2. STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE

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

CONSIDERED A PART OF THESE PLANS. REPORT NUMBER 23175117, DATED MAY 21, 2018.

- 25. A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND. 26. THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY TERRACON CONSULTANTS AND SHALL BE
- 27. AT LEAST TEN DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB 1 ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN (SWMP). OF WHICH THIS GRADING AND EROSION

CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT: COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

WATER QUALITY CONTROL DIVISION WQCD -PERMITS 4300 CHERRY CREEK DRIVE SOUTH

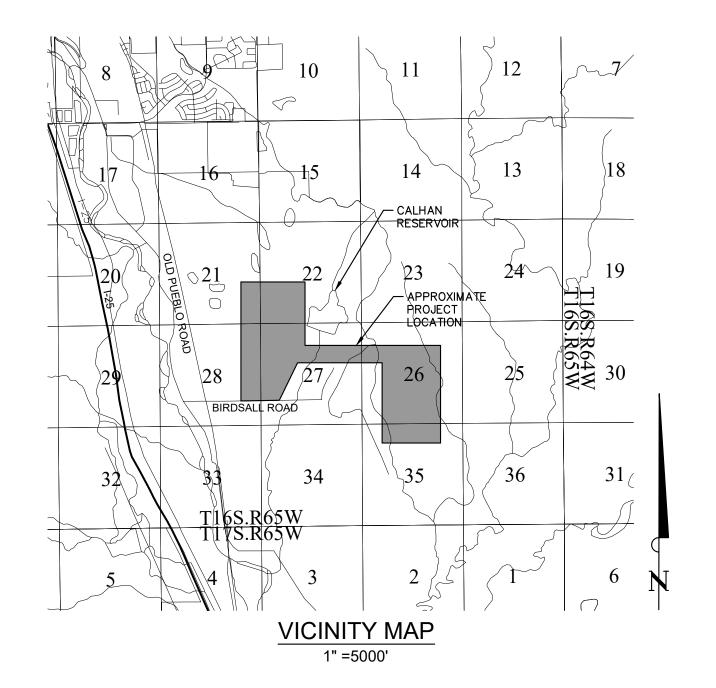
DENVER, CO 80246-1530 ATTN: PERMITS UNIT

Call before you dig.

PALMER SOLAR GEC PLAN

POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH SITUATED IN A PORTION OF THE SECTIONS 21, 22, 26, 27, 28, 35, DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF SITUATED IN A PORTION OF THE SECTIONS 21, 22, 26, 27, 28, 35, TOWNSHIP 16 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO FEBRUARY 22, 2019

2880 International Circle 80910



SHEET INDEX

Sheet Number	Sheet Title
200	GEC PLAN COVER SHEET
201	GRADING AND EROSION OVERALL PLAN
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203	GRADING AND EROSION CONTROL- SQUIRREL CREEK SITE
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222	GESC DETAILS
223	GESC DETAILS
224	GESC DETAILS
225	GESC DETAILS

CONTACTS:

KIMLEY-HORN AND ASSOCIATES, INC 2 NEVADA NORTH AVE., SUITE 300 COLORADO SPRINGS, CO 80903 PUEBLO WEST, CO 81007 TEL: (719) 453-0182 TEL: (719) 582-1270 CONTACT: ERIC GUNDERSON, P.E.

EL PASO COUNTY ENGINEERING: 3275 AKERS DR. COLORADO SPRINGS, CO 80922 PHONE: (719)\520\787X\\

CLARK LAND SURVEYING, INC. 177 S. TIFFANY DRIVE, UNIT 1 CONTACT: NATHANIEL MAESTAS, PLS

JSI CONSTRUCTION GROUP

CONTACT: DARNELL EVERETT

BOULDER, CO 80301

TEL: (720) 838-2285

1710 29th STREET, SUITE 1068

TERRACON CONSULTANTS, INC. 4172 CENTER PARK DRIVE COLORADO SPRINGS, CO 80916 TEL: (719) 597-2116 CONTACT: ROBERT HERNANDEZ. PE

LAND AREA

CONTACT: JEFF RICE

30,970,372 SQ. FT. OR 711 ACRES MORE OR LESS

BASIS OF BEARING:

BEARINGS AS USED HEREIN ARE BASED ON THE WEST LINE OF THE NORTHWEST QUARTER (NW/4) OF SECTION 27, TOWNSHIP 16 SOUTH, RANGE 65 WEST OF THE 6TH P.M., BEING MONUMENTED AT THE NORTH END BY A FOUND 2-1/2" ALUMINUM CAP STAMPED "PLS 22095", FLUSH WITH GRADE, AND AT THE SOUTH END BY A FOUND 2-1/2" ALUMINUM CAP STAMPED "PLS 22095, FLUSH WITH GRADE, AND MEASURED TO BEAR S00°50'46"E, A DISTANCE OF 2643.10 FEET.

BENCHMARK

SOUTHWEST CORNER OF SECTION 22, T16S, R65W, BEING MONUMENTED BY A 2-1/2" ALUMINUM CAP STAMPED "PLS 22095" ELEVATION: 5494.00 (NAVD 88)

LEGAL DESCRIPTION

SITUATION IN A PORTION SECTIONS 21, 22, 26, 27, 28, 35, TOWNSHIP 16 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO

SOIL TYPE:

THE SOIL ON SITE IS USGS HYDROLOGIC SOIL GROUPS C& D.

FLOOD ZONE DESIGNATION

FEDERAL EMERGENCY MANAGEMENT AGENCY, FLOOD INSURANCE RATE MAP, MAP NUMBERS 08041C0970G & 08041C1160G EFFECTIVE DATE DECEMBER 7, 2018 INDICATES THIS PARCEL OF LAND IS LOCATED IN ZONE X (OUT OF THE 500 YEAR FLOODPLAIN)

SITE INFORMATION:

ANTICIPATED STARTING AND COMPLETION TIME PERIOD OF SITE GRADING: START: SPRING 2019 END: FALL 2019

EXPECTED DATE ON WHICH THE FINAL STABILIZATION WILL BE COMPLETE:

TOTAL WSE-O AREA: 711 ACRES

TOTAL DISTURBED AREA: 559 ACRES TOTAL AREA OF PERMANENT INFRASTRUCTURE: 407 ACRES

RECEIVING WATERS: NAME OF RECEIVING WATERS: FOUNTAIN CREEK

DESCRIPTION OF EXISTING VEGETATION: THE EXISTING SITE IS CURRENTLY UNDEVELOPED AND GROUND COVER CONSISTS OF 100% WEEDS, BRUSH, GRASSES, AND TREES.

