EPC STANDARD GEC PLAN NOTES

- STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCES SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF-SITE WATERS, INCLUDING WETLANDS.
- NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGNS AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO HE 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, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
- 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 FIELD.
- 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 APPROVAL 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.
- 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.
- 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 BE INCORPORATED INTO THE STORMWATER MANAGEMENT PLAN.
- 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.
- 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.
- 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.
- 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). 2. 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. 3. 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,
- . 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. 8. TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE
- CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY. 9. 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 O. 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. . 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., ON NOVEMBER 19, 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

Call before you dig.

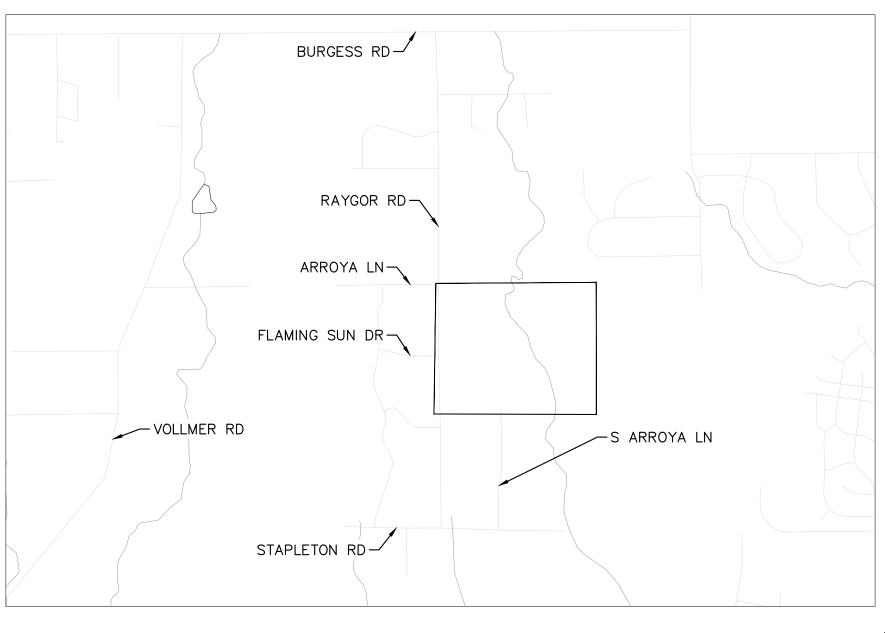
ATTN: PERMITS UNIT Know what's **below**.



EAGLEVIEW SUBDIVISION

GRADING AND EROSION CONTROL PLAN

A PORTION OF THE NORTHWEST ONE-QUARTER (N.W.1/4) OF SECTION 26 TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M. COUNTY OF EL PASO, STATE OF COLORADO



VICINITY MAP 1" = 2000'

SHEET INDEX

SHEET NO.

2

3 - 5

6 – 8

9 - 11

12 - 16

SHEET TITLE

COVER SHEET - GEC PLAN

CUT FILL MAP

INITIAL GEC PLAN

INTERIM GEC PLAN

FINAL GEC PLAN

GEC DETAILS

CONTACTS:

<u>DEVELOPER:</u> PT EAGLEVIEW, LLC 1864 WOODMOOR DRIVE, SUITE 100 MONUMENT, CO 80132 TEL: (719) 476-0800 CONTÀCT: JOSEPH DESJARDIN

PLANNER/LANDSCAPE ARCHITECT: 619 N CASCADE AVENUE, SUITE 200 COLORADO SPRINGS, CO 80903 TEL: (719) 471-0073 EMAIL: ABARLOW@NESCOLORADO.COM CONTACT: ANDREA BARLOW

ENGINEER: KIMLEY—HORN AND ASSOCIATES, INC. 2 NORTH NEVADA AVENUE, SUITE 300 COLORADO SPRINGS, CO 80903 TEL: (719) 352-9194 EMAIL: KÉVIN.KOFFORD@KIMLEY-HORN.COM CONTACT: KEVIN KOFFORD

SURVEY: RAMPART SURVEYS, LLC. 1050 TAMARAC PKWY WOODLAND PARK, CO 80863 TEL: (719) 687-0920 CONTACT: RUSS WOOD

EL PASO COUNTY PLANNING DEPARTMENT 2880 INTERNATIONAL CIRCLE, SUITE 110 COLORADO SPRINGS, CO 80910 PLANNING REVIEWER: NINA RUIZ

TEL: (719) 520-6313

EMAIL: NINARUIZ@ELPASOCO.COM TEL: (719) 520-7945 EMAIL: GILBERTLAFORCE@ELPASOCO.COM

COUNTY ENGINEER: JOSHUA PALMER TEL: (719) 520-6806 EMAIL: JOSHUAPALMER@ELPASOCO.COM EPC PCD INSPECTIONS SUPERVISOR: BRAD WALTERS

(719) 520-6819 ÈMAÍL: BRADWALTERS@ELPASOCO.COM

FALCON FIRE DEPARTMENT: AREA: FAL D2 FIRE CHIEF T. HARWIG 7030 OLD MERIDIAN ROAD PAYTON, CO 80831 TEL: (719) 495-4050 EMAIL: FÁLCONFIRE@FALCONFIREPD.ORG COLORADO DEPARTMENT OF PUBLIC HEALT AND ENVIRONMENT: WATER QUALITY CONTROL DIVISION 4300 CHERRY CREEK DRIVE SOUTH DENVER, CO 80246 TEL: (303) 692-3500

DESIGNED BY: MJ DRAWN BY: M. CHECKED BY: KR DATE: 06/26/202

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FLOODPLAIN NOTE

ACCORDING TO NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP NUMBER 08041C0535G (MAP REVISED DECEMBER 7, 2018). THE SUBJECT PROPERTY IS LOCATED IN OTHER AREAS, ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

BENCHMARK

CONTROL POINTS AS SHOWN HEREON. ELEVATIONS ARE BASED ON CITY OF COLORADO SPRINGS FIMS MONUMENT F 65. PANEL POINTS 50 FOUND AT THE NW CORNER OF RAYGOR ROAD AND ARROYA LANE (EL=7281.39), AND 51 FOUND AT THE NW CORNER OF RAYGOR ROAD AND FLAMING SUN DRIVE (EL=7251.58). (DATUM: NGVD 29).

BASIS OF BEARINGS

ALL BEARINGS USED HEREIN ARE BASED ON AN ASSUMED BEARING S00°02'11"E (S00°02'11"E PER THE RECORDED DEED), A DISTANCE OF 2587.22 FEET (2587.32 FEET OF RECORD) BETWEEN A 2-1/2" ALUMINUM CAP STAMPED "PLS 4842" AT THE NORTEAST CORNER OF THE NORTHWEST ONE-QUARTER CORNER OF SECTION 26 AND A 2" ALUMINUM CAP STAMPED "PLS 25968" AT THE CENTER ONE-QUARTER OF SAID SECTION 26.

START OF CONSTRUCTION: FALL 2024

END OF CONSTRUCTION: FALL 2025

SOIL DATA

FINAL STABILIZATION: FALL 2025

± 1.8% SOIL TYPE A

± 98.2% SOIL TYPE B

LEGAL DESCRIPTION

A PORTION OF THE NORTHWEST QUARTER OF SECTION 26, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6th P.M., EL PASO COUNTY, COLORADO, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SAID NORTHWEST QUARTER OF SECTION 26, AS ACCEPTED AND USED IN THE PLATS OF MFY FARM SUBDIVISION AND PAINT BRUSH HILLS FILING NO. 3, RECORDED IN PLAT BOOK T-3 AT PAGE 93 AND IN PLAT BOOK U-3 AT PAGE 79, RESPECTIVELY, OF THE RECORDS OF SAID EL PASO COUNTY; THENCE SO0°02'11"E, ALONG THE EAST LINE OF SAID NORTHWEST QUARTER OF SECTION 26, A DISTANCE OF 2587.22 FEET TO THE CENTER QUARTER CORNER OF SAID SECTION 26 (BASIS OF BEARINGS - ASSUMED); THENCE N89°28'49"W. A DISTANCE OF 978.75 FEET TO THE NORTHEAST CORNER OF LOT 30 OF STAPLETON ESTATES FILING NO. 1, AS RECORDED IN PLAT BOOK R-3 AT PAGE 76 OF THE RECORDS OF SAID EL PASO COUNTY: THENCE N89°31'16"W. ALONG THE BOUNDARY LINE OF SAID STAPLETON ESTATES FILING NO. 1, A DISTANCE OF 1063.31 FEET TO THE NORTHWEST CORNER OF LOT 8 OF SAID STAPLETON ESTATES FILING NO. 1; THENCE NO0°26'14"W ALONG THE EAST LINE OF SAID STAPLETON ESTATES FILING NO. 1, A DISTANCE OF 2561.60 FEET TO A POINT ON THE NORTH LINE OF SAID NORTHWEST QUARTER OF SECTION 26; THENCE N89°46'46"E, ALONG SAID NORTH LINE AND ALONG THE SOUTHERLY BOUNDARY LINE OF SAID MFY FARM SUBDIVISION AND THE SOUTHERLY LINE OF RODGWICK SUBDIVISION, RECORDED AT RECEPTION NO. 207712566 OF THE RECORDS OF SAID EL PASO COUNTY, A DISTANCE OF 2059.89 FEET TO THE POINT OF BEGINNING.

SAID TRACT CONTAINS 121.20 ACRES OF LAND, MORE OR LESS.

DEVELOPER'S/OWNER'S SIGNATURE BLOCK

. THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

OWNER SIGNATURE

DATE

ENGINEER'S SIGNATURE BLOCK

AGLE AGLE COUNT) EROSIC 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 PLAN.

KEVIN KOFFORD, PE - KIMLEY-HORN AND ASSOCIATES. INC.

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 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

> PROJECT NO. SHEET

COUNTY ENGINEER/ECM ADMINISTRATOR

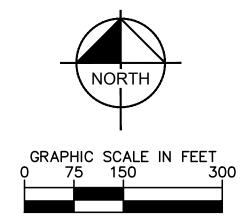
FOR REVIEW ONL' NOT FOR CONSTRUCTION Kimley»Horn Kimley-Horn and Associates, In-

