTRUCTION
Kimley Horn
Kimley-Horn and Associates, Inc.

PROJECT NO. 196106001 SHEET

## ROCK CHUTE #6 PROFILE- CROSS SECTION 1

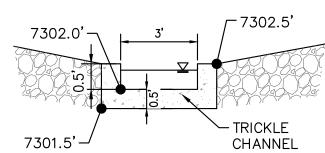


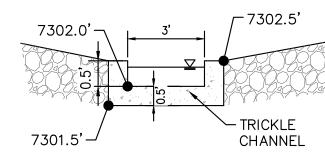
# ROCK CHUTE #6 PROFILE- CROSS SECTION 2 N.T.S.



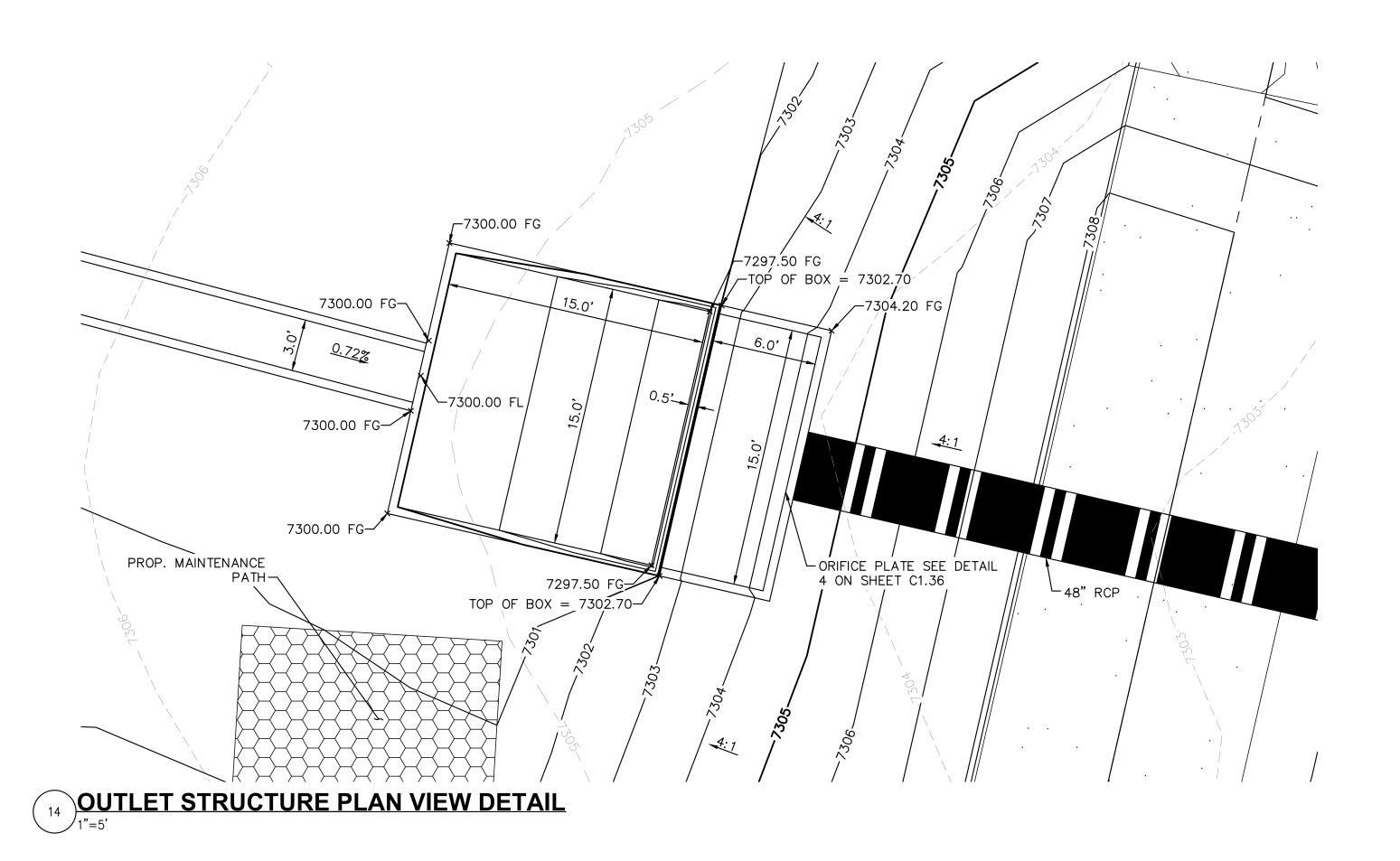
ROCK CHUTE #6 NOTCH PROFILE

N.T.S.





ROCK CHUTE TO TRICKLE CHANNEL TRANSITION



				Drop (ft)									
			Upstream	(Inlet Apron		Downstream					Min Rock		
	Channel		Inlet Apron	to Outlet	Chute Length	<b>Outlet Apron</b>			Rock Chute		Chute Depth	Rock Chute	Top Chute
<b>Rock Chute ID</b>	Location	Flow (cfs)	Length (ft)	Apron)	(ft)	Length (ft)	Chute Width (ft)	D50 (in)	Thickness (in)	Radius (ft)	(ft)	Depth (ft)	Width (ft)
4	Pond 1	107	10	6	24	15	24	18	36	50	1.27	1.50	40
6	Pond 2	110	10	8	32	18	17	18	36	50	1.57	2.00	33
11	Pond 4	26	10	10	40	11	10	9	18	25	0.85	1.50	26
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STANDARD ROCK CHUTE DIMENSION TABLE