DESCRIPTION OF PERMANENT BMPS: NATURAL VEGETATION AND CHECK DAMS

OWNER'S SIGNATURE BLOCK

THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

ENGINEER'S SIGNATURE BLOCK

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

ERIC GUNDERSON. PE - KIMLEY-HORN AND ASSOCIATES. INC. DATE

EL PASO COUNTY REVIEW STATEMENT

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

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

PALMER SOLAR **GEC PLAN COVER**

EL PASO COUNTY, CO

© 2019 KIMLEY-HORN AND ASSOCIATES, INC. 2 N. NEVADA AVENUE, SUITE 300 COLORADO SPRINGS, CO 80903 (719) 453-0180



EJG KRK SCALE (H): SCALE (V): DATE: PROJECT NO.

FEBRUARY 22, 2019 096495003 DWG. NAME 096495003 FC CV

DESIGNED | DRAWN | CHECKED

EJG

SHEET NO.

ENTER OF COLORADO 2-BUSINESS DAYS IN ADVANC YOU DIG. GRADE. OR EXCAVA he marking of underground MFMRFR UTILITIES

CALL UTILITY NOTIFICATION

IMPLEMENTATION INFORMATION:

. PREPARE AND SUBMIT THE STATE OF COLORADO, COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT (CDPHE) NOTICE OF REASSIGNMENT. A COPY OF THE PERMIT SHALL BE PROVIDED TO THE OWNER UPON RECEIPT FROM THE CDPHE.

2. INSTALL SWMP INFORMATION SIGN (S) IN ACCORDANCE WITH APPLICABLE CITY, STATE, AND OWNER REQUIREMENTS.

3. ENSURE THAT GENERAL CONSTRUCTION BMPS WHICH ARE REQUIRED THROUGHOUT THE PROJECT AT LOCATIONS SHOWN ON THE GEC PLANS OR AS DICTATED BY CONSTRUCTION ACTIVITIES ARE OPERATIONAL.

4. INSTALL PERIMETER CONTROLS (CF) AND ENSURE THAT THE LIMITS OF CONSTRUCTION (LOC) ARE DEFINED AS NECESSARY OR KNOWN BY ALL PARTIES WHICH WILL BE RESPONSIBLE FOR CONSTRUCTION ON THE SITE.

5. INSTALL STABILIZED VEHICLE TRACKING CONTROL PAD (VTC) AS INDICATED ON THE

6. INSTALL SILT FENCE (SF) AND STRAW AS SHOWN ON THE GEC PLANS.

CONSTRUCT REQUIRED STABILIZED STAGING AREA (SSA).

8. CONSTRUCT AND STABILIZE SEDIMENT BASINS AND WITH APPROPRIATE OUTFALL STRUCTURES (CLEAR ONLY THOSE AREAS NECESSARY TO INSTALL BASINS). SEDIMENT BASINS SHALL REMAIN IN PLACE UNTIL ALL STORM SEWER AND PAVEMENT BASE COURSE HAVE BEEN INSTALLED OR INSTRUCTED IN THE SEQUENCE OF NOTES.

9. INSTALL TEMPORARY CONSTRUCTION FENCE FOR ANY AND ALL PORTIONS OF TEMPORARY SEDIMENT BASINS THAT RESIDE OUTSIDE THE LIMITS OF THE PERMANENT

10. CONSTRUCT PERMANENT CHECK DAMS (WEST) IN LOCATIONS WITH NO DIVERSION DITCH OR TEMPORARY SEDIMENT POND.

11. INSTALL DIVERSION DITCHES AND CHECK DAMS (EAST AND WEST).

2. UPON COMPLETION OF THE INITIAL BMP INSTALLATION, THE OPERATOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE OWNER AND THE COUNTY EROSION CONTROL INSPECTOR TO CONFIRM BMPS INSTALLED ARE ADEQUATE PRIOR TO PROCEEDING WITH ADDITIONAL LAND DISTURBING ACTIVITIES.

13. COMPLETE DEMOLITION OF EXISTING SITE IMPROVEMENTS AND CLEARING AND GRUBBING OF THE SITE AS NECESSARY TO PROCEED WITH INITIAL GRADING OPERATIONS. STOCKPILE MATERIALS IN ACCORDANCE WITH THE STOCKPILE MANAGEMENT (SP) BMP.

1. CONFIRM EXISTING BMPS FROM THE INITIAL PHASE, WHICH ARE TO BE MAINTAINED THROUGHOUT CONSTRUCTION, ARE IN WORKING ORDER AND COMPLIANT WITH APPLICABLE REGULATIONS.

2. REPAIR AND/OR REPLACE ANY EXISTING BMPS WHICH ARE DEEMED INADEQUATE.

3. COMPLETE REQUIRED TEMPORARY GRADING OPERATIONS NECESSARY FOR CONSTRUCTION. CONDUCT EXCAVATION AS NEEDED FOR THE UNDERGROUND UTILITIES. STOCKPILE MATERIALS IN ACCORDANCE WITH THE STOCKPILE MANAGEMENT (SP) BMP.

4. TEMPORARY STABILIZE (TS) ALL AREAS OF THE SITE WHICH WILL REMAIN INACTIVE FOR A PERIOD GREATER THAN 30 DAYS IN ACCORDANCE WITH EL PASO COUNTY, CDPHE AND OWNER REQUIREMENTS. TEMPORARY STABILIZATION SHALL BE IMPLEMENTED WITHIN 14 DAYS OF DISTURBANCE. CONTRACTOR TO CHOOSE ANNUAL GRASS APPROPRIATE FOR THE AREA BASED ON TABLE TS/PS-1 OF THE URBAN STORM DRAINAGE CRITERIA MANUAL VOLUME 3.

5. INSTALL CONCRETE WASHOUT AREA (CWA) PRIOR TO CONSTRUCTION OF CONCRETE IMPROVEMENTS.

6. COMPLETE REQUIRED GRADING OPERATIONS NECESSARY FOR CONSTRUCTION OF THE PROPOSED TRACKING ARRAYS, TRANSFORMER PADS AND ASSOCIATED SITE AND UTILITY IMPROVEMENTS. STOCKPILE MATERIALS IN ACCORDANCE WITH THE STOCKPILE MANAGEMENT (SP) BMP.

7. CONSTRUCT UNDERGROUND UTILITIES.

8. COMPLETE FINE GRADING AND PROCEED WITH TEMPORARY STABILIZATION (TS) AND PERMANENT STABILIZATION (PS) PRACTICES.

9. COMPLETE GRADING AND INSTALLATION OF PERMANENT STABILIZATION OVER SEDIMENT BASIN AREAS AND TEMPORARY DIVERSION DITCHES.