PRELIMINARY

196106001

DATE

PCD FILE #: SF-22-42



<u>LEGEND</u>



TOTAL CUT: 24,320 CY + 6575 CY ROADWAY EXCAVATION + 130 CY CHECK STRUCTURES

TOTAL FILL: 39,620 CY
NET: 8595 CY (FILL)*

*RAW NET VALUE - NO FILL FACTOR APPLIED

HONG Springs, Colorado 80903 (719) 453-0180

EL PASO COUNTY, COLORADO SRADING AND EROSION CONTROL PLAN CIIT FIII MAP

FOR REVIEW ONLY
NOT FOR
CONSTRUCTION
Kimley»Horn

PROJECT NO. 196106001

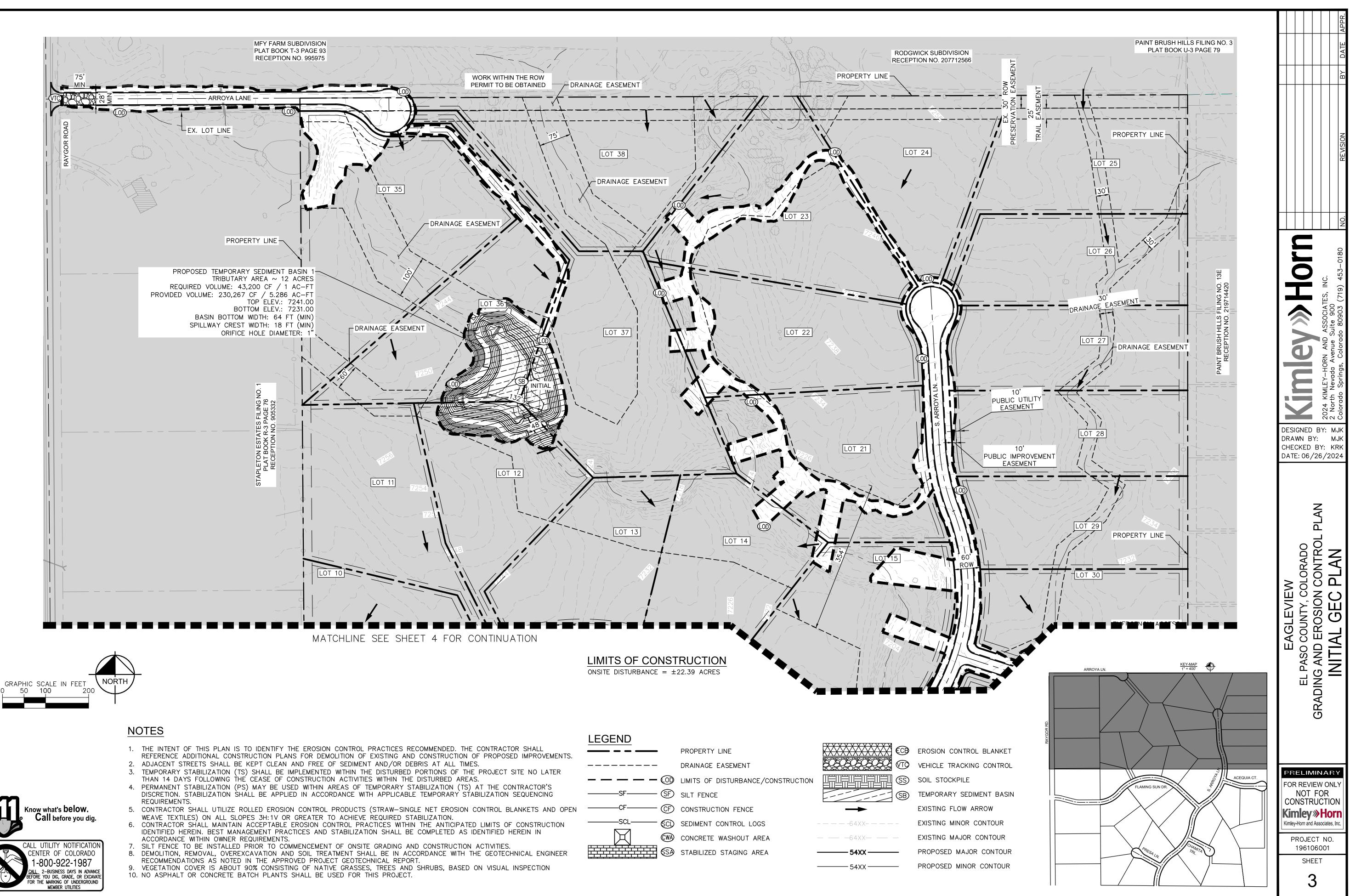
Kimley-Horn and Associates, In-

SHEET

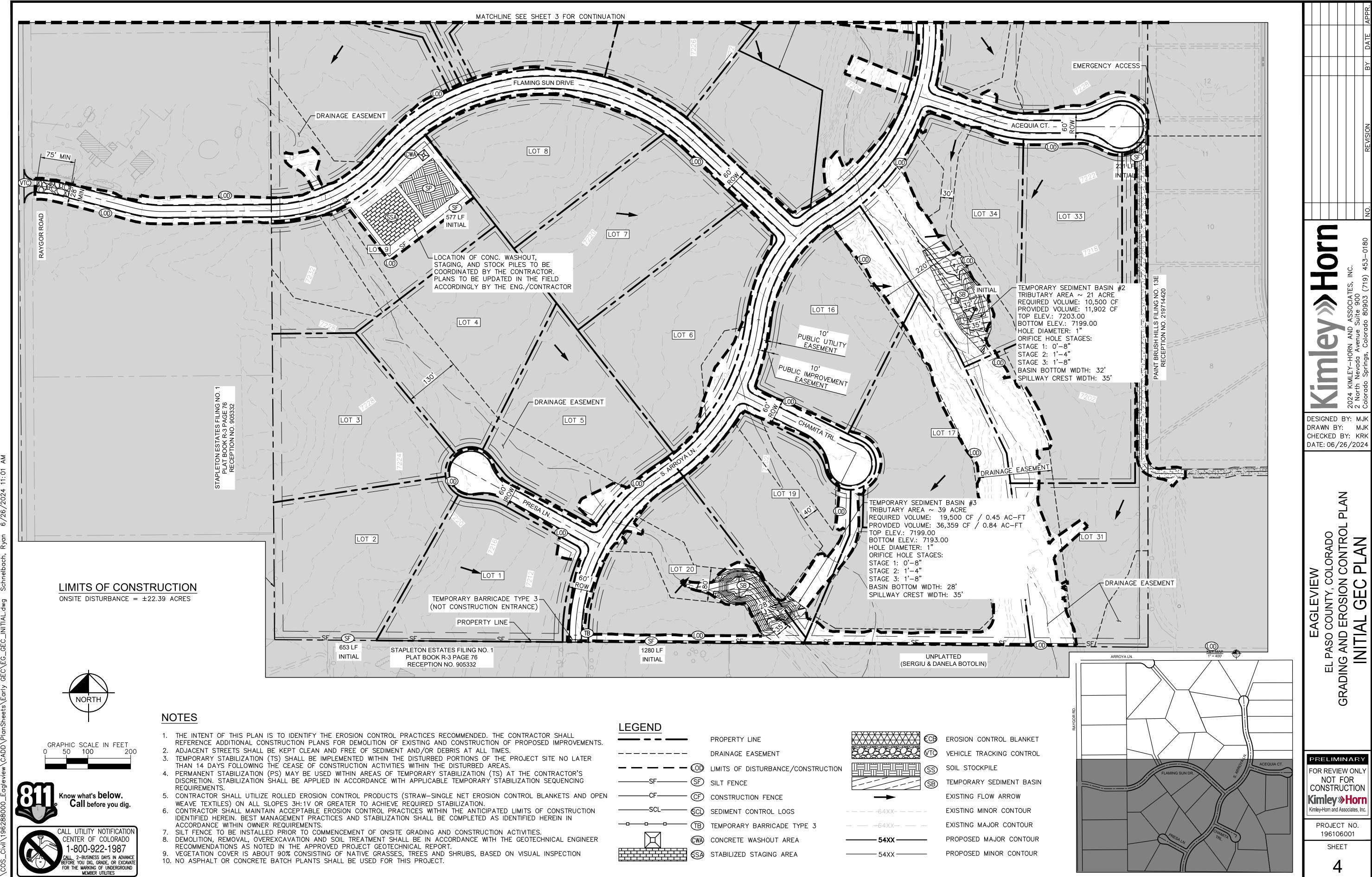
CALL UTILITY NOTIFICATION CENTER OF COLORADO

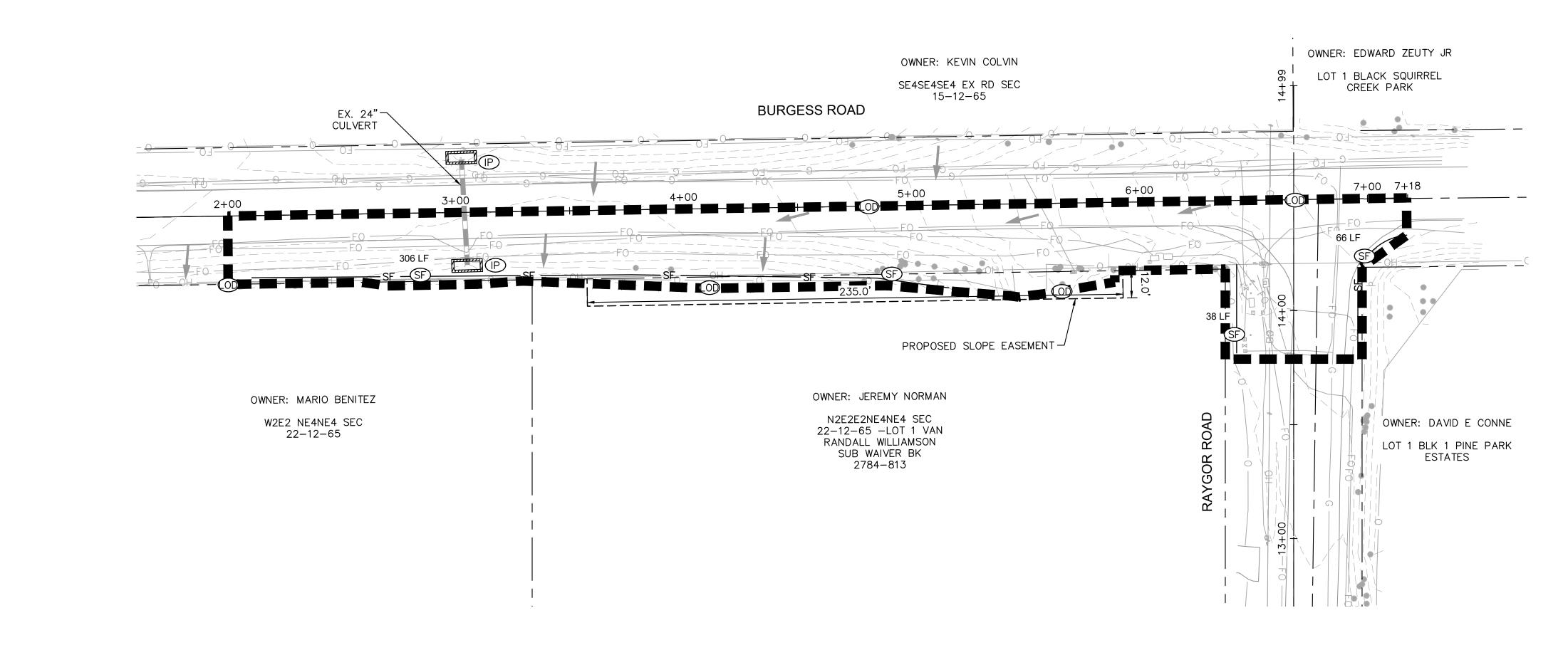
1-800-922-1987

CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES



VII \196288000_Eagleview \CADD \Plansheets \Early GEC\EG_GEC_INLITAL.awg





NOTES

- 1. THE INTENT OF THIS PLAN IS TO IDENTIFY THE EROSION CONTROL PRACTICES RECOMMENDED. THE CONTRACTOR SHALL REFERENCE ADDITIONAL CONSTRUCTION PLANS FOR DEMOLITION OF EXISTING AND CONSTRUCTION OF PROPOSED IMPROVEMENTS.
- 2. ADJACENT STREETS SHALL BE KEPT CLEAN AND FREE OF SEDIMENT AND/OR DEBRIS AT ALL TIMES.
- 3. TEMPORARY STABILIZATION (TS) SHALL BE IMPLEMENTED WITHIN THE DISTURBED PORTIONS OF THE PROJECT SITE NO LATER THAN 14 DAYS FOLLOWING THE CEASE OF CONSTRUCTION ACTIVITIES WITHIN THE DISTURBED AREAS.
- 4. PERMANENT STABILIZATION (PS) MAY BE USED WITHIN AREAS OF TEMPORARY STABILIZATION (TS) AT THE CONTRACTOR'S DISCRETION. STABILIZATION SHALL BE APPLIED IN ACCORDANCE WITH APPLICABLE TEMPORARY STABILIZATION SEQUENCING REQUIREMENTS.
- 5. CONTRACTOR SHALL UTILIZE ROLLED EROSION CONTROL PRODUCTS (STRAW—SINGLE NET EROSION CONTROL BLANKETS AND OPEN WEAVE TEXTILES) ON ALL SLOPES 3H:1V OR GREATER TO ACHIEVE REQUIRED STABILIZATION.
- 6. CONTRACTOR SHALL MAINTAIN ACCEPTABLE EROSION CONTROL PRACTICES WITHIN THE ANTICIPATED LIMITS OF CONSTRUCTION IDENTIFIED HEREIN. BEST MANAGEMENT PRACTICES AND STABILIZATION SHALL BE COMPLETED AS IDENTIFIED HEREIN IN ACCORDANCE WITHIN OWNER REQUIREMENTS.
- 7. SILT FENCE TO BE INSTALLED PRIOR TO COMMENCEMENT OF ONSITE GRADING AND CONSTRUCTION ACTIVITIES.
- 8. ROCK CHECK DAMS (CD) MAY BE SUBSTITUTED FOR SEDIMENT CONTROL LOGS (SCL) OR STRAW WADDLES. CONTRACTOR TO DETERMINE LOCATION OF CD WITHIN THE ROADSIDE DITCH (SEE TABLE FOR MIN. SPACING REQUIREMENTS) IN COORDINATION WITH COUNTY INSPECTORS.
- 9. DEMOLITION, REMOVAL, OVEREXCAVATION AND SOIL
 TREATMENT SHALL BE IN ACCORDANCE WITH THE
 GEOTECHNICAL ENGINEER RECOMMENDATIONS AS NOTED IN
 THE APPROVED PROJECT GEOTECHNICAL REPORT.
- 10. VEGETATION COVER IS ABOUT 90% CONSISTING OF NATIVE GRASSES, TREES AND SHRUBS, BASED ON VISUAL INSPECTION 11. NO ASPHALT OR CONCRETE BATCH PLANTS SHALL BE USED

FOR THIS PROJECT.