1. SEE GRADING PLANS FOR ROCK CHUTE LOCATIONS

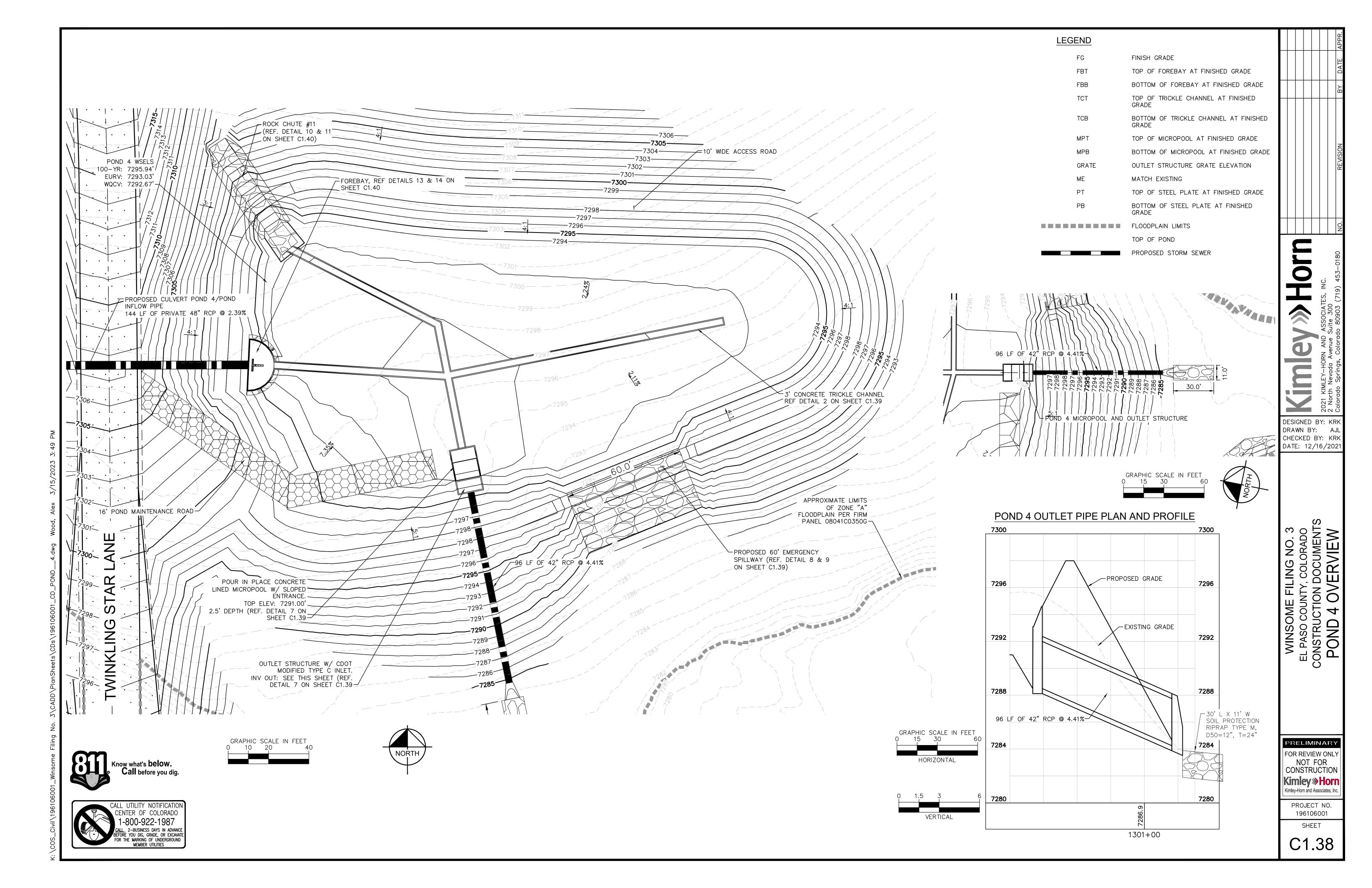
Know what's **below.**Call before you dig. CALL UTILITY NOTIFICATION
CENTER OF COLORADO
1-800-922-1987
CALL 2-BUSINESS DAYS IN ADVANCE
BEFORE YOU DIG, GRADE, OR EXCAVATE
FOR THE MARKING OF UNDERGROUND
MEMBER UTILITIES

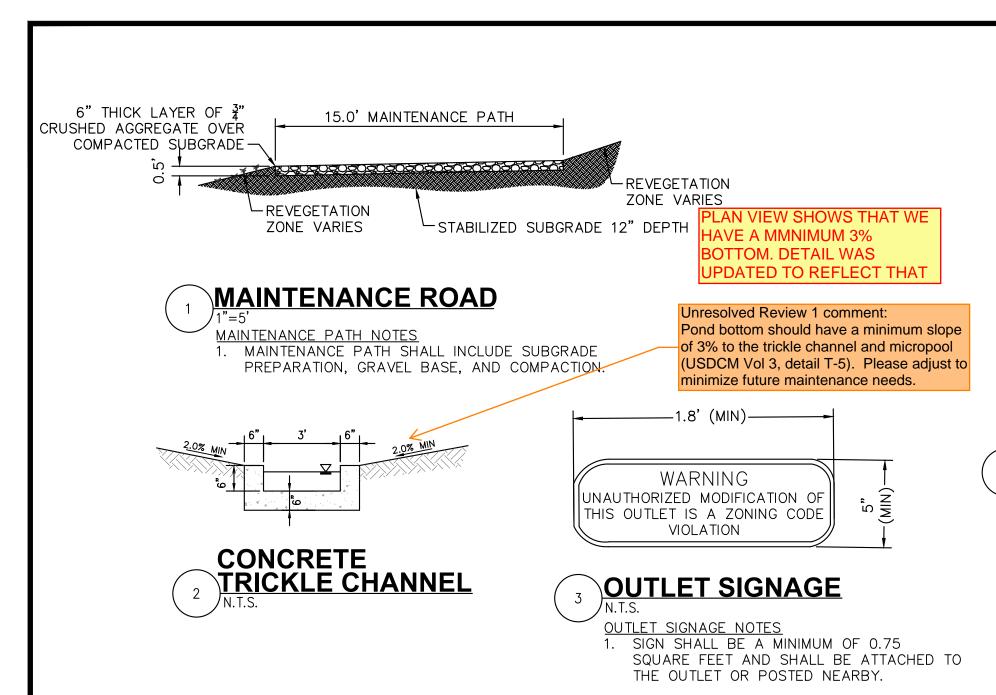
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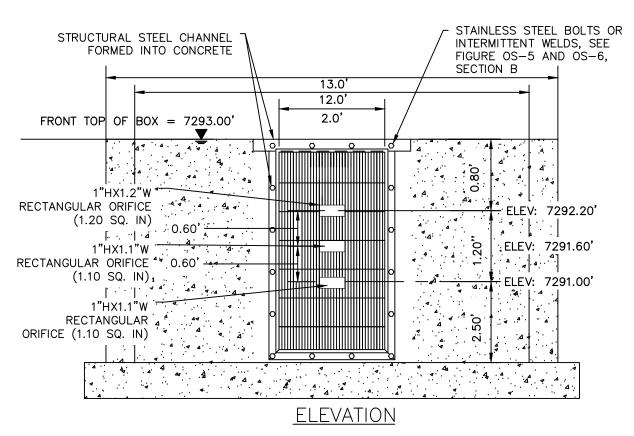
DESIGNED BY: KRK DRAWN BY: AJ CHECKED BY: KRK

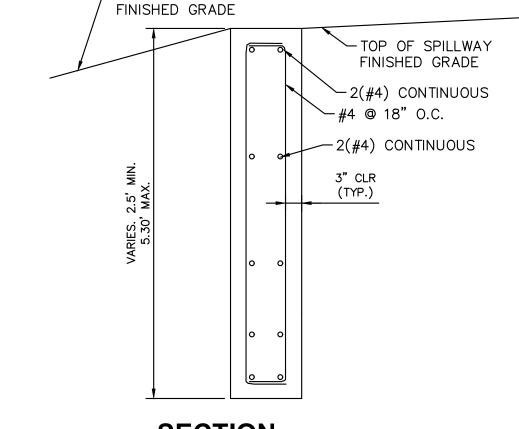
DATE: 12/16/202

PROJECT NO. 196106001 SHEET









<u>100-YEAR FLOW RESTRICTOR B</u>

# SECTION CREST WALL DETAIL

### ORIFICE PLATE AND TRASH RACK DETAIL

#### ORIFICE PLATE NOTES

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#### RIPRAP NOTES:

based on a specific gravity = 2.5

COLORADO DEPARTMENT OF TRANSPORTATION SECTION 506 REQUIREMENTS APPLY TO ALL RIPRAP.