10.CONSTRUCT PERMANENT CHECK DAMS (WEST) IN AREAS WHERE SEDIMENT BASINS

11. ACHIEVE PERMANENT STABILIZATION IN ACCORDANCE WITH EL PASO COUNTY, CDPHE AND OWNER REQUIREMENTS.

2. REMOVE REMAINING BMPS ONCE PERMANENT STABILIZATION (PS) HAS BEEN

ACHIEVED. REPAIR AND STABILIZE AREAS DISTURBED THROUGH BMP REMOVAL.

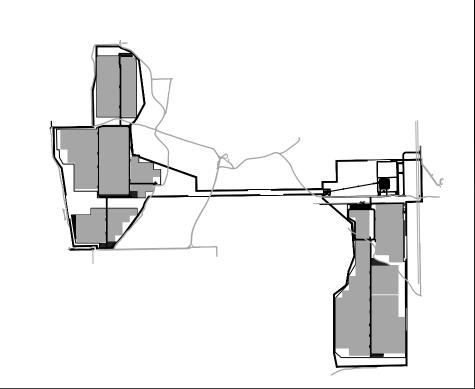
13. NOTIFY THE OWNER OF INTENT TO FILE THE NOTICE OF INACTIVATION WITH EL PASO COUNTY AND CDPHE AND RECEIVE OWNER ACCEPTANCE TO PROCEED WITH STORMWATER MANAGEMENT CLOSE-OUT.

AND RECEIVE EL PASO COUNTY FIELD ACCEPTANCE PRIOR TO PROCEEDING WITH FILING THE NOTICE OF INACTIVATION WITH THE EL PASO COUNTY. 15. PROCEED WITH FILING THE NOTICE OF INACTIVATION WITH THE EL PASO COUNTY

14. NOTIFY THE EL PASO COUNTY OF THE INTENT TO FILE THE NOTICE OF INACTIVATION

AND CDPHE.

16. PROVIDE THE OWNER WITH A COPY OF ALL STORMWATER DOCUMENTATION (PERMITS, INSPECTION REPORTS, LOGS, ETC.) UPON COMPLETION OF THE PROJECT, FILE THE NOTICE OF INACTIVATION.



KEY MAP NOT TO SCALE

LEGEND

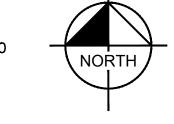
WSEO OVERLAY BOUNDARY WSEO 25' SETBACK PROPERTY LINE EXISTING EASEMENT

EXISTING FENCE PROPOSED FENCE ____ X ____ EXISTING OVERHEAD ELECTRIC LINE

> PROPOSED OVERHEAD ELECTRIC LINE

NOTES

- 1. EROSION CONTROL FOR CSU SUBSTATION AND PALMER SOLAR SUBSTATION ARE COVERED UNDER THIS PERMIT. ALL PERMANENT GRADING AND CONSTRUCTION PLANS TO BE COMPLETED BY OTHERS.
- 2. TEMPORARY SEEDING TO BE PER THE UDFCD STANDARD DETAILS ON SHEET 224.
- 3. PERMANENT SEEDING PER MIX FOUND ON SHEET

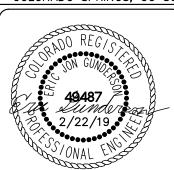


PALMER SOLAR **GRADING AND EROSION** OVERALL PLAN

EL PASO COUNTY, CO

© 2019 KIMLEY-HORN AND ASSOCIATES, INC.

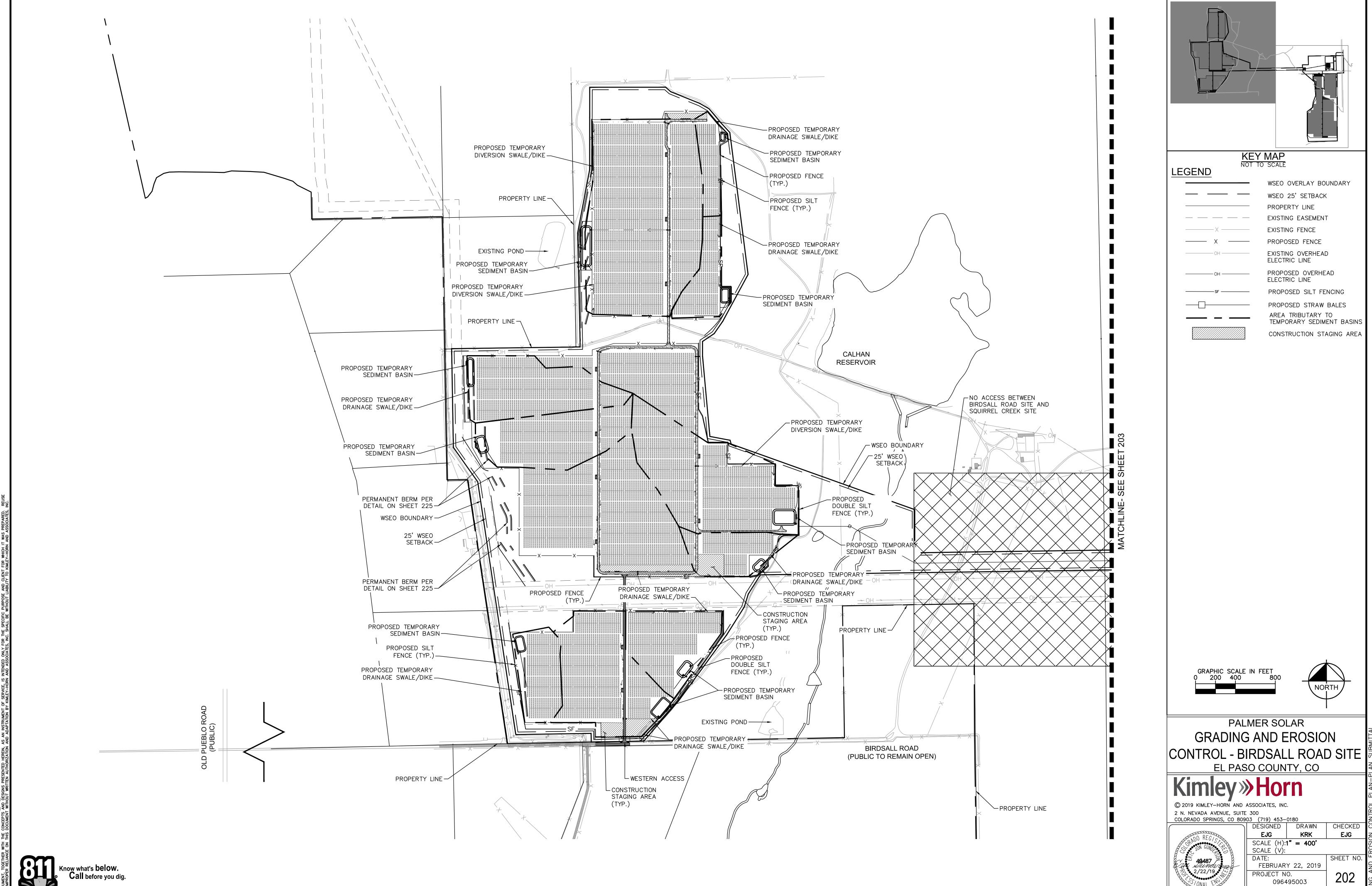
2 N. NEVADA AVENUE, SUITE 300 COLORADO SPRINGS, CO 80903 (719) 453-0180