PROPERTY LINE

PROPOSED EASEMENT

PROPOSED EASEMENT

LIMITS OF DISTURBANCE/CONSTRUCTION

SF SILT FENCE

CD CHECK DAMS (NOTE 8)

PCULVERT INLET/OUTLET PROTECTION

FLOW ARROW

EXISTING MINOR CONTOUR

EXISTING MAJOR CONTOUR

PROPOSED MAJOR CONTOUR

PROPOSED MINOR CONTOUR

LIMITS OF CONSTRUCTION

OFFSITE DISTURBANCE = ± 0.44 ACRES

SIZE OF SCL (STRAW WADDLE)

9 INCH
1.5 FEET
12 INCH
2 FEET
16 INCH
2 SPACING (PER VERTICAL FEET
0F FALL)
2 FEET
2.67 FEET





FOR REVIEW ONLY
NOT FOR
CONSTRUCTION
Kimley >>> Horn
Kimley+Horn and Associates, Inc.

722

DESIGNED BY: MJK
DRAWN BY: MJK

CHECKED BY: KRK

DATE: 06/26/2024

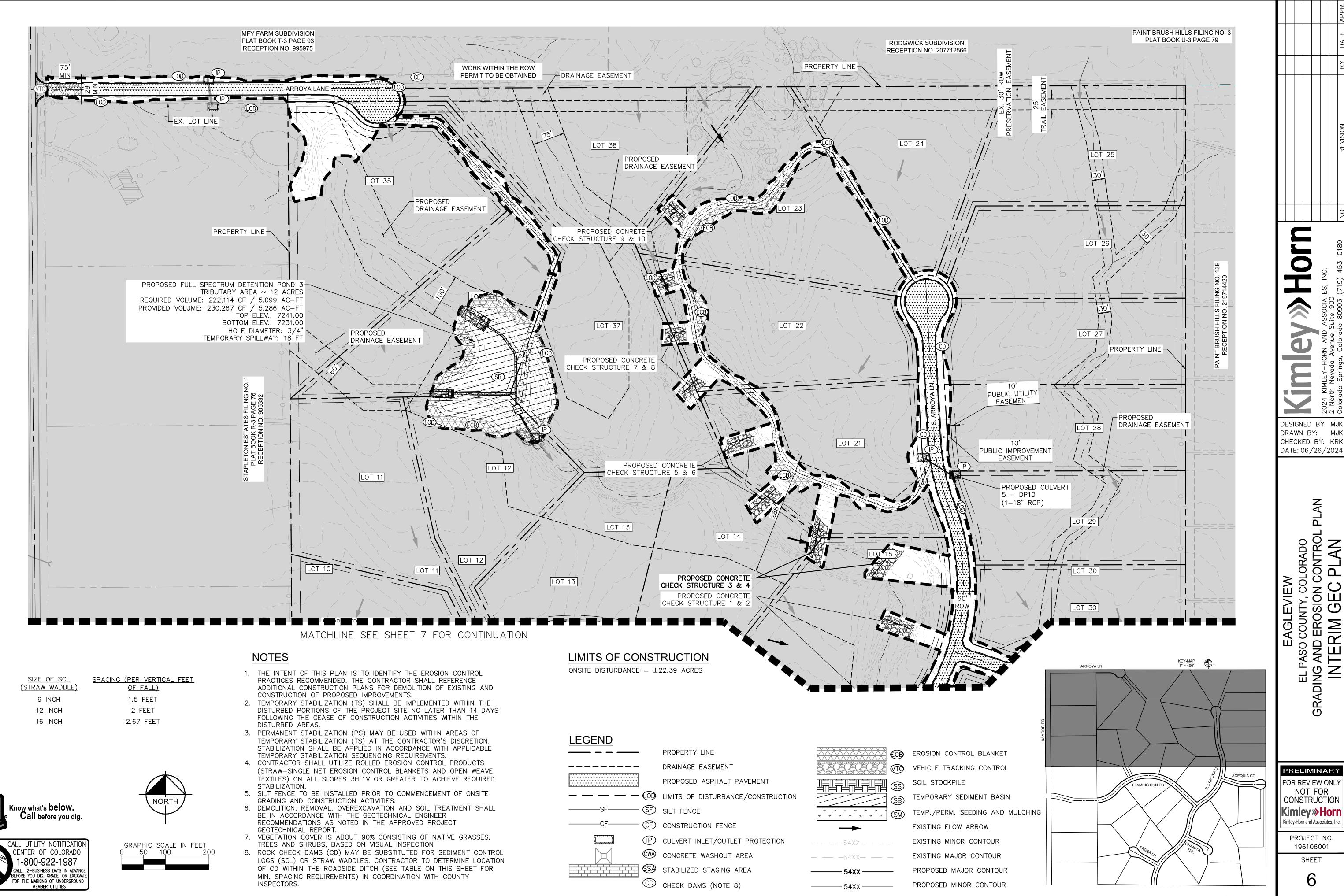
EAGLEVIEW
EL PASO COUNTY, COLORADO
GRADING AND EROSION CONTROL P
OFF-SITE INITIAL GEC PLA

PROJECT NO. 196106001

SHEET 5

GRAPHIC SCALE IN FEET
0 15 30 60

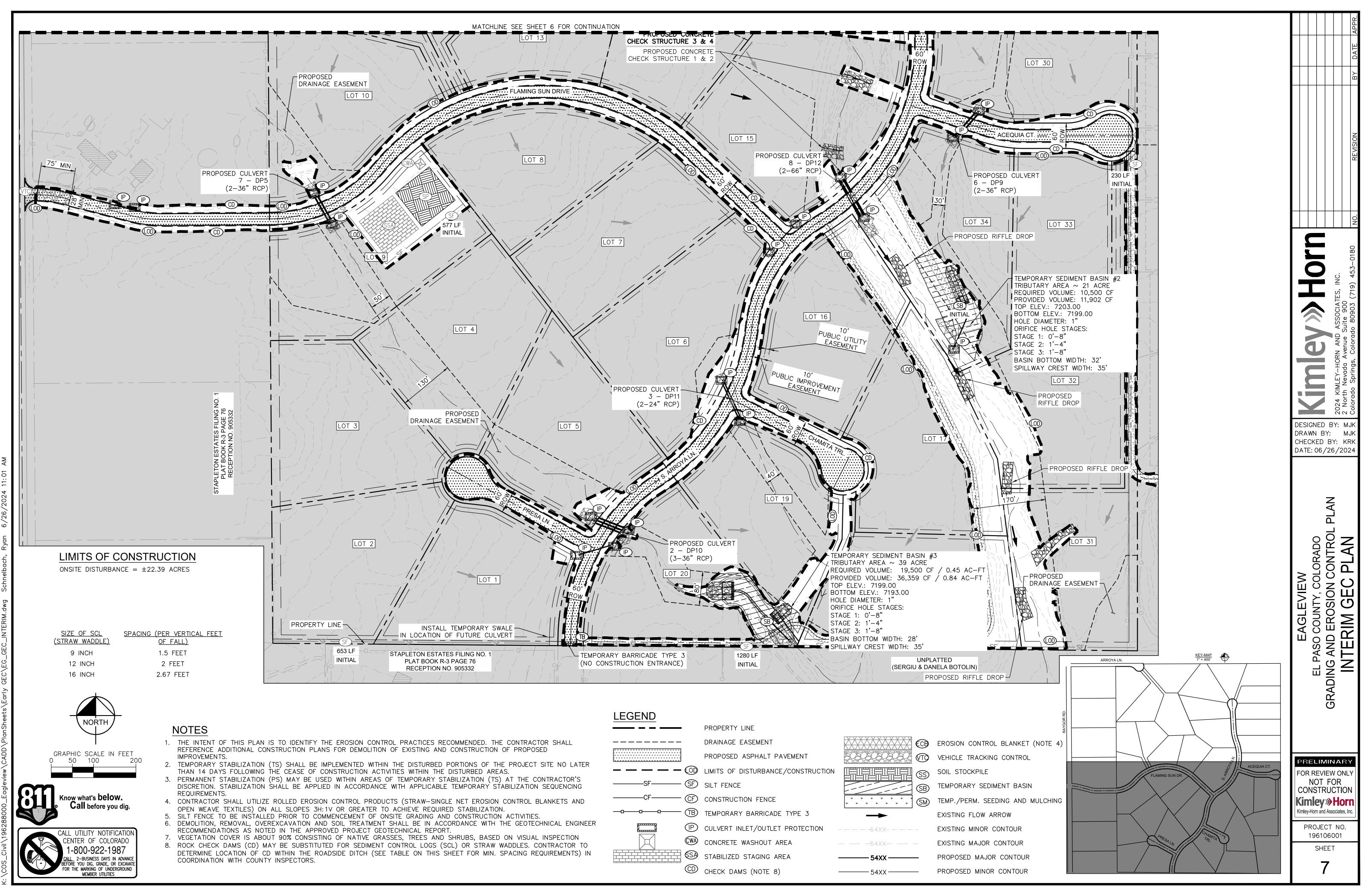
2784-813



Unresolved comment from Review 1:

Turn on proposed major contour labels on this sheet.

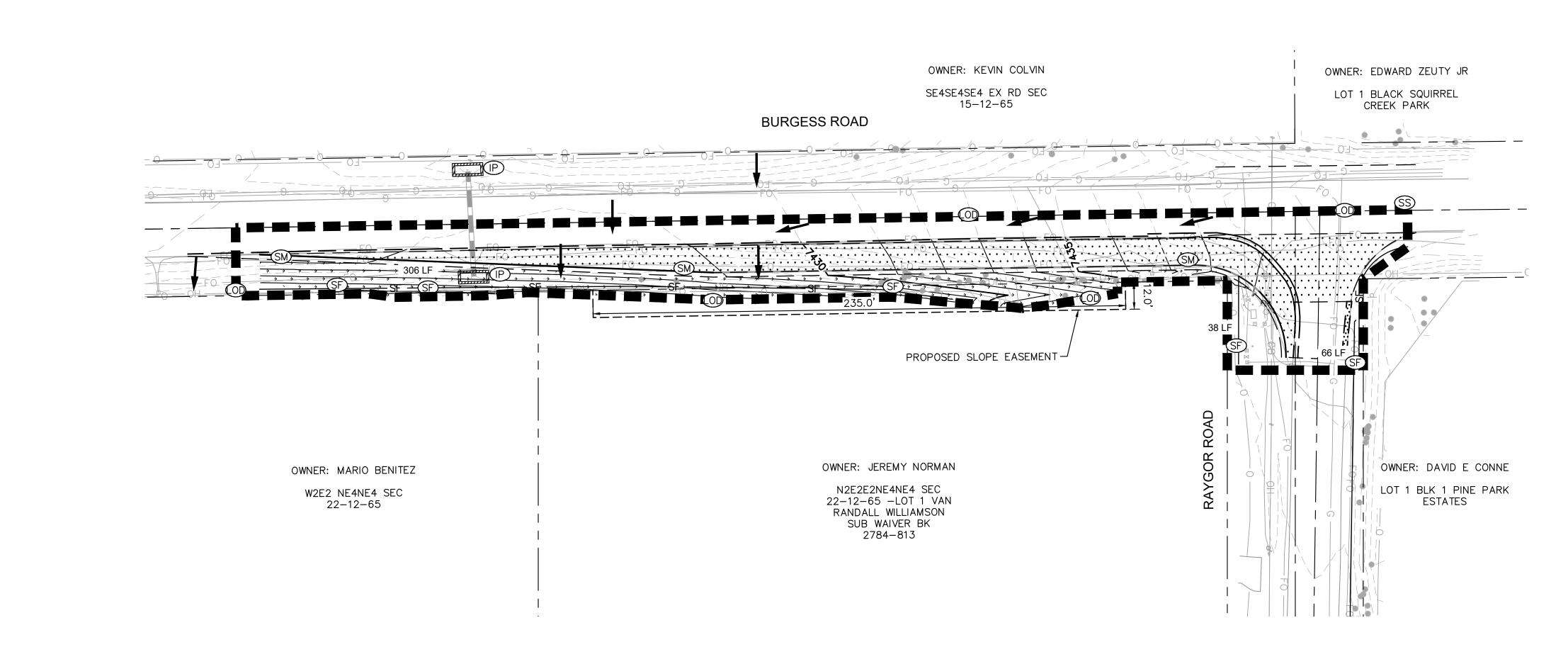
Review 3 update: with this submittal the proposed contours were frozen, please show all proposed grading.



Unresolved comment from Review 1:

Turn on proposed major contour labels on this sheet.

Review 3 update: and turn on the proposed grading contours.