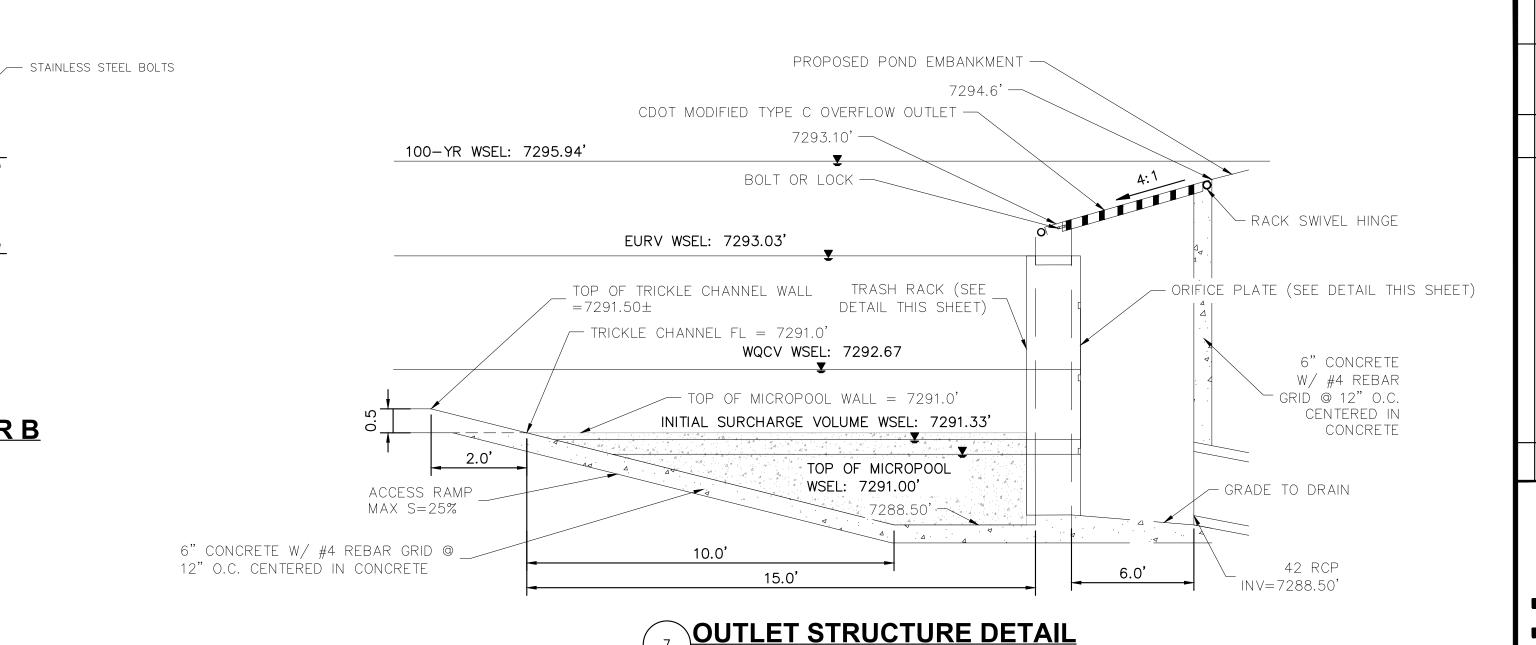
-SPILLWAY

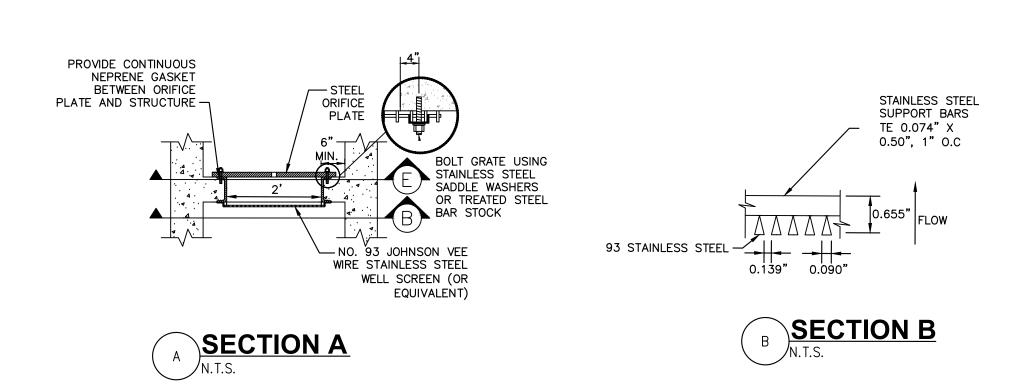
STAINLESS STEEL RESTRICTOR PLATE -THICKNESS = 0.25"