DESIGNED DRAWN CHECKED KRK EJG EJG SCALE (H):1" = 750' SCALE (V): SHEET NO. 201

DATE: FEBRUARY 22, 2019 PROJECT NO. 096495003 DWG. NAME 096495003_EC_OVERALL



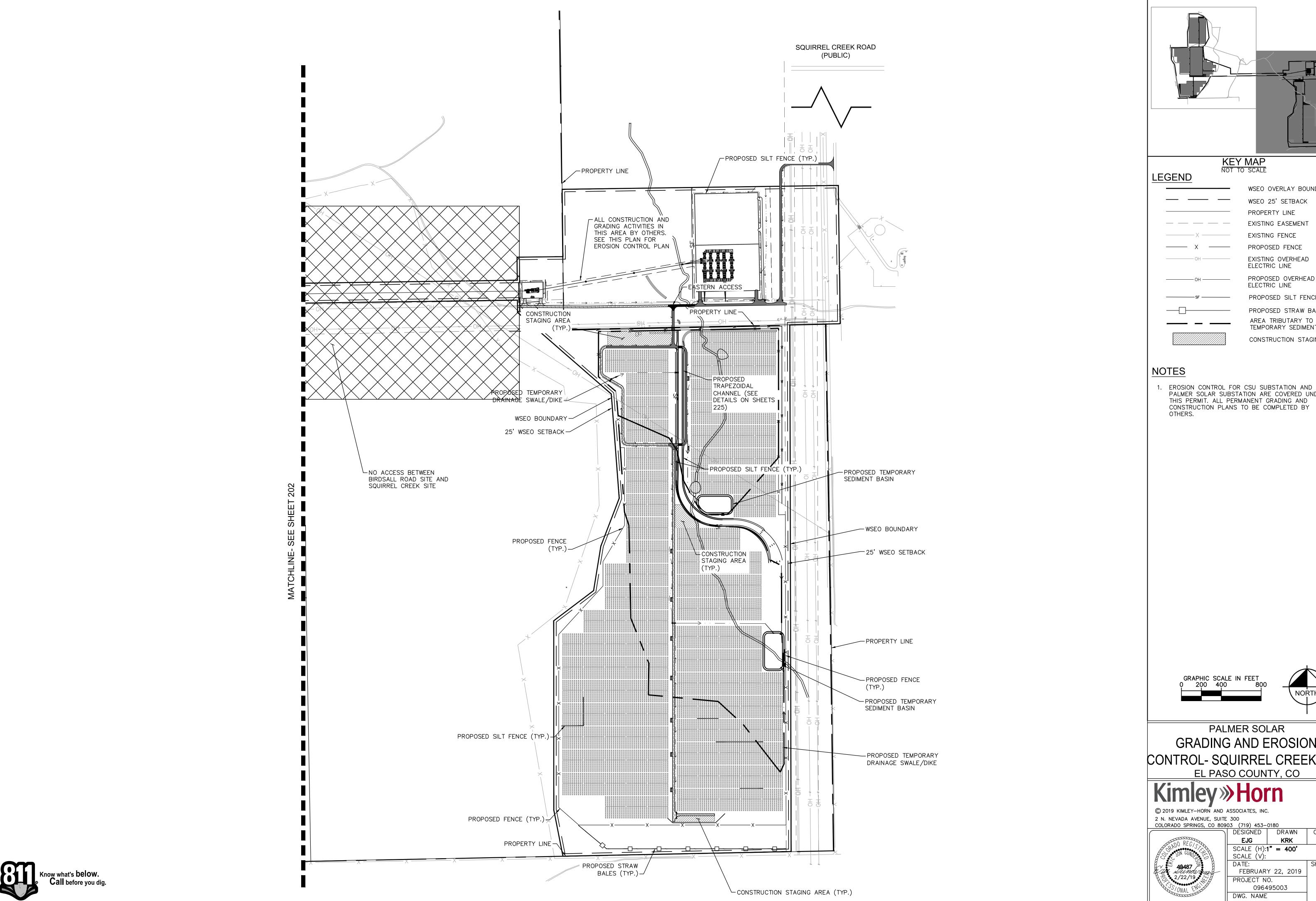


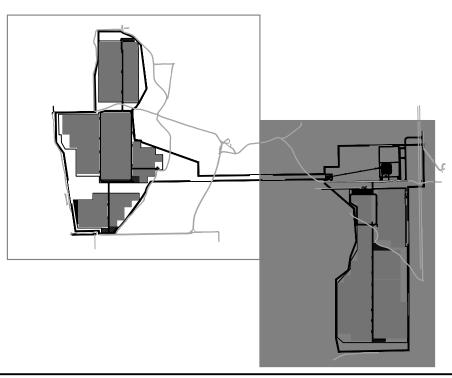
TEMPORARY SEDIMENT BASINS

CONSTRUCTION STAGING AREA

SHEET NO.

DWG. NAME 096495003_EC_SP





KEY MAP NOT TO SCALE

WSEO 25' SETBACK PROPERTY LINE EXISTING EASEMENT EXISTING FENCE PROPOSED FENCE EXISTING OVERHEAD ELECTRIC LINE

ELECTRIC LINE PROPOSED SILT FENCING PROPOSED STRAW BALES AREA TRIBUTARY TO

TEMPORARY SEDIMENT BASINS CONSTRUCTION STAGING AREA

PROPOSED OVERHEAD

WSEO OVERLAY BOUNDARY

PALMER SOLAR SUBSTATION ARE COVERED UNDER THIS PERMIT. ALL PERMANENT GRADING AND CONSTRUCTION PLANS TO BE COMPLETED BY



PALMER SOLAR GRADING AND EROSION CONTROL- SQUIRREL CREEK SITE

EL PASO COUNTY, CO

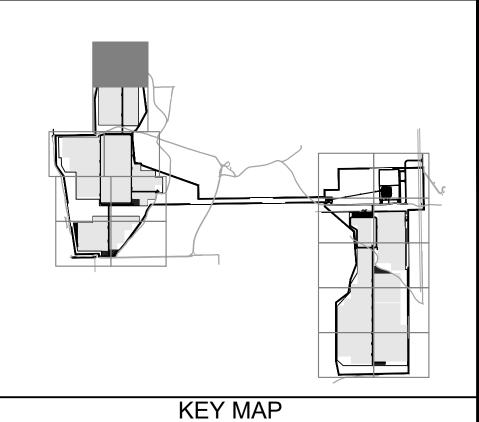
© 2019 KIMLEY-HORN AND ASSOCIATES, INC. 2 N. NEVADA AVENUE, SUITE 300

COLORADO SPRINGS, CO 80903 (719) 453-0180

DESIGNED DRAWN CHECKED

EJG KRK EJG SCALE (H):1" = 400' SCALE (V): DATE: SHEET NO.