NOTES

- 1. THE INTENT OF THIS PLAN IS TO IDENTIFY THE EROSION CONTROL PRACTICES RECOMMENDED. THE CONTRACTOR SHALL REFERENCE ADDITIONAL CONSTRUCTION PLANS FOR DEMOLITION OF EXISTING AND CONSTRUCTION OF PROPOSED IMPROVEMENTS.
- 2. TEMPORARY STABILIZATION (TS) SHALL BE IMPLEMENTED WITHIN THE DISTURBED PORTIONS OF THE PROJECT SITE NO LATER THAN 14 DAYS FOLLOWING THE CEASE OF
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- 3H:1V OR GREATER TO ACHIEVE REQUIRED STABILIZATION. 5. SILT FENCE TO BE INSTALLED PRIOR TO COMMENCEMENT OF ONSITE GRADING AND CONSTRUCTION ACTIVITIES.
- 6. DEMOLITION, REMOVAL, OVEREXCAVATION AND SOIL TREATMENT SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER RECOMMENDATIONS AS NOTED IN THE APPROVED PROJECT GEOTECHNICAL REPORT.
- 7. VEGETATION COVER IS ABOUT 90% CONSISTING OF NATIVE GRASSES, TREES AND SHRUBS, BASED ON VISUAL INSPECTION
- 8. ROCK CHECK DAMS (CD) MAY BE SUBSTITUTED FOR SEDIMENT CONTROL LOGS (SCL) OR STRAW WADDLES. CONTRACTOR TO DETERMINE LOCATION OF CD WITHIN THE ROADSIDE DITCH (SEE TABLE FOR MIN. SPACING REQUIREMENTS) IN COORDINATION WITH COUNTY INSPECTORS.

LEGEND

16 INCH

PROPERTY LINE _____ PROPOSED EASEMENT PROPOSED ASPHALT PAVEMENT - (OD) LIMITS OF DISTURBANCE/CONSTRUCTION SF SILT FENCE CD CHECK DAMS (NOTE 8)

P CULVERT INLET/OUTLET PROTECTION SS STREET SWEEPING TEMP./PERM. SEEDING AND MULCHING FLOW ARROW

EXISTING MINOR CONTOUR

2.67 FEET

EXISTING MAJOR CONTOUR PROPOSED MAJOR CONTOUR PROPOSED MINOR CONTOUR _____ 54XX _____

SIZE OF SCL SPACING (PER VERTICAL FEET (STRAW WADDLE) OF FALL) 9 INCH 1.5 FEET 12 INCH 2 FEET

LIMITS OF CONSTRUCTION

OFFSITE DISTURBANCE = ± 0.44 ACRES



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

NOT FOR CONSTRUCTION Kimley»Horn Kimley-Horn and Associates, Inc PROJECT NO. 196106001

SHEET

PRELIMINARY FOR REVIEW ONLY

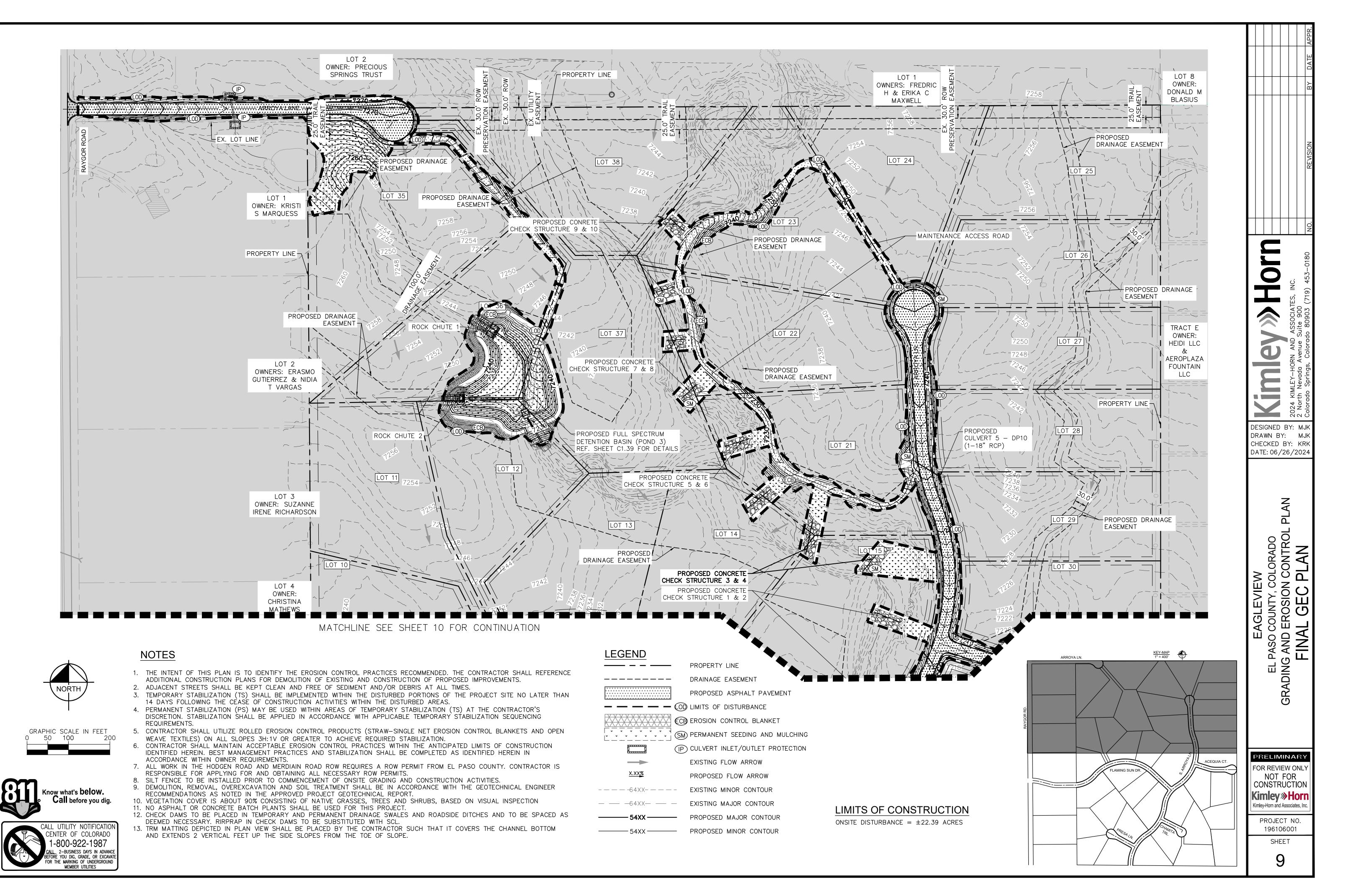
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DESIGNED BY: MJK

DRAWN BY: MJ CHECKED BY: KRK

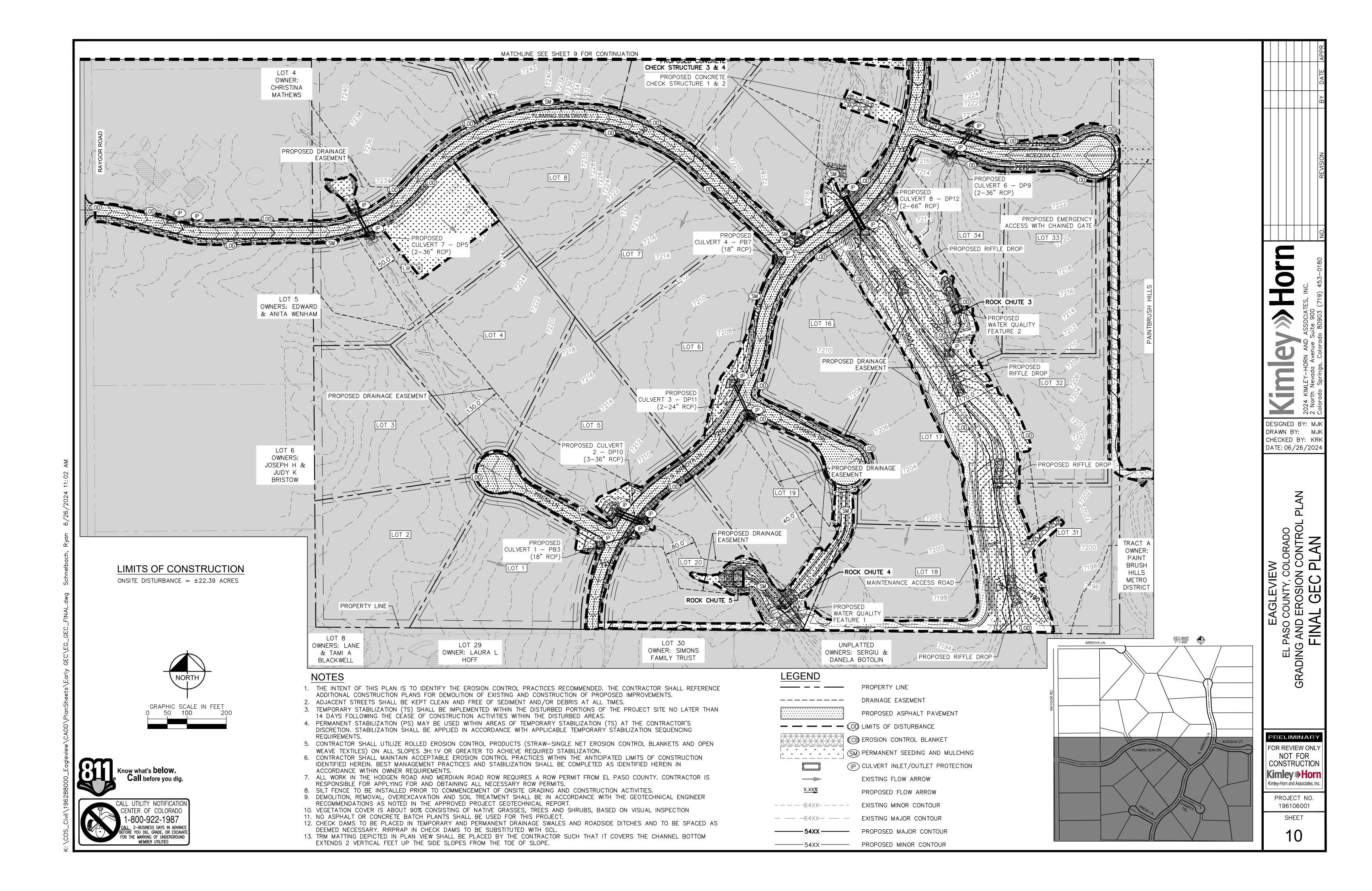
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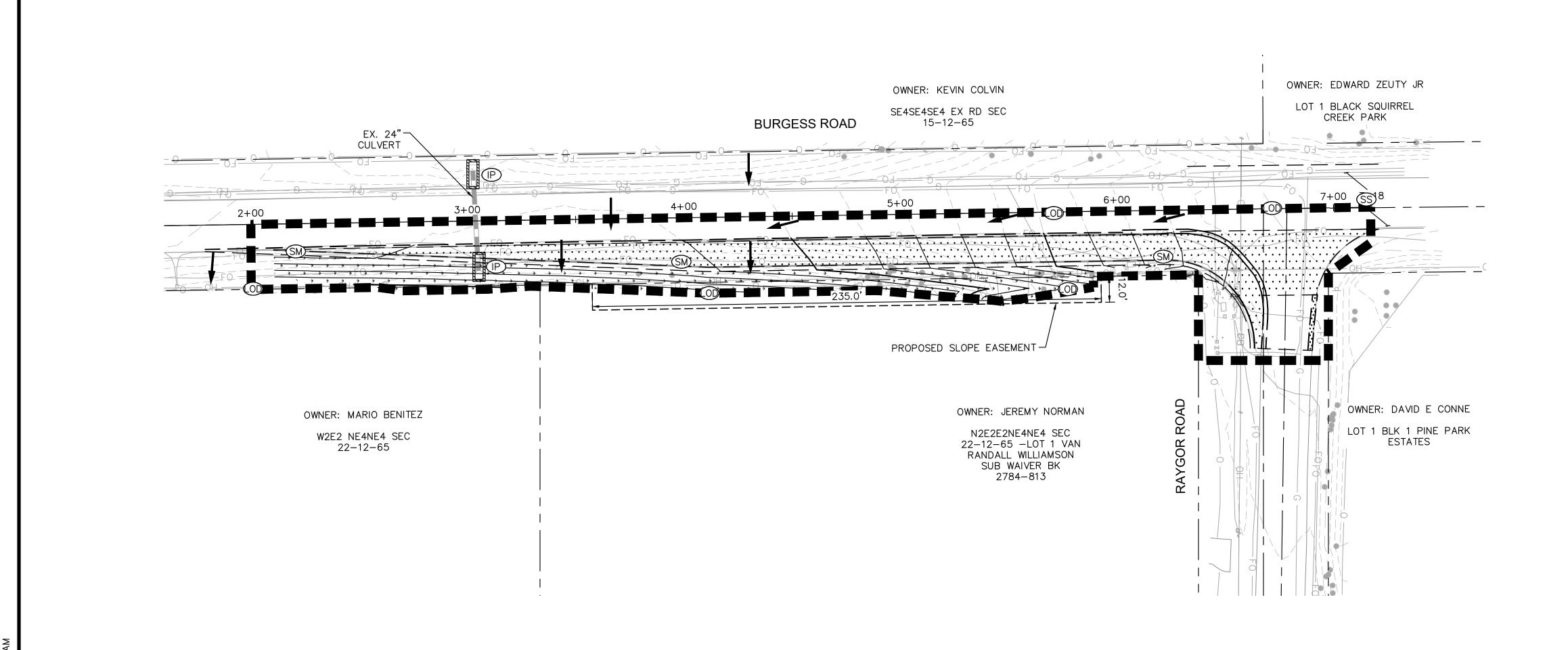
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NOTES