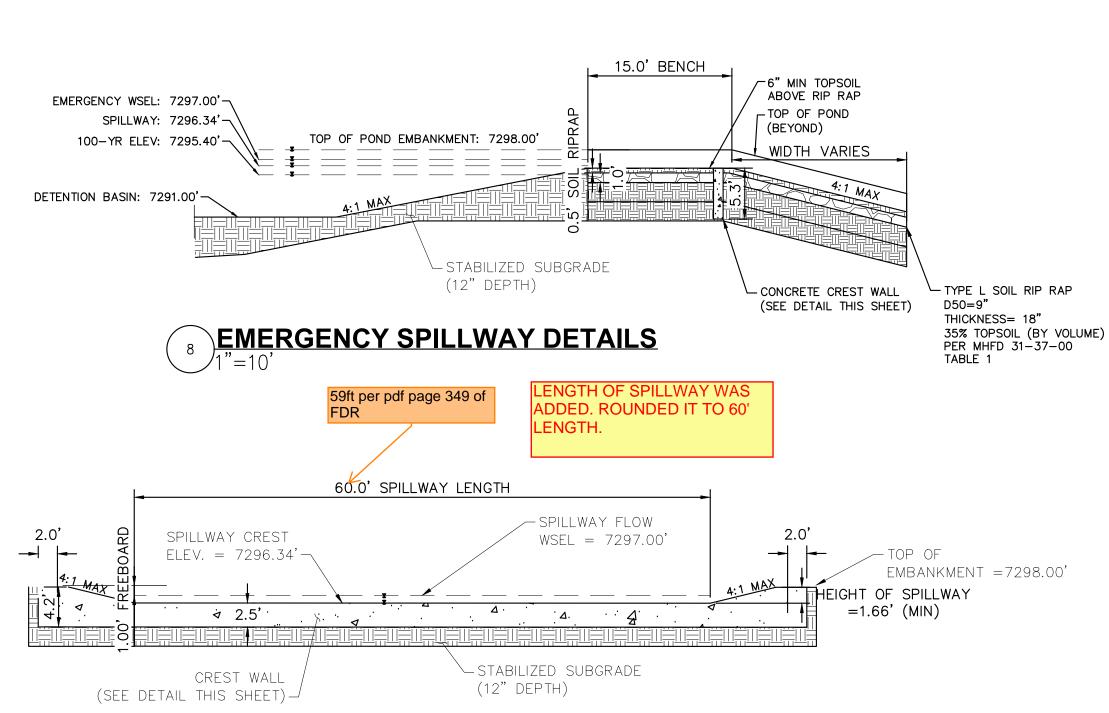
CLEARANCE

#### **Table 506-2**

Pay Item		Percent of	Tunian) Starr	T	
	Stone Size d50 <sup>1</sup> (Inches)	Material Smaller Than Typical Stone <sup>2</sup>	Typical Stone Dimensions <sup>3</sup> (Inches)	Typical Stone Weight <sup>4</sup> (Pounds)	
Riprap	6	70-100 50-70 35-50 2-10	12 9 6 2	85 35 10 0.4	
Riprap	9	70-100 50-70 35-50 2-10	15 12 9 3	160 85 35 1.3	
Riprap	12	70-100 50-70 35-50 2-10	21 18 12 4	440 275 85 3	
Riprap	18	100 50-70 35-50 2-10	30 24 18 6	1280 650 275 10	
Riprap	24	100 50-70 35-50 2-10	42 33 24 9	3500 1700 650 35	







WINSOM EL PASO COU CONSTRUCT 35% TOPSOIL (BY VOLUME) EMERGENCY SPILLWAY

PRELIMINARY FOR REVIEW ONL' NOT FOR CONSTRUCTION Kimley » Horn Kimley-Horn and Associates, Inc