FEBRUARY 22, 2019 PROJECT NO. 096495003 DWG. NAME **096495003_EC_SP**



NOT TO SCALE LEGEND PROPERTY LINE OD LIMITS OF CONSTRUCTION PERMANENT FENCE CF CONSTRUCTION FENCE SF SILT FENCE STRAW BALES ___ . . ___ DS DRAINAGE SWALE/DIKE CD CHECK DAM SA STABILIZED STAGING AREA CWA CONCRETE WASHOUT VTO VEHICLE TRACKING CONTROL (IP) CULVERT INLET PROTECTION SP SOIL STOCKPILE SB TEMPORARY SEDIMENT BASIN OVERLAND FLOW ARROW PS PERMANENT SEEDING EXISTING MINOR CONTOUR EXISTING MAJOR CONTOUR PROPOSED MINOR CONTOUR PROPOSED MAJOR CONTOUR →··—··→··—··— ROADSIDE SWALE

LIMITS OF CONSTRUCTION ONSITE IMPROVEMENTS $= \pm 557.5$ ACRES

OFFSITE IMPROVEMENTS $= \pm 1.5$ ACRES

 $= \pm 559$ ACRES

NOTES

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.

THIS PLAN SHOWS BOTH INITIAL AND FINAL BMP. REFERENCE SHEET 201 FOR PHASING AND SEQUENCING

- CONTRACTOR SHALL MAINTAIN STABILIZED STAGING AREA (SSA), VEHICLE TRACKING CONTROL (VTC), AND CONCRETE WASHOUT AREA (CWA) AT THE CONSTRUCTION ENTRANCE AT ALL TIMES. CONTRACTOR SHALL UPDATE THE EROSION CONTROL PLAN IN THE FIELD TO INDICATE
- THE LOCATION OF THE SSA, VTC, AND CWA BMPS AS EXCAVATION SEQUENCING DICTATES. CHECK DAMS TO BE SPACED ALONG ALL TEMPORARY AND PERMANENT DRAINAGE SWALES AND DITCHES PER UDFCD DETAILS (ONE CHECK DAM PER 1.5 FEET OF
- FALL). SCL MAY BE USED IN PLACE OF RIP RAP FOR ROADSIDE SWALES OR TEMPORARY DIVERSION DITCHES. FOR GRADING OF PERMANENT CHECK DAMS AND CHANNELS, SEE SHEETS 127 TO 144.

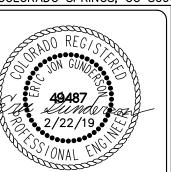


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PALMER SOLAR GRADING AND EROSION CONTROL PLAN

EL PASO COUNTY, CO

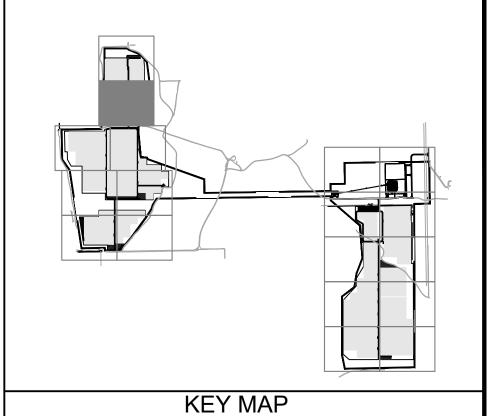
© 2019 KIMLEY-HORN AND ASSOCIATES, INC. 2 N. NEVADA AVENUE, SUITE 300 COLORADO SPRINGS, CO 80903 (719) 453-0180



DESIGNED | DRAWN | CHECKED EJG KRK EJG SCALE (H): 1" = 80| SCALE (V): DATE: SHEET NO. FEBRUARY 22, 2019 204

PROJECT NO. 096495003 DWG. NAME 096495003_EC

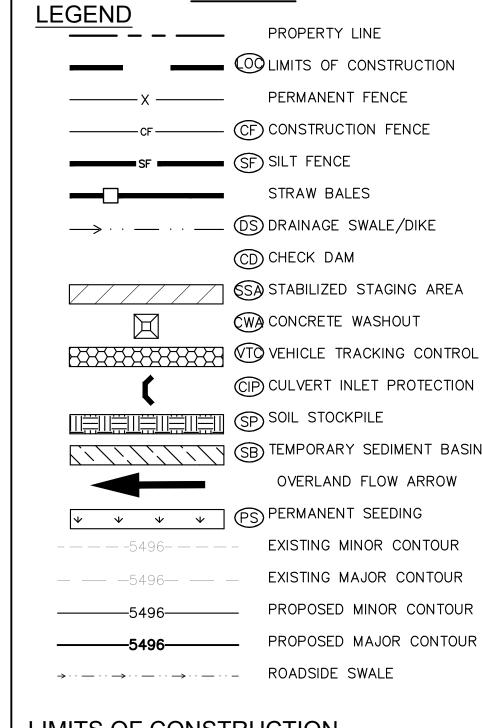
MATCHLINE- SEE SHEET 205



PROPERTY LINE

STRAW BALES

PERMANENT FENCE



LIMITS OF CONSTRUCTION $= \pm 557.5$ ACRES ONSITE IMPROVEMENTS

OFFSITE IMPROVEMENTS $= \pm 1.5$ ACRES

NOTES

TEMPORARY STABILIZATION (TS) SHALL BE IMPLEMENTED WITHIN THE DISTURBED PORTIONS OF THE PROJECT SITE

 $= \pm 559$ ACRES

OVERLAND FLOW ARROW

EXISTING MINOR CONTOUR

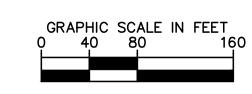
EXISTING MAJOR CONTOUR

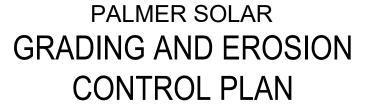
PROPOSED MINOR CONTOUR

PROPOSED MAJOR CONTOUR

NO LATER THAN 14 DAYS FOLLOWING THE CEASE OF CONSTRUCTION ACTIVITIES WITHIN THE DISTURBED AREAS. THIS PLAN SHOWS BOTH INITIAL AND FINAL BMP.