- 1. THE INTENT OF THIS PLAN IS TO IDENTIFY THE EROSION CONTROL PRACTICES RECOMMENDED. THE CONTRACTOR SHALL REFERENCE ADDITIONAL CONSTRUCTION PLANS FOR DEMOLITION OF EXISTING AND CONSTRUCTION OF PROPOSED IMPROVEMENTS.
- 2. ADJACENT STREETS SHALL BE KEPT CLEAN AND FREE OF SEDIMENT AND/OR DEBRIS AT ALL TIMES. 3. TEMPORARY STABILIZATION (TS) SHALL BE
- IMPLEMENTED WITHIN THE DISTURBED PORTIONS OF THE PROJECT SITE NO LATER THAN 14 DAYS FOLLOWING THE CEASE OF CONSTRUCTION ACTIVITIES WITHIN THE DISTURBED AREAS. 4. PERMANENT STABILIZATION (PS) MAY BE USED WITHIN
- AREAS OF TEMPORARY STABILIZATION (TS) AT THE CONTRACTOR'S DISCRETION. STABILIZATION SHALL BE APPLIED IN ACCORDANCE WITH APPLICABLE TEMPORARY STABILIZATION SEQUENCING REQUIREMENTS.
- 5. CONTRACTOR SHALL UTILIZE ROLLED EROSION CONTROL PRODUCTS (STRAW-SINGLE NET EROSION CONTROL BLANKETS AND OPEN WEAVE TEXTILES) ON ALL SLOPES 3H: 1V OR GREATER TO ACHIEVE REQUIRED STABILIZATION.
- 6. CONTRACTOR SHALL MAINTAIN ACCEPTABLE EROSION CONTROL PRACTICES WITHIN THE ANTICIPATED LIMITS OF CONSTRUCTION IDENTIFIED HEREIN. BEST MANAGEMENT PRACTICES AND STABILIZATION SHALL BE COMPLETED AS IDENTIFIED HEREIN IN ACCORDANCE WITHIN OWNER REQUIREMENTS.
- 7. ALL WORK IN THE HODGEN ROAD AND MERDIAIN ROAD ROW REQUIRES A ROW PERMIT FROM EL PASO COUNTY. CONTRACTOR IS RESPONSIBLE FOR APPLYING FOR AND OBTAINING ALL NECESSARY ROW PERMITS.
- 8. SILT FENCE TO BE INSTALLED PRIOR TO COMMENCEMENT OF ONSITE GRADING AND CONSTRUCTION ACTIVITIES.
- 9. DEMOLITION, REMOVAL, OVEREXCAVATION AND SOIL TREATMENT SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER RECOMMENDATIONS AS NOTED IN THE APPROVED PROJECT GEOTECHNICAL REPORT.
- 10. VEGETATION COVER IS ABOUT 90% CONSISTING OF NATIVE GRASSES, TREES AND SHRUBS, BASED ON VISUAL INSPECTION
- 11. NO ASPHALT OR CONCRETE BATCH PLANTS SHALL BE USED FOR THIS PROJECT.
- 12. CHECK DAMS TO BE PLACED IN TEMPORARY AND PERMANENT DRAINAGE SWALES AND ROADSIDE DITCHES AND TO BE SPACED AS DEEMED NECESSARY. RIRPRAP IN CHECK DAMS TO BE SUBSTITUTED WITH SCL.

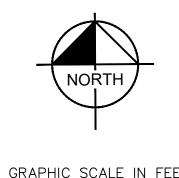
LEGEND

PROPERTY LINE PROPOSED EASEMENT _ _ _ _ _ OD LIMITS OF DISTURBANCE/CONSTRUCTION TEMP./PERM. SEEDING AND MULCHING P CULVERT INLET/OUTLET PROTECTION FLOW ARROW EXISTING MINOR CONTOUR EXISTING MAJOR CONTOUR PROPOSED MAJOR CONTOUR

PROPOSED MINOR CONTOUR

LIMITS OF CONSTRUCTION

OFFSITE DISTURBANCE = ± 0.44 ACRES





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

PROJECT NO. 196106001 SHEET

PRELIMINARY

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CONSTRUCTION

Kimley»Horn Kimley-Horn and Associates, Inc

DESIGNED BY: MJK

DRAWN BY: MJ CHECKED BY: KRK

DATE: 06/26/2024

EAGLEVIEW
EL PASO COUNTY, COLORADO
GRADING AND EROSION CONTROL P

Sporobolus airoides

Agropyron riparium 'Sodar'

Agropyron elongatum 'Jose'

Agropyron smithii 'Arriba'

Agropyron cristatum

Festuca ovina 'duriuscula Bromus inermis leyss

Agropyron riparium 'Sodar'

Agropyron smithii 'Arriba'

Alopecurus pratensis

Phalaris arundinacea

Bromus inermis leyss

Agropyron elongatum 'Alkar'

Poa compressa 'Ruebens'

Festuca ovina 'duriuscula

Bromus inermis leyss

'Lincoln'

Panicum virgatum

Agrostis alba

'Lincoln'

Common

Alakali Soil Seed Mix

Sodar streambank wheatgrass

Arriba western wheatgrass

Fertile Loamy Soil Seed Mix

Ephriam crested wheatgrass

Sodar streambank wheatgrass

High Water Table Soil Seed Mix

Arriba western wheatgrass

Alkali sacaton

Basin wildrye

Jose tall wheatgrass

Dural hard fescue

Meadow foxtail

Reed canarygrass

Lincoln smooth brome

Pathfinder switchgrass

Alkar tall wheatgrass

Dural hard fescue

TS/PS-4

Transition Turf Seed Mix^c

Ruebens Canadian bluegrass

Citation perennial ryegrass

Lincoln smooth brome

Redtop

Lincoln smooth brome

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

Temporary and Permanent Seeding (TS/PS)

All of the above seeding mixes and rates are based on drill seeding followed by crimped straw mulch. These rates should be 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

Urban Drainage and Flood Control District

Urban Storm Drainage Criteria Manual Volume 3

Cool

Cool

Sod

Sod

130,000

110,000

MM-2

hydraulic seeding is used, hydraulic mulching should be done as a separate operation. See Table TS/PS-3 for seeding dates.

Lincoln smooth brome

Arriba western wheatgrass

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

1 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.

Bromus inermis leyss

Agropyron smithii 'Arriba'

Temporary and Permanent Seeding (TS/PS)

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

Seeding Dates	(Numbers in	l Grasses table reference Table TS/PS-1)	Perennial Grasses	
	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

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

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 Urban Drainage and Flood Control District June 2012 Urban Storm Drainage Criteria Manual Volume 3

Stockpile Management (SM) MM-2

MATERIALS STAGING IN ROADWAY 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. INSPECT PVC PIPE ALONG CURB LINE FOR CLOGGING AND DEBRIS. REMOVE OBSTRUCTIONS

5. CLEAN MATERIAL FROM PAVED SURFACES BY SWEEPING OR VACUUMING. 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. (DETAILS ADAPTED FROM AURORA, COLORADO)

of vegetation. Anchor mulch by crimping, netting or use of a non-toxic tackifier. See the Mulching BMP Fact Sheet for additional guidance.

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.

also be necessary.

DESIGNED BY: MJ DRAWN BY: MJ

CHECKED BY: KR DATE: 06/26/202

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SION (SETA)

RELIMINARY FOR REVIEW ONL' NOT FOR CONSTRUCTION

PROJECT NO. 196106001

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 ^a (Common name)	Growth Season ^b	Pounds of Pure Live Seed (PLS)/acre ^c	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	

Successful seeding of annual grass resulting 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.

June 2012

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

Stockpile Management (SP)

MM-2

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

June 2012

Seeds/ Pound

165,000

170,000

79,000

110,000

175,000

565.000

130,000

170,000

110,000

900,000

68,000

130,000

389,000

79,000

565,000

247,000

130,000

5,000,000

PLS/acre

2.5

7.0

5.5

17.75

3.0

7.0

15.5

0.25

3.0

1.0

5.5

10.75

1.0

Form

Bunch

Sod

Bunch

Sod

Bunch

Sod

Sod

Open sod

Sod

Sod

Sod

Bunch

Bunch

Sod

Cool

Cool

Cool

Cool

Cool

Cool

Cool

Warm

Cool

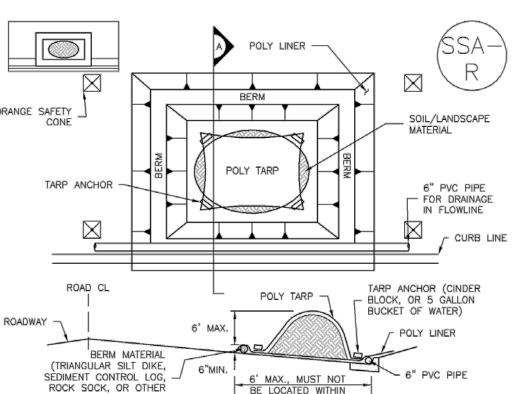
Warm

Cool

Cool

Cool

Stockpile Management (SP)



-LOCATION OF MATERIAL STAGING AREA(S).

3. MATERIALS MUST BE STATIONED ON THE POLY LINER. ANY INCIDENTAL MATERIALS DEPOSITED ON PAVED SECTION OR ALONG CURB LINE MUST BE CLEANED UP PROMPTLY. 4. POLY LINER AND TARP COVER SHOULD BE OF SIGNIFICANT THICKNESS TO PREVENT

ROADWAY A DRIVE LANE

SP-2. MATERIALS STAGING IN ROADWAY

MATERIALS STAGING IN ROADWAYS INSTALLATION NOTES

-CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION. 2. FEATURE MUST BE INSTALLED PRIOR TO EXCAVATION, EARTHWORK OR DELIVERY OF MATERIALS.

DAMAGE OR LOSS OF INTEGRITY. 5. SAND BAGS MAY BE SUBSTITUTED TO ANCHOR THE COVER TARP OR PROVIDE BERMING UNDER THE BASE LINER.

6. FEATURE IS NOT INTENDED FOR USE WITH WET MATERIAL THAT WILL BE DRAINING AND/OR SPREADING OUT ON THE POLY LINER OR FOR DEMOLITION MATERIALS. 7. THIS FEATURE CAN BE USED FOR:

-WHEN OTHER STAGING LOCATIONS AND OPTIONS ARE LIMITED. -OTHER LIMITED APPLICATION AND SHORT DURATION STAGING.

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Kimley » Horr Kimley-Horn and Associates, In-

STOCKPILE SILT FENCE (SEE SF DETAIL FOR INSTALLATION REQUIREMENTS) STOCKPILE PROTECTION PLAN SILT FENCE (SEE SF DETAIL FOR INSTALLATION REQUIREMENTS) SECTION A SP-1. STOCKPILE PROTECTION STOCKPILE PROTECTION INSTALLATION NOTES 1. SEE PLAN VIEW FOR: -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, STÓCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED. Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

Stockpile Management (SM) MM-2

> 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

DISCOVERY OF THE FAILURE.