> PROJECT NO. 196106001 SHEET

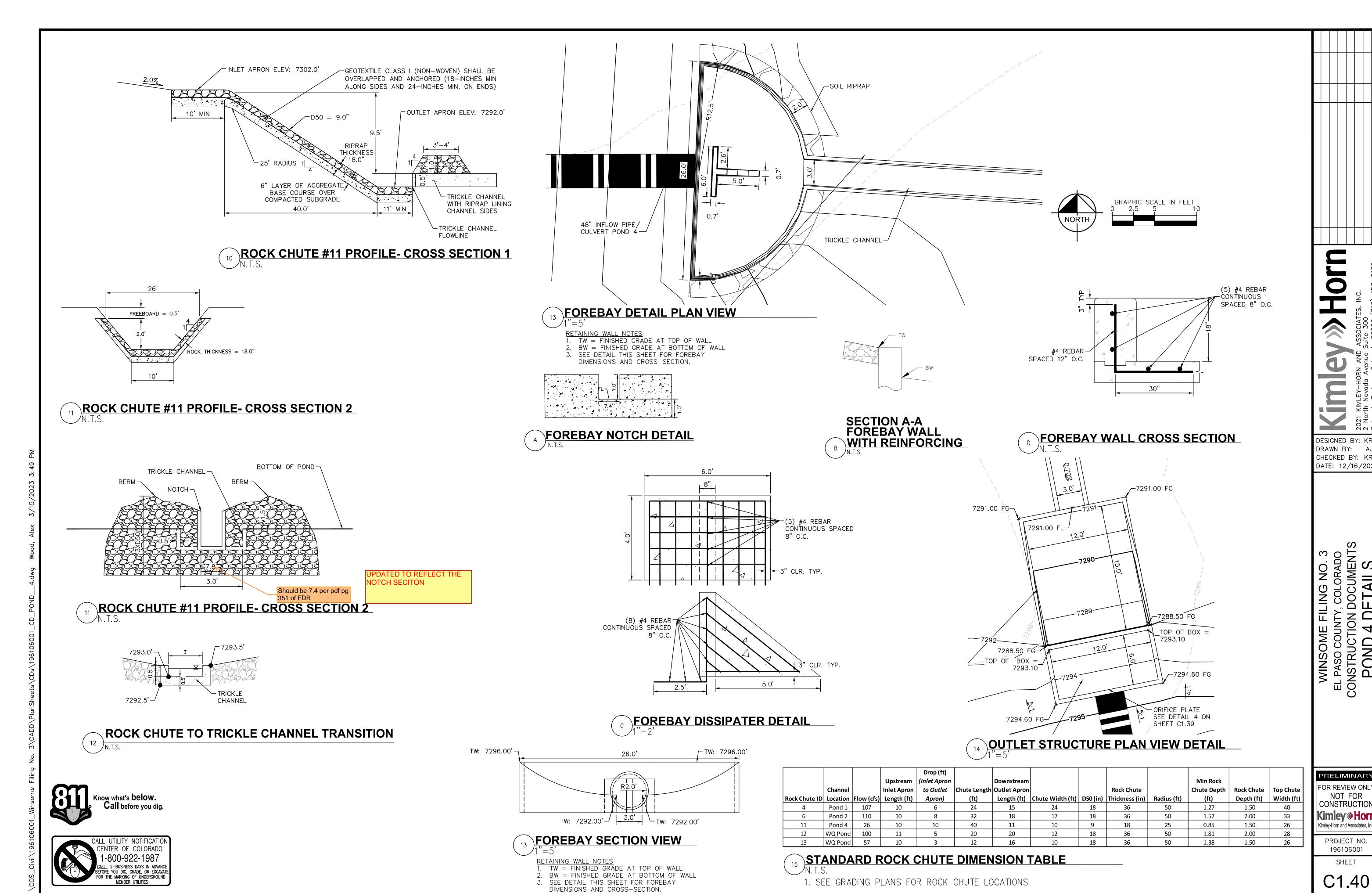
DESIGNED BY: KRH

DRAWN BY: AJ CHECKED BY: KRK

DATE: 12/16/202

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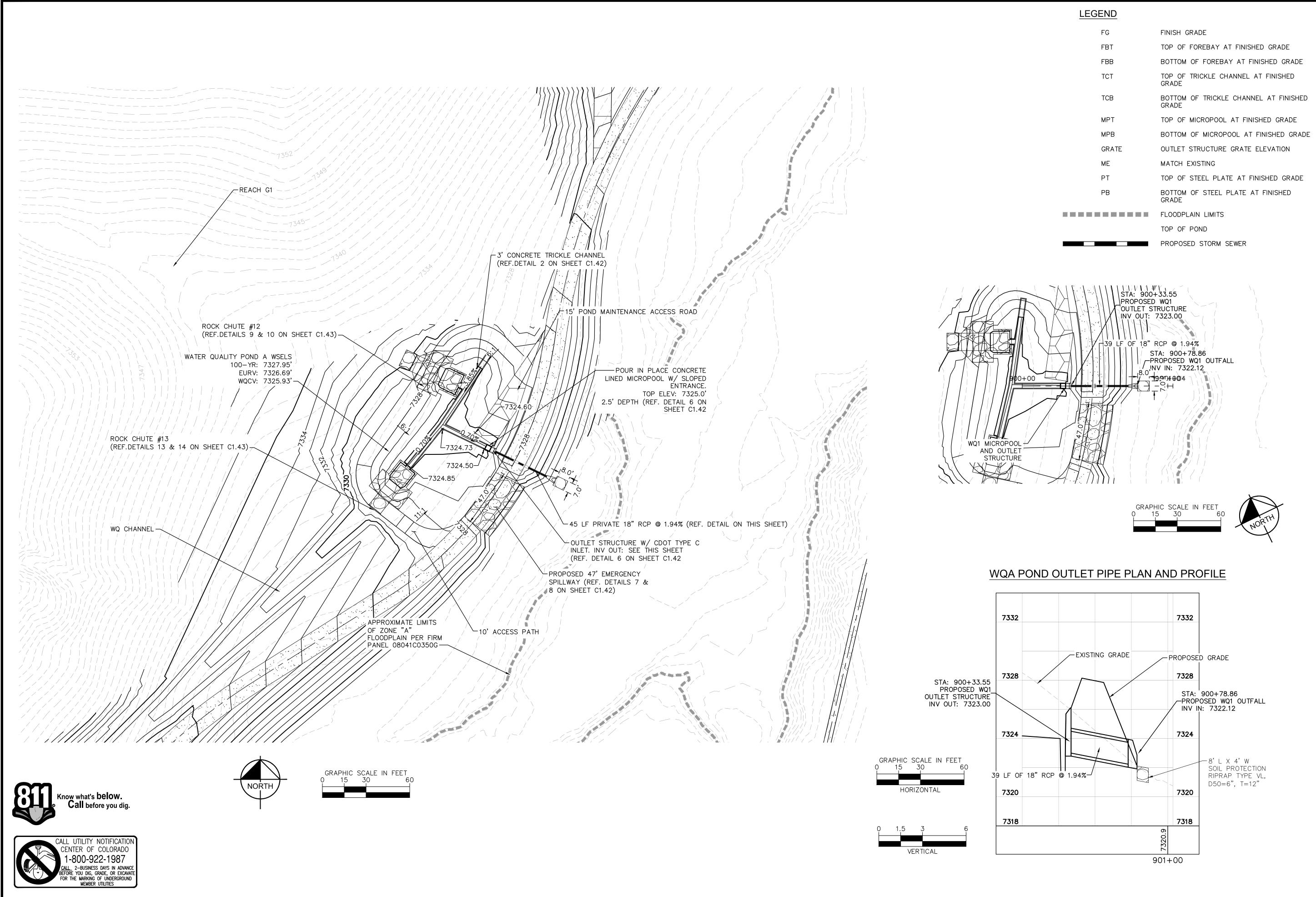
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PRELIMINARY FOR REVIEW ONL' NOT FOR CONSTRUCTION Kimley » Horn

> PROJECT NO. 196106001

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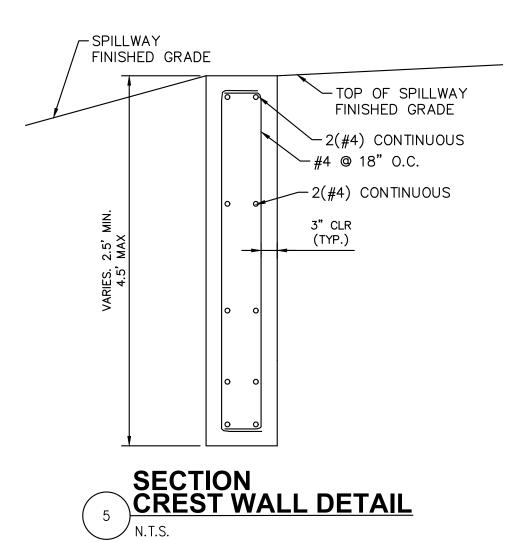
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DRAWN BY: AJ CHECKED BY: KRK DATE: 12/16/202

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> PROJECT NO. 196106001 SHEET



#### RIPRAP NOTES:

SQUARE FEET AND SHALL BE ATTACHED TO

THE OUTLET OR POSTED NEARBY.

COLORADO DEPARTMENT OF TRANSPORTATION SECTION 506 REQUIREMENTS APPLY TO ALL RIPRAP.

### Table 506-2

Pay Item		Percent of			
	Stone Size d50 <sup>1</sup> (Inches)	Material Smaller Than Typical Stone <sup>2</sup>	Typical Stone Dimensions <sup>3</sup> (Inches)	Typical Stone Weight <sup>4</sup> (Pounds)	
Riprap	6	70-100 50-70 35-50 2-10	12 9 6 2	85 35 10 0.4	
Riprap	9	70-100 50-70 35-50 2-10	15 12 9 3	160 85 35 1.3	
Riprap	12	70-100 50-70 35-50 2-10	21 18 12 4	440 275 85 3	
Riprap	18	100 50-70 35-50 2-10	30 24 18 6	1280 650 275 10	
Riprap	24	100 50-70 35-50 2-10	42 33 24 9	3500 1700 650 35	

### **ORIFICE PLATE AND TRASH RACK DETAIL**

#### ORIFICE PLATE NOTES

1. PROVIDE CONTINUOUS NEOPRENE GASKET MATERIAL BETWEEN THE ORIFICE PLATE AND CONCRETE. 2. BOLT PLATE TO CONCRETE 12" MAX. ON CENTER. WITH A PLATE THICKNESS OF 0.25".

#### EURV AND WQCV 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
- 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
- 4. STRUCTURAL DESIGN OF TRASH RACKS SHALL BE BASED ON FULL HYDROSTATIC HEAD WITH ZERO HEAD DOWNSTREAM OF THE RACK.