- REFERENCE SHEET 201 FOR PHASING AND SEQUENCING CONTRACTOR SHALL MAINTAIN STABILIZED STAGING AREA
- (SSA), VEHICLE TRACKING CONTROL (VTC), AND CONCRETE WASHOUT AREA (CWA) AT THE CONSTRUCTION ENTRANCE AT ALL TIMES. CONTRACTOR SHALL UPDATE THE EROSION CONTROL PLAN IN THE FIELD TO INDICATE THE LOCATION OF THE SSA, VTC, AND CWA BMPS AS EXCAVATION SEQUENCING DICTATES. CHECK DAMS TO BE SPACED ALONG ALL TEMPORARY
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- FOR GRADING OF PERMANENT CHECK DAMS AND CHANNELS, SEE SHEETS 127 TO 144.





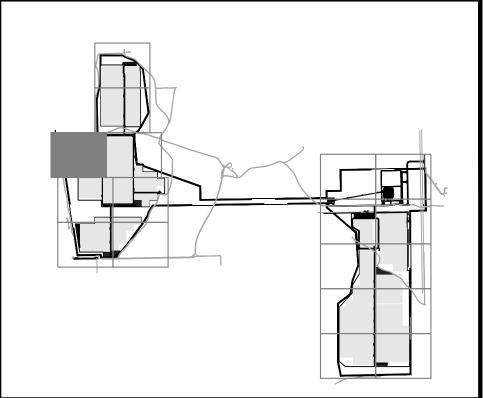
EL PASO COUNTY, CO

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COLORADO SPRINGS, CO 80903 (719) 453-0180 DESIGNED | DRAWN | CHECKED EJG KRK EJG SCALE (H): 1" = 80SCALE (V): DATE: SHEET NO.

FEBRUARY 22, 2019 PROJECT NO. 096495003 DWG. NAME

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KEY MAP

LEGEND PROPERTY LINE OLIMITS OF CONSTRUCTION PERMANENT FENCE — CF CONSTRUCTION FENCE SF) SILT FENCE STRAW BALES ___ . . ___ (DS) DRAINAGE SWALE/DIKE CD CHECK DAM SA STABILIZED STAGING AREA CWA CONCRETE WASHOUT VTO VEHICLE TRACKING CONTROL (IP) CULVERT INLET PROTECTION SP SOIL STOCKPILE SB) TEMPORARY SEDIMENT BASIN OVERLAND FLOW ARROW PS PERMANENT SEEDING EXISTING MINOR CONTOUR EXISTING MAJOR CONTOUR PROPOSED MINOR CONTOUR PROPOSED MAJOR CONTOUR →··—··→··—··— ROADSIDE SWALE LIMITS OF CONSTRUCTION

 $= \pm 557.5$ ACRES ONSITE IMPROVEMENTS

OFFSITE IMPROVEMENTS $= \pm 1.5$ ACRES

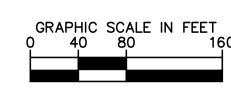
 $= \pm 559$ ACRES

NOTES

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.

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PALMER SOLAR **GRADING AND EROSION**