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)

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m \underline{NOTE}}:$ MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN

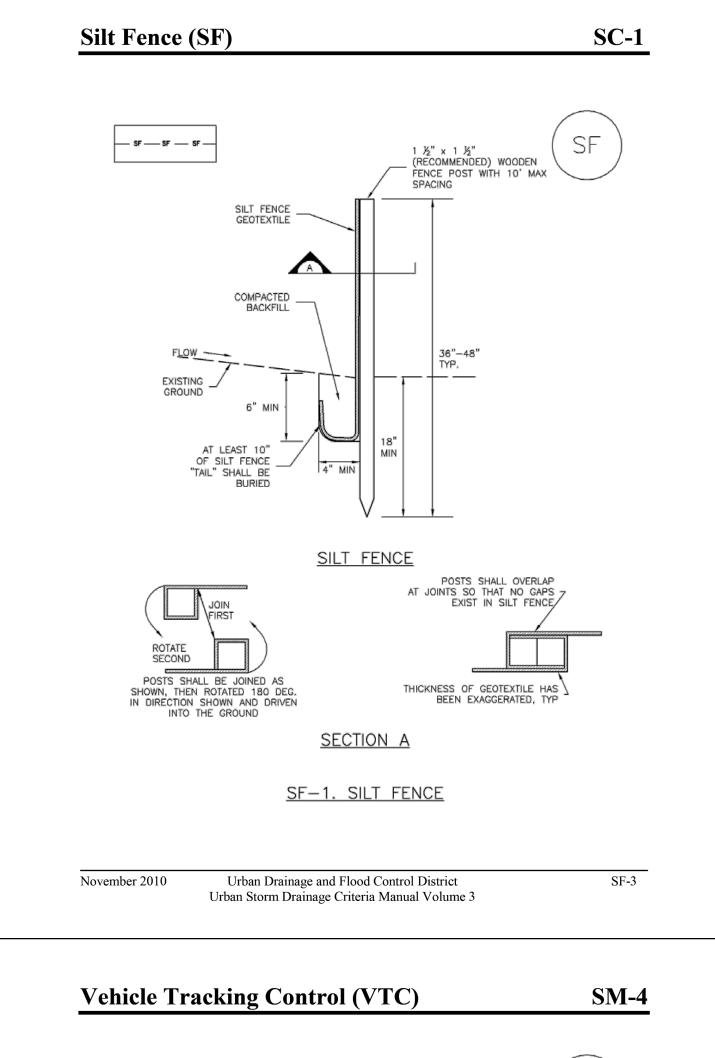
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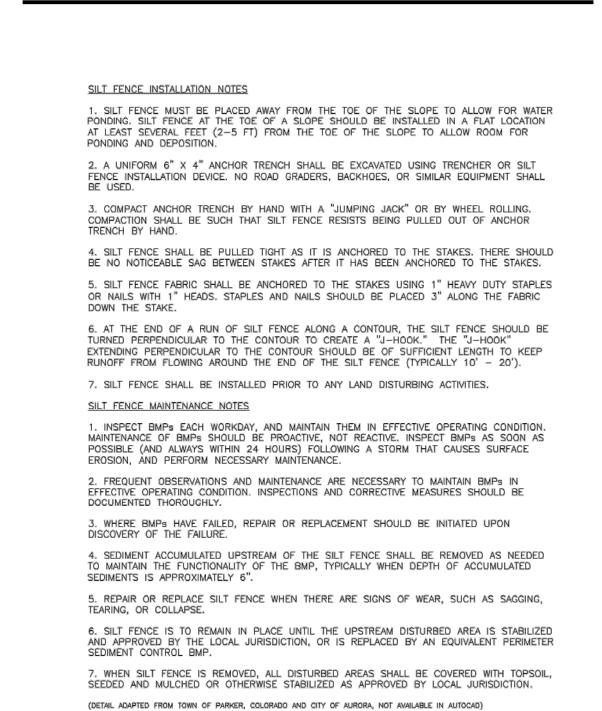
Urban Drainage and Flood Control District

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SP-5

SHEET





 $\underline{\text{NOTE:}}$ MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN

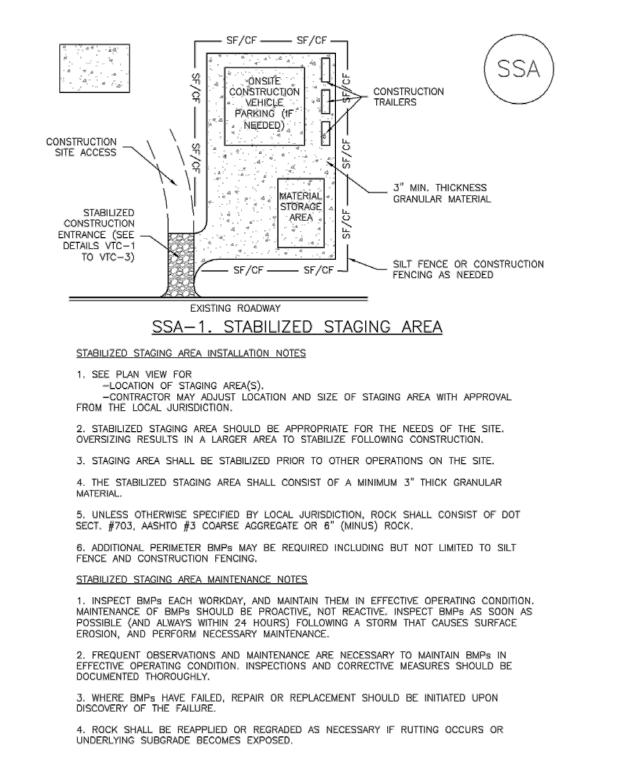
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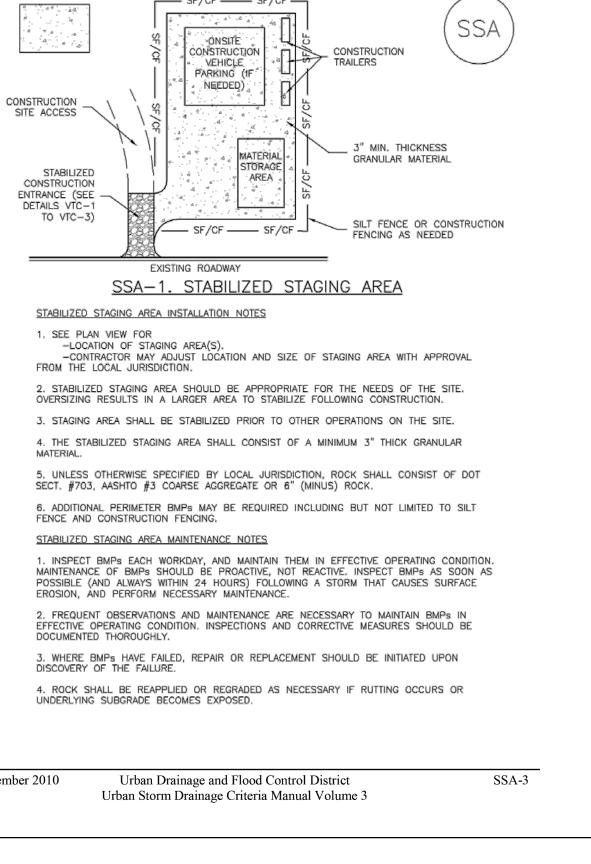
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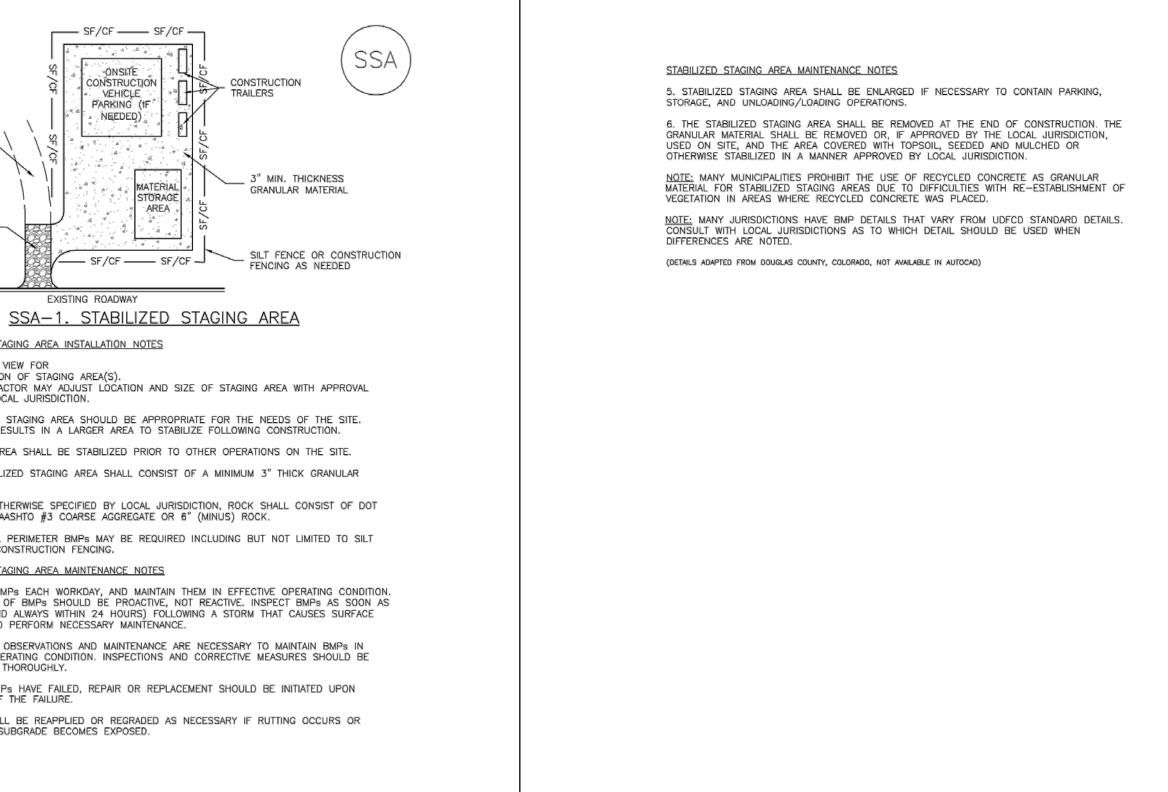
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SC-1



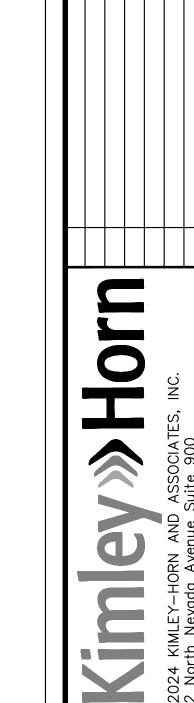
Stabilized Staging Area (SSA)





SM-6

SM-6



Stabilized Staging Area (SSA)

Urban Drainage and Flood Control District

Urban Storm Drainage Criteria Manual Volume 3

DESIGNED BY: MJH DRAWN BY: MJ CHECKED BY: KRK DATE: 06/26/202

November 2010

November 2010

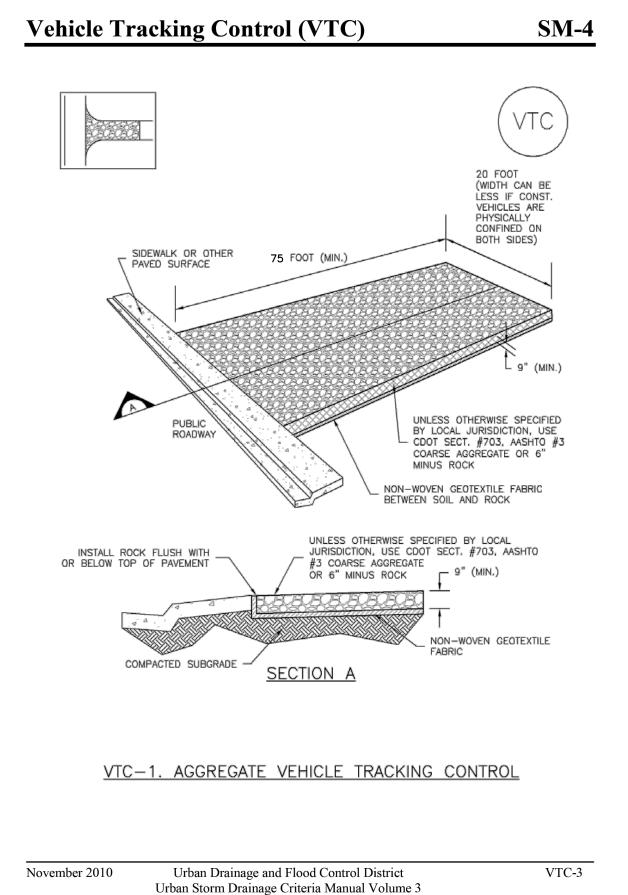
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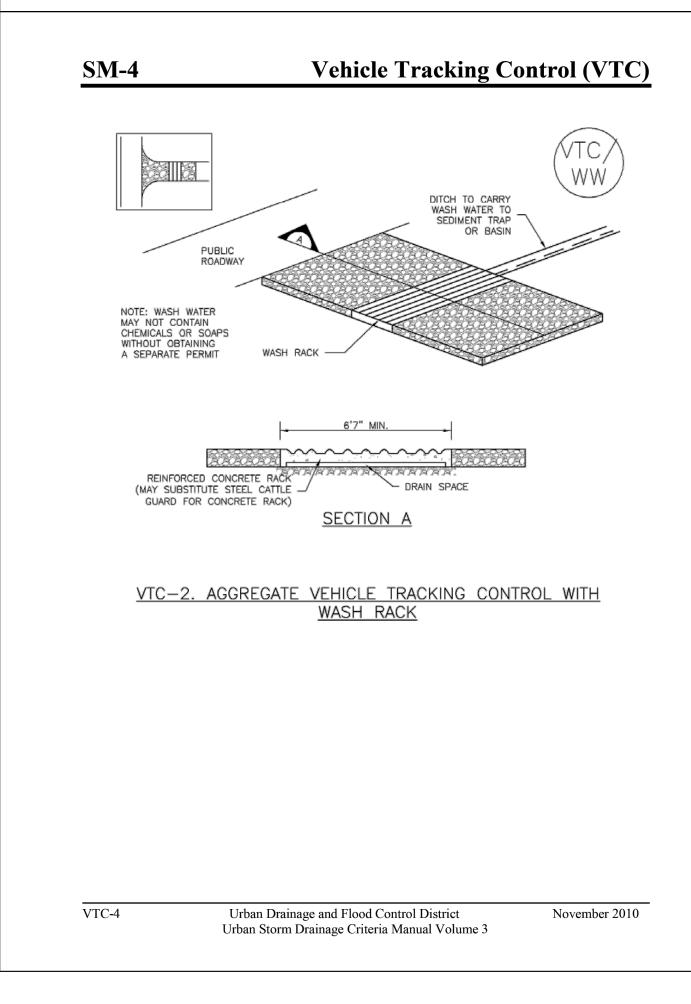
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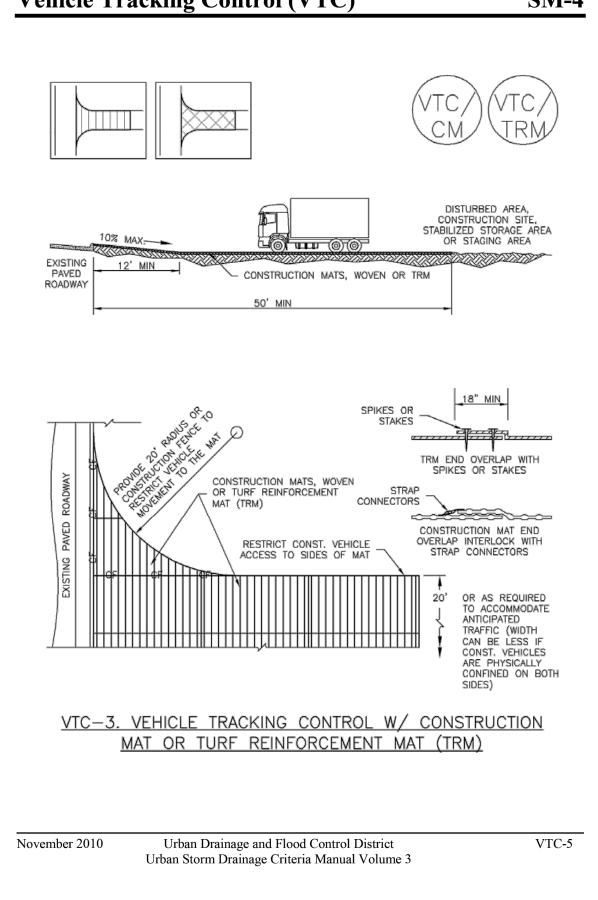
CONSTRUCTION Kimley » Horr