#### OVERFLOW SAFETY GRATES

Know what's **below**.

Call before you dig.

CALL UTILITY NOTIFICATION

CENTER OF COLORADO

2-BUSINESS DAYS IN ADVANCE E YOU DIG, GRADE, OR EXCAVATE

THE MARKING OF UNDERGROUND

MEMBER UTILITIES

- 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.

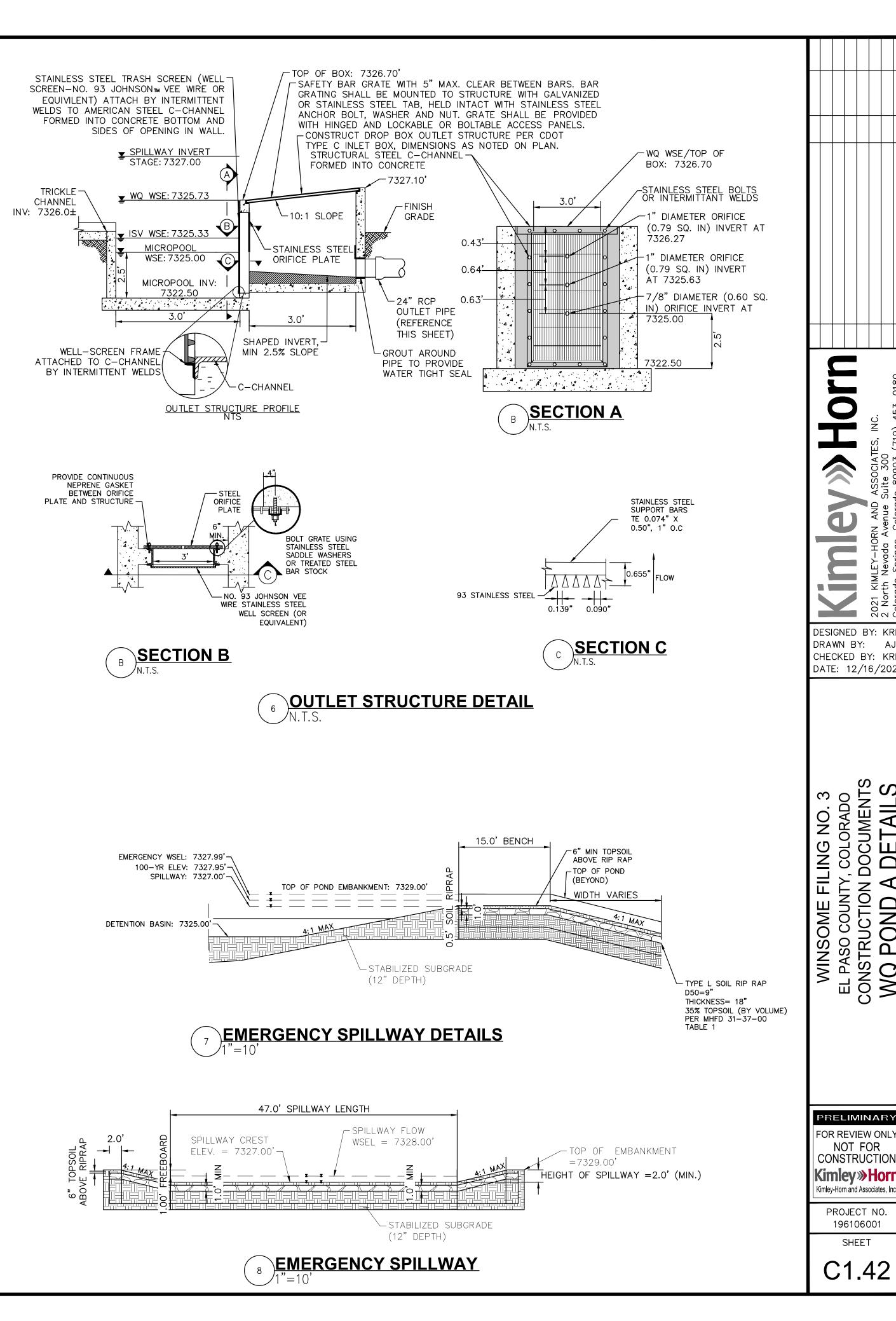
11

12

#### Drop (ft) Min Rock Upstream | (Inlet Apron **Downstream** Inlet Apron to Outlet Chute Length Outlet Apron **Rock Chute** Channel Chute Depth Rock Chute | Top Chute Rock Chute ID | Location | Flow (cfs) | Length (ft) Length (ft) | Chute Width (ft) | D50 (in) | Thickness (in) | Radius (ft) (ft) Depth (ft) Width (ft) Apron) 107 18 1.27 1.50 Pond 1 10 24 15 50 40 Pond 2 110 2.00 10 32 18 18 36 50 1.57 33 Pond 4 26 10 10 40 18 1.50 26 25 0.85 WQ Pond 100 20 20 2.00 28 11 12 18 36 50 1.81 13 WQ Pond 57 10 12 16 10 18 36 50 1.38 1.50 26

<sup>3</sup>equivalent spherical diameter

based on a specific gravity = 2.5



DESIGNED BY: KRI

DRAWN BY: A

CHECKED BY: KRK

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PROJECT NO.

196106001

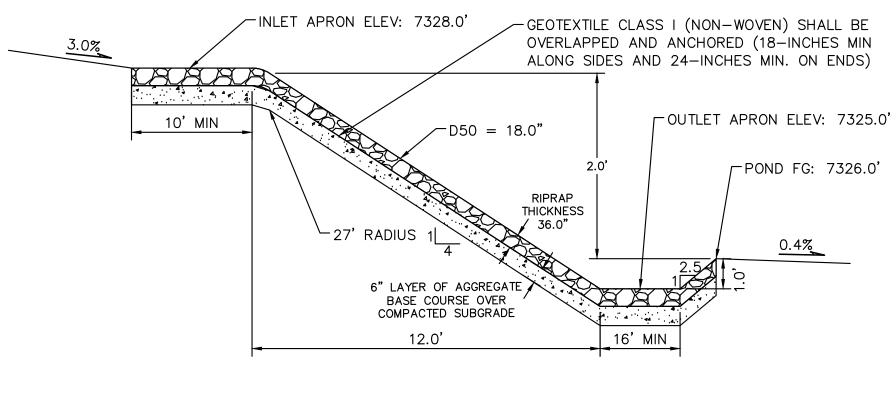
SHEET

C1.42

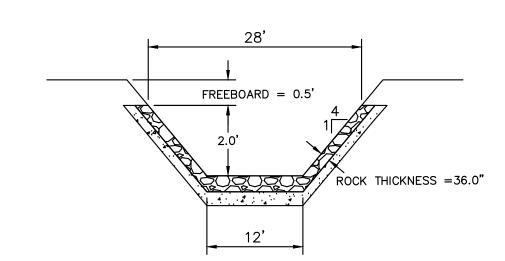
NOT FOR

ROCK CHUTE #12 PROFILE- CROSS SECTION 1

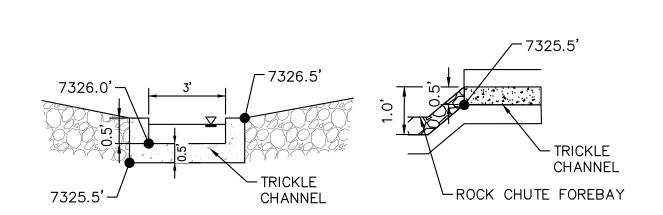
9 N.T.S.