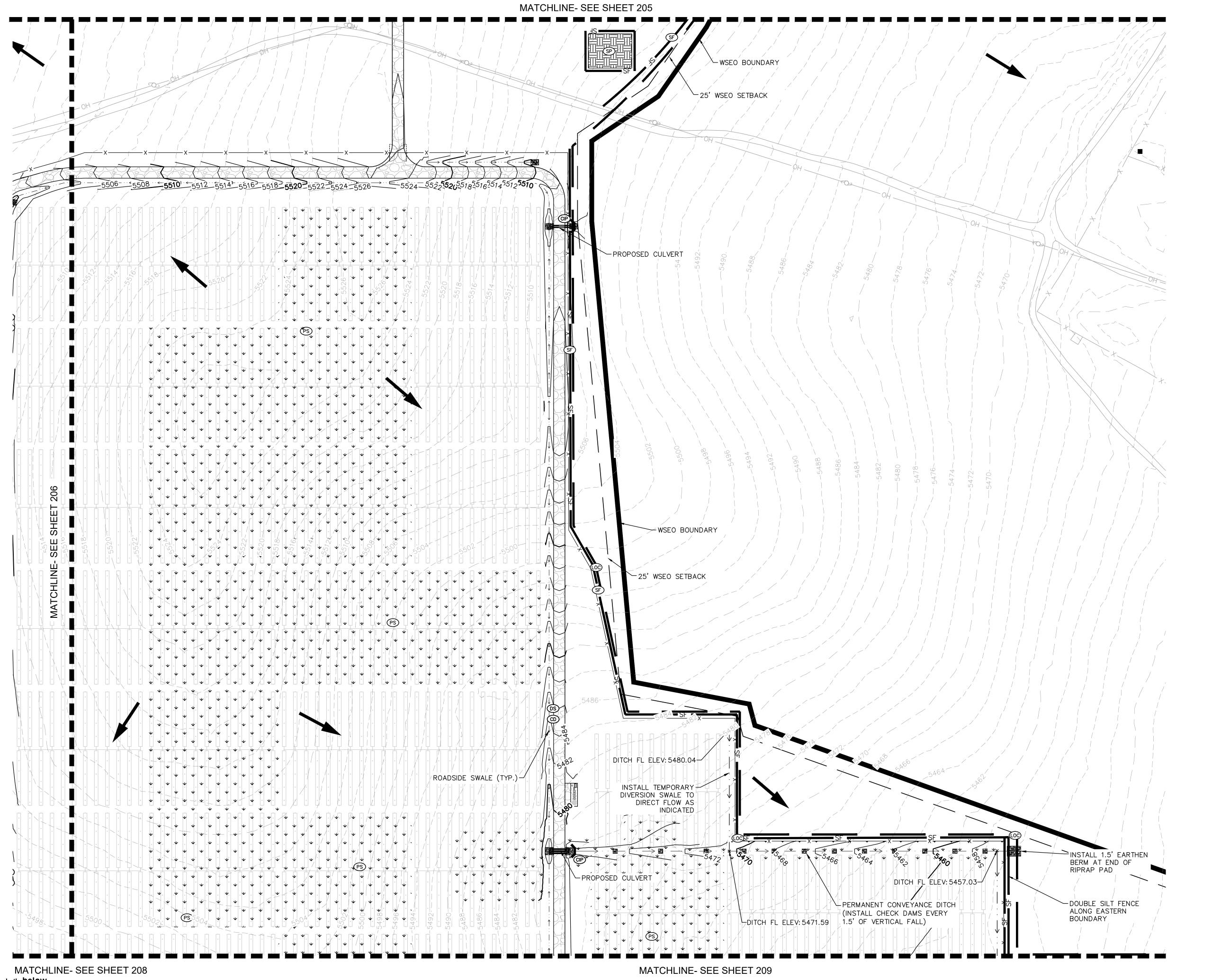
CONTROL PLAN EL PASO COUNTY, CO

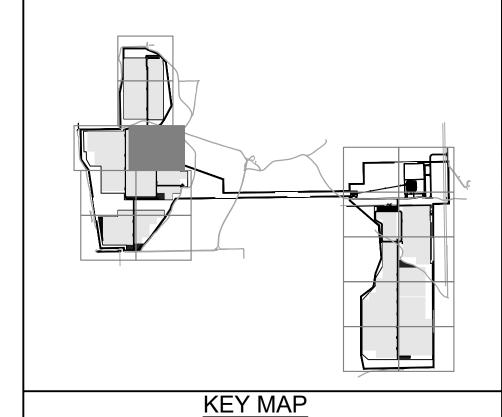
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COLORADO SPRINGS, CO 80903 (719) 453-0180 DESIGNED DRAWN CHECKED EJG KRK EJG SCALE (H): 1" = 80SCALE (V): DATE: SHEET NO.

FEBRUARY 22, 2019 PROJECT NO. 096495003 DWG. NAME

096495003_EC





PROPERTY LINE

PERMANENT FENCE

CIP CULVERT INLET PROTECTION

OVERLAND FLOW ARROW

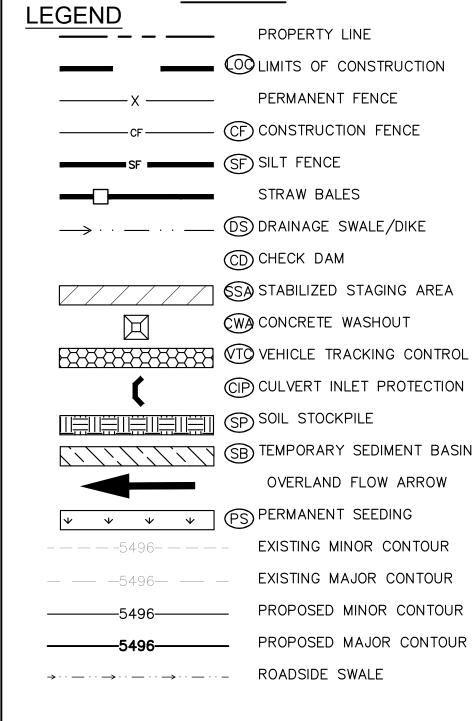
EXISTING MINOR CONTOUR

EXISTING MAJOR CONTOUR

PROPOSED MINOR CONTOUR

PROPOSED MAJOR CONTOUR

STRAW BALES



LIMITS OF CONSTRUCTION ONSITE IMPROVEMENTS

 $= \pm 557.5$ ACRES OFFSITE IMPROVEMENTS $= \pm 1.5$ ACRES

NOTES

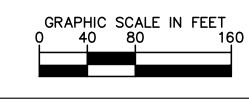
TEMPORARY STABILIZATION (TS) SHALL BE IMPLEMENTED

 $= \pm 559$ ACRES

WITHIN THE DISTURBED PORTIONS OF THE PROJECT SITE NO LATER THAN 14 DAYS FOLLOWING THE CEASE OF CONSTRUCTION ACTIVITIES WITHIN THE DISTURBED AREAS. THIS PLAN SHOWS BOTH INITIAL AND FINAL BMP.

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FOR GRADING OF PERMANENT CHECK DAMS AND CHANNELS, SEE SHEETS 127 TO 144.



PALMER SOLAR **GRADING AND EROSION** CONTROL PLAN EL PASO COUNTY, CO

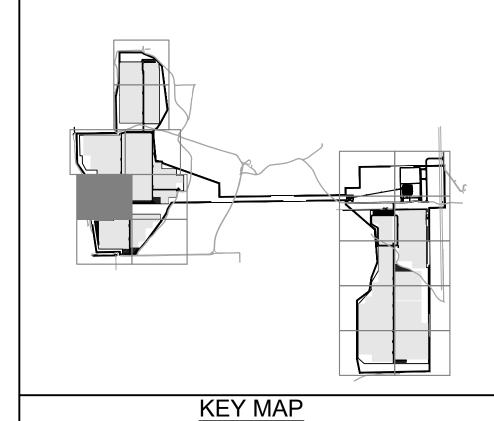
© 2019 KIMLEY-HORN AND ASSOCIATES, INC. 2 N. NEVADA AVENUE, SUITE 300 COLORADO SPRINGS, CO 80

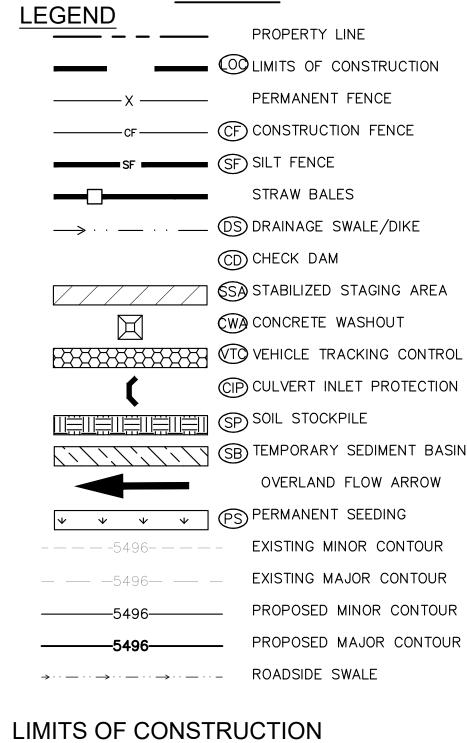


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PROJECT NO. 096495003 DWG. NAME 096495003_EC





ONSITE IMPROVEMENTS $= \pm 557.5$ ACRES

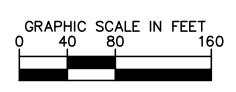
 $= \pm 1.5$ ACRES OFFSITE IMPROVEMENTS

NOTES

 $= \pm 559$ ACRES

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- FOR GRADING OF PERMANENT CHECK DAMS AND CHANNELS, SEE SHEETS 127 TO 144.