PROJECT NO. 196106001

SHEET







Vehicle Tracking Control (VTC) Vehicle Tracking Control (VTC) SM-4 SM-4 STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES 1. SEE PLAN VIEW FOR -LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S). -TYPE OF CONSTRUCTION ENTRANCE(S)/EXITS(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM). 2. CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS. 3. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS. 4. STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES. 5. A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK 6. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK. STABILIZED CONSTRUCTION ENTRANCE/EXIT 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. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH. 5. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVELING OR SWEEPING, SEDIMENT MAY NOT BE WASHED DOWN STORM SEWER DRAINS. 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. (DETAILS ADAPTED FROM CITY OF BROOMFIELD, COLORADO, NOT AVAILABLE IN AUTOCAD) VTC-6 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

Illustration SB-1. Outlet structure for a temporary sediment basin - Faircloth Skimmer Floating Outlet. Illustration courtesy of J. W. Faircloth & Sons, Inc., FairclothSkimmer.com.

- Outlet Protection and Spillway: Consider all flow paths for runoff leaving the basin, including protection at the typical point of discharge as well as overtopping.
- Outlet Protection: Outlet protection should be provided where the velocity of flow will exceed the maximum permissible velocity of the material of the waterway into which discharge occurs. This may require the use of a riprap apron at the outlet location and/or other measures to keep the
- o Emergency Spillway: Provide a stabilized emergency overflow spillway for rainstorms that exceed the capacity of the sediment basin volume and its outlet. Protect basin embankments from erosion and overtopping. If the sediment basin will be converted to a permanent detention basin, design and construct the emergency spillway(s) as required for the permanent facility. If the sediment basin will not become a permanent detention basin, it may be possible to substitute a heavy polyvinyl membrane or properly bedded rock cover to line the spillway and downstream embankment, depending on the height, slope, and width of the embankments.

TABLE SB-1, SIZING INFORMATION FOR STANDARD SEDIMENT BASIN

47 *¼*

-TYPE OF BASIN (STANDARD BASIN OR NONSTANDARD BASIN).

-FOR STANDARD BASIN, BOTTOM WIDTH W, CREST LENGTH CL, AND HOLE

(W), (ft) Length (CL), (ft)

August 2013 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

Area (rounded to

nearest acre), (ac)

SEDIMENT BASIN INSTALLATION NOTES

-LOCATION OF SEDIMENT BASIN.

1. SEE PLAN VIEW FOR:

Maintenance and Removal

Maintenance activities include the following:

SC-7

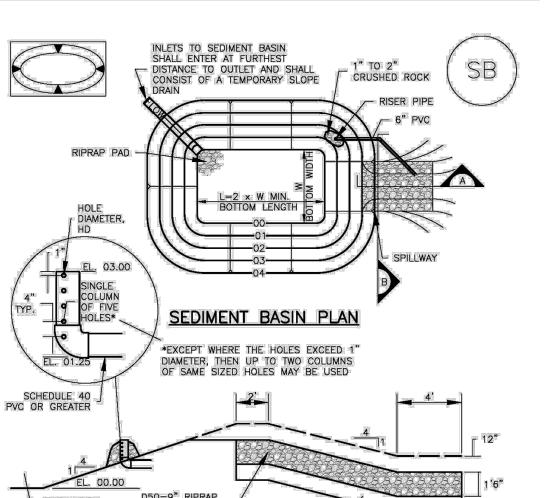
• Dredge sediment from the basin, as needed to maintain BMP effectiveness, typically when the design storage volume is no more than one-third filled with sediment.

Sediment Basin (SB)

- Inspect the sediment basin embankments for stability and seepage.
- Inspect the inlet and outlet of the basin, repair damage, and remove debris. Remove, clean and replace the gravel around the outlet on a regular basis to remove the accumulated sediment within it and keep the outlet functioning.
- Be aware that removal of a sediment basin may require dewatering and associated permit
- Do not remove a sediment basin until the upstream area has been stabilized with vegetation.

Final disposition of the sediment basin depends on whether the basin will be converted to a permanent post-construction stormwater basin or whether the basin area will be returned to grade. For basins being converted to permanent detention basins, remove accumulated sediment and reconfigure the basin and outlet to meet the requirements of the final design for the detention facility. If the sediment basin is not to be used as a permanent detention facility, fill the excavated area with soil and stabilize with vegetation.

SB-4 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 **Sediment Basin (SB)**



SC-7

August 2013 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

LIMIT OF BERM EXCAVATED AND - CONTAINMENT-TRUCK ACCESS PLAN VIEW (% OF VOLUME AREA) SECTION A-A NOTES:

1. SIGN MATERIAL, EXCAVATION, AND RESTORATION ARE INCLUDED IN THE COST OF THE CONCRETE WASHOUT STRUCTURE.

2. EROSION BALES MAY BE USED AS AN ALTERNATIVE FOR THE BERM. 1/1/08 Concrete Washout Structure Standard Drawing John A. McCarty DEPARTMENT OF TRANSPORTATION 7/17/07 SD_3-84

Sediment Basin (SB)

Sediment Basin (SB)

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

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. SEDIMENT ACCUMULATED IN BASIN SHALL BE REMOVED AS NEEDED TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN SEDIMENT DEPTH REACHES ONE FOOT (I.E., TWO FEET BELOW THE SPILLWAY CREST).

5. SEDIMENT BASINS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS ACCEPTED BY THE LOCAL JURISDICTION. 6. WHEN SEDIMENT BASINS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO)

SEDIMENT BASIN MAINTENANCE NOTES

POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

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

CONCRETE WASHOUT 3 X 8 MIN. CONTROL (SEE VTC DETAIL) OR OTHER STABLE SURFACE COMPACTED BERM AROUND THE PERIMETER

VEHICLE TRACKING

CONTROL (SEE VTC -

DETAIL)

CWA-1. CONCRETE WASHOUT AREA CWA INSTALLATION NOTES

8 X 8 MIN.

1. SEE PLAN VIEW FOR:

UNDISTURBED OR 1

Concrete Washout Area (CWA)

2. DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY, DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE ARE SHOULD BE USED.

3. THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE. 4. CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' SLOPES

- LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT
- 5. BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.
- 6. VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA. 7. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND
- ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
- 8. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

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MM-1

Concrete Washout Area (CWA)

CWA 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. THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE, CONCRETE MATERIALS, ACCUMULATED IN PIT, SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2'

5. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER-TIGHT CONTAINER AND DISPOSED OF PROPERLY.

6. THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED. 7. WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION. (DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF 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.

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PROJECT NO.

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DESIGNED BY: MJ DRAWN BY: MJ CHECKED BY: KRI

DATE: 06/26/202

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-FOR NONSTANDARD BASIN, SEE CONSTRUCTION DRAWINGS FOR DESIGN OF BASIN INCLUDING RISER HEIGHT H, NUMBER OF COLUMNS N, HOLE DIAMETER HD AND PIPE 2. FOR STANDARD BASIN, BOTTOM DIMENSION MAY BE MODIFIED AS LONG AS BOTTOM AREA IS NOT REDUCED. 3. SEDIMENT BASINS SHALL BE INSTALLED PRIOR TO ANY OTHER LAND-DISTURBING ACTIVITY THAT RELIES ON ON BASINS AS AS A STORMWATER CONTROL. 4. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL FREE OF DEBRIS, ORGANIC MATERIAL, AND ROCKS OR CONCRETE GREATER THAN 3 INCHES AND SHALL HAVE A MINIMUM OF 15 PERCENT BY WEIGHT PASSING THE NO. 200 SIEVE. 5. EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D698. PIPE SCH 40 OR GREATER SHALL BE USED. 7. THE DETAILS SHOWN ON THESE SHEETS PERTAIN TO STANDARD SEDIMENT BASIN(S) FOR DRAINAGE AREAS LESS THAN 15 ACRES. SEE CONSTRUCTION DRAWINGS FOR EMBANKMENT, STORAGE VOLUME, SPILLWAY, OUTLET, AND OUTLET PROTECTION DETAILS FOR ANY SEDIMENT BASIN(S) THAT HAVE BEEN INDIVIDUALLY DESIGNED FOR DRAINAGE AREAS

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

August 2013

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

August 2013

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November 2010

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EC-6

Product Description	Slope Applications*		Channel Applications*	Minimum Tensile Strength ¹	Expected Longevity	
	Maximum Gradient	C Factor ^{2,5}	Max. Shear Stress ^{3,4,6}			
Mulch Control Nets	5:1 (H:V)	≤0.10 @ 5:1	0.25 lbs/ft ² (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 ² (24 Pa)	5 lbs/ft (0.073 kN/m)	Up to 12 months	
Single-net Erosion Control Blankets & Open Weave Textiles	3:1 (H:V)	≤0.15 @ 3:1	1.5 lbs/ft ² (72 Pa)	50 lbs/ft (0.73 kN/m)		
Double-net Erosion Control Blankets	2:1 (H:V)	≤0.20 @ 2:1	1.75 lbs/ft ² (84 Pa)	75 lbs/ft (1.09 kN/m)		
Mulch Control Nets	5:1 (H:V)	≤0.10 @ 5:1	0.25 lbs/ft ² (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 ² (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 ² (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 on the C Factor.)

¹ Minimum Average Roll Values, Machine direction using ECTC Mod. ASTM D 5035.

² 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.

³ 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. ⁴ 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. ⁵ Acceptable large-scale test methods may include ASTM D 6459, or other independent testing deemed acceptable by the engineer.

⁶ 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.