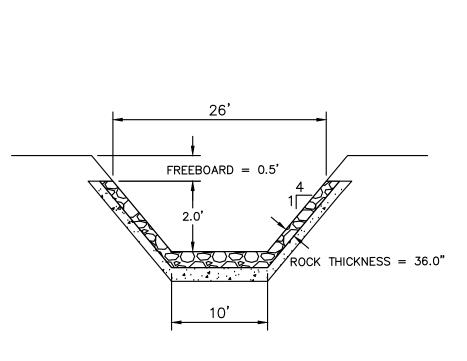
ROCK CHUTE #13 PROFILE- CROSS SECTION 1



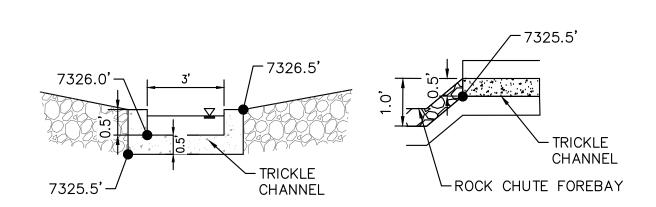
ROCK CHUTE #12 PROFILE- CROSS SECTION 2



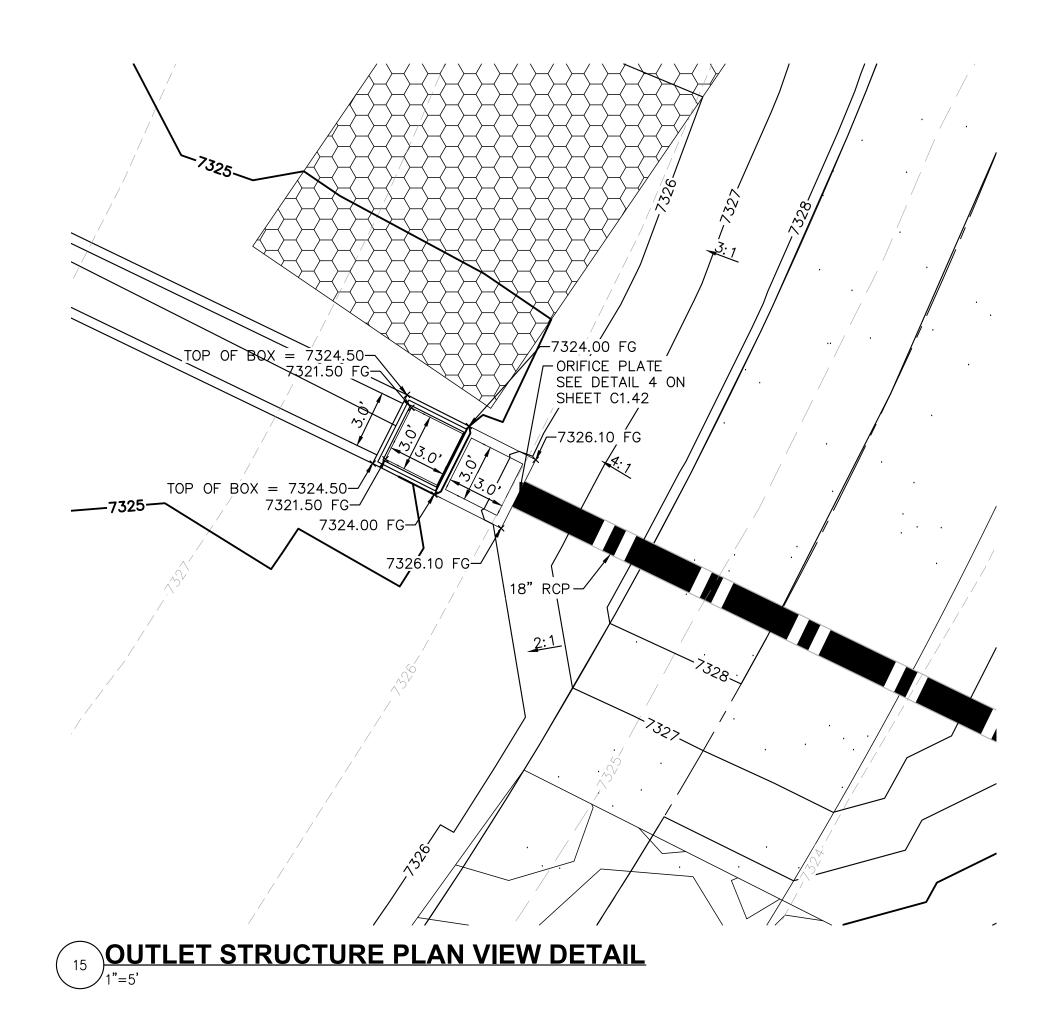
ROCK CHUTE #12 TO TRICKLE CHANNEL TRANSITION



ROCK CHUTE #13 PROFILE- CROSS SECTION 2
N.T.S.



ROCK CHUTE #13 TO TRICKLE CHANNEL TRANSITION







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CONSTRUCTION
Kimley Horn
Kimley-Horn and Associates, Inc.

DESIGNED BY: KRK

DRAWN BY: AJL CHECKED BY: KRK

DATE: 12/16/202

WINSOME FILING NO. 3
EL PASO COUNTY, COLORADO
CONSTRUCTION DOCUMENTS
WQ POND A DETAILS

PROJECT NO. 196106001

SHEET

C1.43

)01\_Winsome Filing No. 3\CADD\PlanSheets\CDs\196106001\_CD\_WQ\_Pond.dwg

#### Construction Drawings\_V2-redline.pdf Markup Summary

#### dsdlaforce (1)



Subject: Callout

Page Label: [7] C1.6 GRADING PLAN

Lock: Unlocked Author: dsdlaforce Date: 4/6/2023 5:20:22 PM

Status: Color: Layer: Space: Unresolved from Review #1: Headcutting mitigation did not include this segment. Is there no concerns for continued erosion? Address in the

drainage report.

In the drainage report provide a summary of the results of the hydraulic calculations for Reach I2.