November 2010

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Rolled Erosion Control Products (RECP)

Table RECP-2. ECTC Standard Specification for Permanent¹ Rolled Erosion Control Products (Adapted from: Erosion Control Technology Council 2005)

Product Type	Slope Applications	Channel Applications	
TRMs with a minimum thickness of 0.25 inches (6.35 mm) per ASTM D 6525 and UV stability of 80% per ASTM D 4355 (500 hours exposure).	Maximum Gradient	Maximum Shear Stress ^{4,5}	Minimum Tensile Strength ^{2,3}
	0.5:1 (H:V)	6.0 lbs/ft² (288 Pa)	125 lbs/ft (1.82 kN/m)
	0.5:1 (H:V)	8.0 lbs/ft² (384 Pa)	150 lbs/ft (2.19 kN/m)
	0.5:1 (H:V)	10.0 lbs/ft² (480 Pa)	175 lbs/ft (2.55 kN/m)

¹ For TRMs containing degradable components, all property values must be obtained on the nondegradable portion of the matting alone.

² Minimum Average Roll Values, machine direction only for tensile strength determination using <u>ASTM</u>

D 6818 (Supersedes Mod. ASTM D 5035 for RECPs) ³ Field conditions with high loading and/or high survivability requirements may warrant the use of a TRM

with a tensile strength of 44 kN/m (3,000 lb/ft) or greater. ⁴ Required minimum shear stress TRM (fully vegetated) 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. ⁵ Acceptable large-scale testing protocols may include <u>ASTM D 6460</u>, or other independent testing deemed acceptable by the engineer.

Design and Installation

RECPs should be installed according to manufacturer's specifications and guidelines. Regardless of the type of product used, it is important to ensure no gaps or voids exist under the material and that all corners of the material are secured using stakes and trenching. Continuous contact between the product and the soil is necessary to avoid failure. Never use metal stakes to secure temporary erosion control products. Often wooden stakes are used to anchor RECPs; however, wood stakes may present installation and maintenance challenges and generally take a long time to biodegrade. Some local jurisdictions have had favorable experiences using biodegradable stakes.

This BMP Fact Sheet provides design details for several commonly used ECB applications, including:

ECB-1 Pipe Outlet to Drainageway

ECB-2 Small Ditch or Drainageway

ECB-3 Outside of Drainageway

RECP-4 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

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-TYPE OF ECB (STRAW, STRAW-COCONUT, COCONUT, OR EXCELSIOR): -AREA, A, IN SQUARE YARDS OF EACH TYPE OF ECB.

2. 100% NATURAL AND BIODEGRADABLE MATERIALS ARE PREFERRED FOR RECPS. ALTHOUGH SOME JURISDICTIONS MAY ALLOW OTHER MATERIALS IN SOME APPLICATIONS.

3. IN AREAS WHERE ECBs ARE SHOWN ON THE PLANS, THE PERMITTEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING AND MULCHING SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO ECB INSTALLATION AND THE ECB SHALL BE IN FULL CONTACT WITH SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE

4. PERIMETER ANCHOR TRENCH SHALL BE USED ALONG THE OUTSIDE PERIMETER OF ALL.

6. INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE-HALF ROLL LENGTH

7. OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER FOR ECBs

9. ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING ECBS

10. DETAILS ON DESIGN PLANS FOR MAJOR DRAINAGEWAY STABILIZATION WILL GOVERN IF

5. JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL ECBS EXCEPT STRAW WHICH MAY USE AN OVERLAPPING JOINT.

8. MATERIAL SPECIFICATIONS OF ECBs SHALL CONFORM TO TABLE ECB-1.

EROSION CONTROL BLANKET INSTALLATION NOTES

FOR COCONUT AND EXCELSION ECBs.

DIFFERENT FROM THOSE SHOWN HERE.

Rolled Erosion Control Products (RECP)

Staking patterns are also provided in the design details according to these factors:

- ECB type
- Slope or channel type

November 2010

For other types of RECPs including TRMs, these design details are intended to serve as general guidelines for design and installation; however, engineers should adhere to manufacturer's installation recommendations.

EC-6

EC-6

Maintenance and Removal

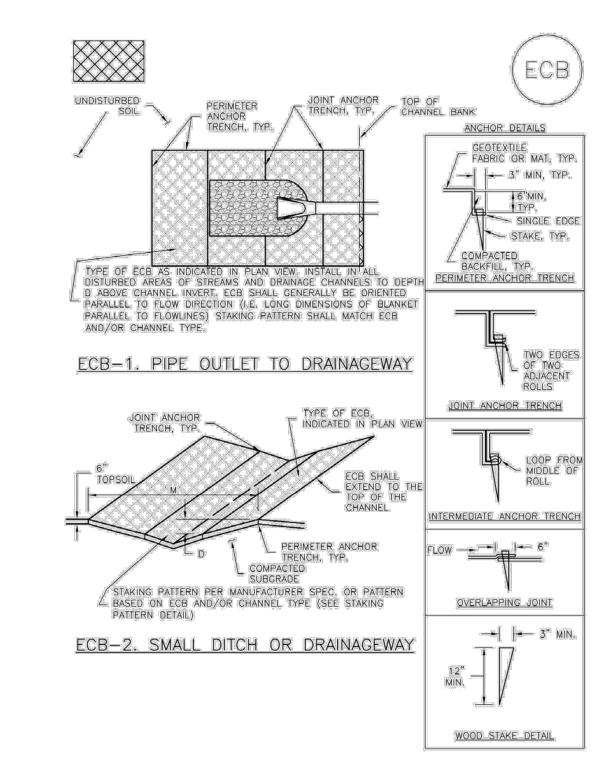
Inspection of erosion control blankets and other RECPs includes:

- Check for general signs of erosion, including voids beneath the mat. If voids are apparent, fill the void with suitable soil and replace the erosion control blanket, following the appropriate staking
- Check for damaged or loose stakes and secure loose portions of the blanket.

Erosion control blankets and other RECPs that are biodegradable typically do not need to be removed after construction. If they must be removed, then an alternate soil stabilization method should be installed promptly following removal.

Turf reinforcement mats, although generally resistant to biodegradation, are typically left in place as a dense vegetated cover grows in through the mat matrix. The turf reinforcement mat provides long-term stability and helps the established vegetation resist erosive forces.

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



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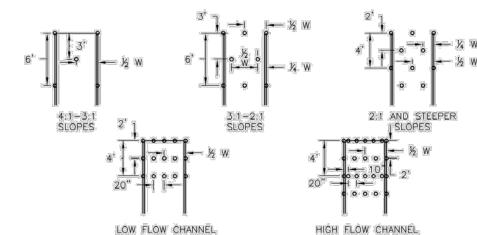
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Rolled Erosion Control Products (RECP) Rolled Erosion Control Products (RECP) EC-6 EC-6

STAGGER OVERLAPS OVERLAPPING JOINT TYPE (SEE STAKING PATTERN DETAIL) ECB-3. OUTSIDE OF DRAINAGEWAY

STAKING PATTERNS BY ECB TYPE

STRAW-COCONUT



STAKING PATTERNS BY SLOPE OR CHANNEL TYPE

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COCONUT OR EXCELSIOR

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RECP-8

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Rolled Erosion Control Products (RECP)

EROSION CONTROL BLANKET MAINTENANCE NOTES

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO AND TOWN OF PARKER COLORADO, NOT AVAILABLE IN AUTOCAD)

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

5. ANY ECB PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE REPAIRED OR REINSTALLED. ANY SUBGRADE AREAS BELOW THE GEOTEXTILE THAT HAVE ERODED TO CREATED A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEEDED AND MULCHED AND THE ECB REINSTALLED.

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

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

4. ECBs SHALL BE LEFT IN PLACE TO EVENTUALLY BIODEGRADE, UNLESS REQUESTED TO BE REMOVED BY THE LOCAL JURISDICTION.

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EAGLEVIEW
COUNTY, COLORADO
DEROSION CONTROL
EC DETAILS

DESIGNED BY: MJ DRAWN BY: MJ CHECKED BY: KRI

DATE: 06/26/202

PRELIMINARY FOR REVIEW ONL' NOT FOR CONSTRUCTION Kimley » Horr

PROJECT NO. 196106001

Kimley-Horn and Associates, In-

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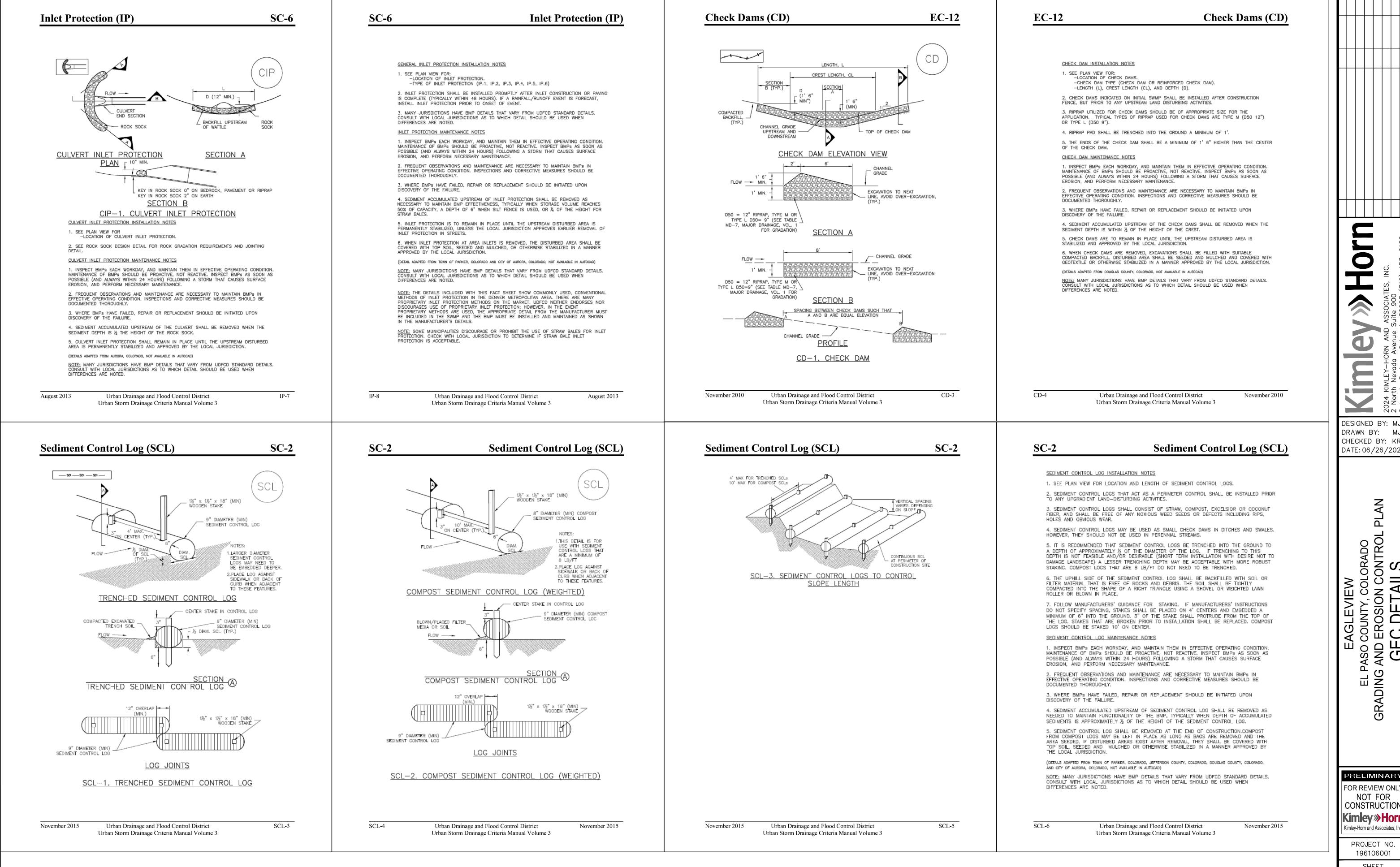
TABLE ECB-1. ECB MATERIAL SPECIFICATIONS CONTENT

DOUBLE/ NATURAL 100% STRAW* COCONUT 100%

NATURAL DOUBLE/ NATURAL 100% *STRAW ECBS MAY ONLY BE USED OUTSIDE OF STREAMS AND DRAINAGE CHANNEL. **ALTERNATE NETTING MAY BE ACCEPTABLE IN SOME JURISDICTIONS

November 2010

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DESIGNED BY: MJ DRAWN BY: MJ CHECKED BY: KRK DATE: 06/26/202

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PROJECT NO. 196106001

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V3_Grading & Erosion Control Plan comments.pdf Markup Summary

Glenn Reese - EPC Stormwater (2)



Subject: SW - Textbox

Page Label: [6] 6 INTERIM GEC PLAN Author: Glenn Reese - EPC Stormwater

Date: 7/17/2024 10:37:12 AM

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

Turn on proposed major contour labels on this sheet.

eet.

Review 3 update: with this submittal the proposed contours were frozen, please show all proposed

grading.



Subject: SW - Textbox

Page Label: [7] 7 INTERIM GEC PLAN Author: Glenn Reese - EPC Stormwater

Date: 7/17/2024 10:37:16 AM

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Review 3 update: and turn on the proposed grading contours.