#### Glenn Reese - EPC Stormwater (18)



Subject: SW - Textbox with Arrow Page Label: [1] C1.0 COVER SHEET

Lock: Unlocked

Author: Glenn Reese - EPC Stormwater

Date: 4/3/2023 3:31:22 PM

Status: Color: Layer: Space: cut and fill map is C1.21

check all other titles vs sheet numbers in this TOC.



Subject: SW - Textbox with Arrow Page Label: [1] C1.0 COVER SHEET

Lock: Unlocked

Author: Glenn Reese - EPC Stormwater

Date: 4/3/2023 3:33:07 PM

Status: Color: ■ Layer: Space: Update TOC with sheets that were added in. The

list should go up to C1.43



Subject: SW - Rectangle

Page Label: [1] C1.0 COVER SHEET

Lock: Unlocked

Author: Glenn Reese - EPC Stormwater

Date: 4/3/2023 3:33:15 PM

Status: Color: Layer: Space:

.....



**Subject:** SW - Textbox with Arrow **Page Label:** [1] C1.0 COVER SHEET

Lock: Unlocked

Author: Glenn Reese - EPC Stormwater

Date: 4/3/2023 3:33:28 PM

Status: Color: ■ Layer: Space: Fix out of order numbering



Subject: SW - Textbox with Arrow

Page Label: [23] C1.22 GEC FINAL PLAN

Lock: Unlocked

Author: Glenn Reese - EPC Stormwater

Date: 4/4/2023 4:56:29 PM

Status: Color: ■ Layer: Space: Is this supposed to be horizontal spacing? Clarify so that this table is more clear. See my Review #1 comments on this sheet for reference and further clarification.

I think that you're trying to say: place a waddle every 1.5ft of vertical fall (for the first row).



Subject: SW - Textbox with Arrow

Page Label: [35] C1.34 POND 1 DETAILS

Lock: Unlocked

Author: Glenn Reese - EPC Stormwater

Date: 4/4/2023 5:10:32 PM

Status: Color: ■ Layer: Space: Duplicate details already on previous sheet. I think that they can be deleted.



Subject: SW - Textbox with Arrow

Page Label: [37] C1.36 POND 2 DETAILS

Lock: Unlocked

Author: Glenn Reese - EPC Stormwater

Date: 4/4/2023 5:39:09 PM

Status: Color: ■ Layer: Space: Unresolved Review 1 comment:

Pond bottom should have a minimum slope of 3% to the trickle channel and micropool (USDCM Vol 3, detail T-5). Please adjust to minimize future

maintenance needs.



Subject: SW - Textbox with Arrow

Page Label: [40] C1.39 POND 4 DETAILS

Lock: Unlocked

Author: Glenn Reese - EPC Stormwater

Date: 4/4/2023 5:39:33 PM

Status: Color: ■ Layer: Space: Unresolved Review 1 comment:

Pond bottom should have a minimum slope of 3% to the trickle channel and micropool (USDCM Vol 3, detail T-5). Please adjust to minimize future

maintenance needs.



Subject: SW - Textbox with Arrow

Page Label: [43] C1.42 WQ POND A DETAILS

Lock: Unlocked

Author: Glenn Reese - EPC Stormwater

Date: 4/4/2023 5:40:01 PM

Status: Color: ■ Layer: Space: Unresolved Review 1 comment:

Pond bottom should have a minimum slope of 3% to the trickle channel and micropool (USDCM Vol 3, detail T-5). Please adjust to minimize future

maintenance needs.



Subject: SW - Textbox with Arrow

Page Label: [23] C1.22 GEC FINAL PLAN

Lock: Unlocked

Author: Glenn Reese - EPC Stormwater

Date: 4/7/2023 1:48:27 PM

Status: Color: Layer: Space: Unresolved from Review #1: provide a detail for

Mulching



Subject: SW - Textbox with Arrow

Page Label: [23] C1.22 GEC FINAL PLAN

Lock: Unlocked

Author: Glenn Reese - EPC Stormwater

Date: 4/7/2023 1:54:22 PM

Status: Color: ■ Layer: Space:

Since these are Final GEC Plans, all pond labels should be revised to clarify that permanent ponds will be constructed in place of the TSBs after the Interim phase. Callout revision example:

1st line: "TSB Pond 1 (Initial and Interim)"

2nd line: "Pond 1 (Final)"

[typical comment for all ponds in GEC Plans]



Subject: SW - Textbox

Page Label: [23] C1.22 GEC FINAL PLAN

Lock: Unlocked

Author: Glenn Reese - EPC Stormwater

Date: 4/7/2023 1:59:16 PM

Status: Color: Layer: Space:

Label Runoff Reduction areas on all GEC Plans



Subject: SW - Textbox with Arrow

Page Label: [37] C1.36 POND 2 DETAILS

Lock: Unlocked

Author: Glenn Reese - EPC Stormwater

Date: 4/7/2023 11:36:20 AM

Status: Color: Layer: Space:

specify length. Should be 59.24ft per pdf page 335 of FDR.

\* EMERGENCY SPILLW!

Subject: SW - Textbox with Arrow

Page Label: [34] C1.33 POND 1 DETAILS

Lock: Unlocked

Author: Glenn Reese - EPC Stormwater

Date: 4/7/2023 11:37:07 AM

Status: Color: Layer: Space:

57.35ft per pdf page 321 of FDR



Subject: SW - Textbox with Arrow

Page Label: [40] C1.39 POND 4 DETAILS

Lock: Unlocked

Author: Glenn Reese - EPC Stormwater

Date: 4/7/2023 11:38:00 AM

Status: Color: ■ Layer: Space:

59ft per pdf page 349 of FDR



Subject: SW - Textbox with Arrow

Page Label: [41] C1.40 POND 4 DETAILS

Lock: Unlocked

Author: Glenn Reese - EPC Stormwater

Date: 4/7/2023 11:38:33 AM

Status: Color: Layer: Space:

Should be 7.4 per pdf pg 351 of FDR



Subject: SW - Textbox with Arrow

Page Label: [35] C1.34 POND 1 DETAILS

Lock: Unlocked

Author: Glenn Reese - EPC Stormwater

Date: 4/7/2023 11:42:21 AM

Status: Color: ■ Layer: Space: Review these zoomed in Plan details for all ponds as they are all new with this submittal.



**Subject:** SW - Textbox with Arrow

Page Label: [35] C1.34 POND 1 DETAILS

Lock: Unlocked

Author: Glenn Reese - EPC Stormwater

Date: 4/7/2023 11:43:20 AM

Status: Color: ■ Layer: Space: Per previous comment in Review #1, MHFD recommends that the "floor of forebays should be concrete or lined with grouted boulders to define

sediment removal limits."

Typical comment for all forebays.