PALMER SOLAR **GRADING AND EROSION** CONTROL PLAN

EL PASO COUNTY, CO

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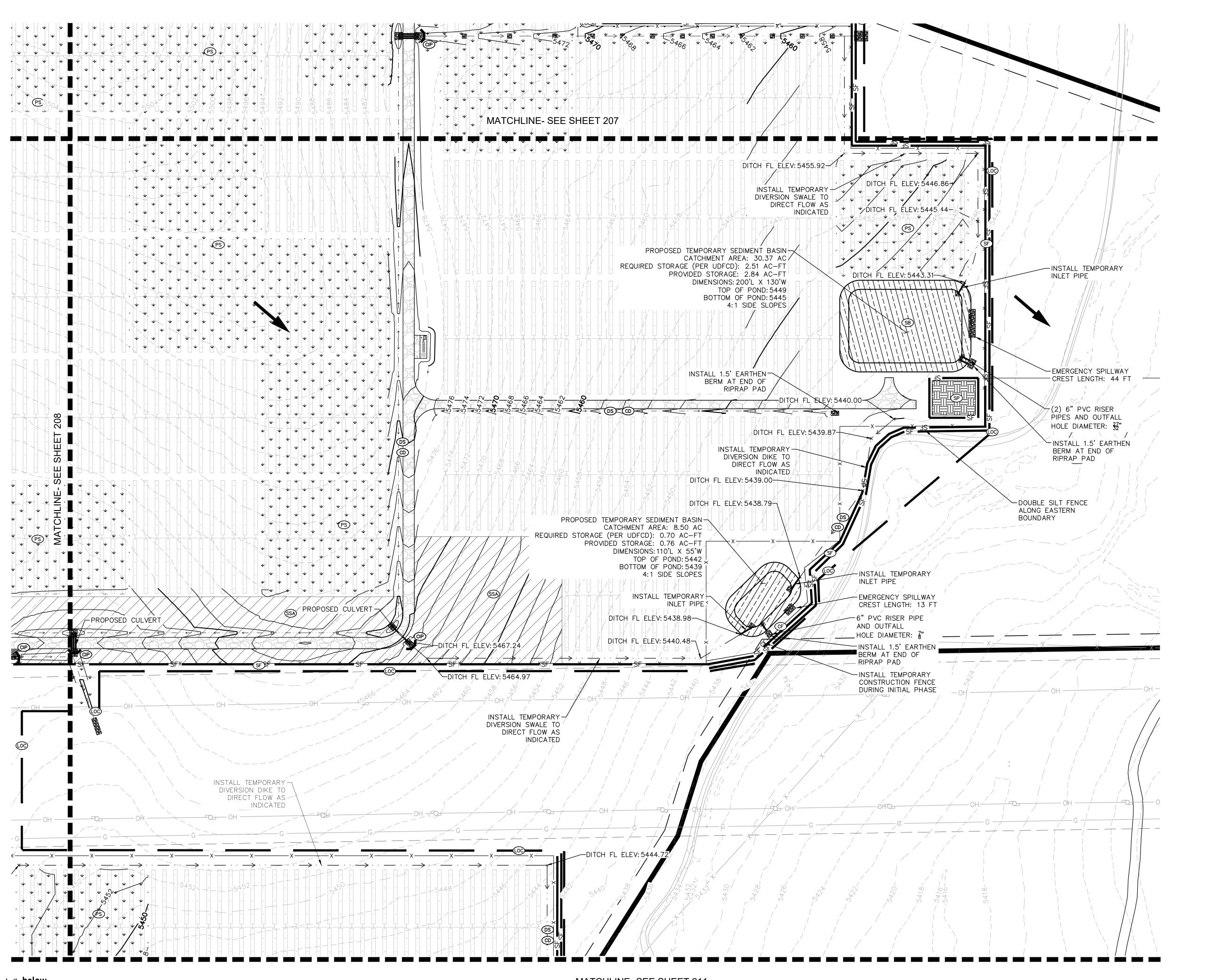
COLORADO SPRINGS, CO 809

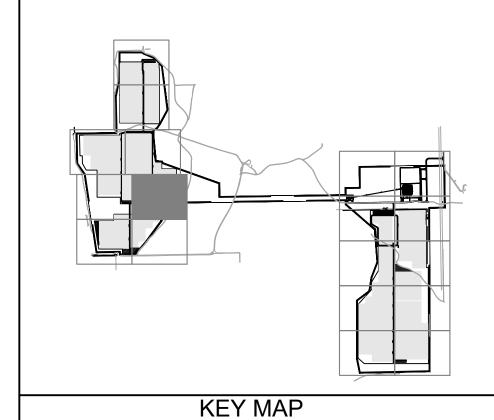
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FEBRUARY 22, 2019 PROJECT NO. 096495003 DWG. NAME 096495003_EC

208

MATCHLINE- SEE SHEET 210





LEGEND PROPERTY LINE OLIMITS OF CONSTRUCTION PERMANENT FENCE — CF CONSTRUCTION FENCE SF SILT FENCE STRAW BALES ___ . . ___ OS DRAINAGE SWALE/DIKE CD CHECK DAM SA STABILIZED STAGING AREA CWA CONCRETE WASHOUT VTO VEHICLE TRACKING CONTROL CIP CULVERT INLET PROTECTION SP SOIL STOCKPILE (SB) TEMPORARY SEDIMENT BASIN OVERLAND FLOW ARROW PS PERMANENT SEEDING EXISTING MINOR CONTOUR EXISTING MAJOR CONTOUR PROPOSED MINOR CONTOUR

LIMITS OF CONSTRUCTION

 $= \pm 557.5$ ACRES ONSITE IMPROVEMENTS

OFFSITE IMPROVEMENTS $= \pm 1.5$ ACRES

→··—··→··—··— ROADSIDE SWALE

NOTES

TEMPORARY STABILIZATION (TS) SHALL BE IMPLEMENTED

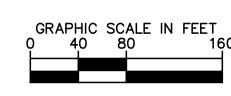
 $= \pm 559$ ACRES

PROPOSED MAJOR CONTOUR

WITHIN THE DISTURBED PORTIONS OF THE PROJECT SITE NO LATER THAN 14 DAYS FOLLOWING THE CEASE OF CONSTRUCTION ACTIVITIES WITHIN THE DISTURBED AREAS. THIS PLAN SHOWS BOTH INITIAL AND FINAL BMP.

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- FOR GRADING OF PERMANENT CHECK DAMS AND CHANNELS, SEE SHEETS 127 TO 144.



PALMER SOLAR GRADING AND EROSION CONTROL PLAN

EL PASO COUNTY, CO

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2 N. NEVADA AVENUE, SUITE 300 COLORADO SPRINGS, CO 80



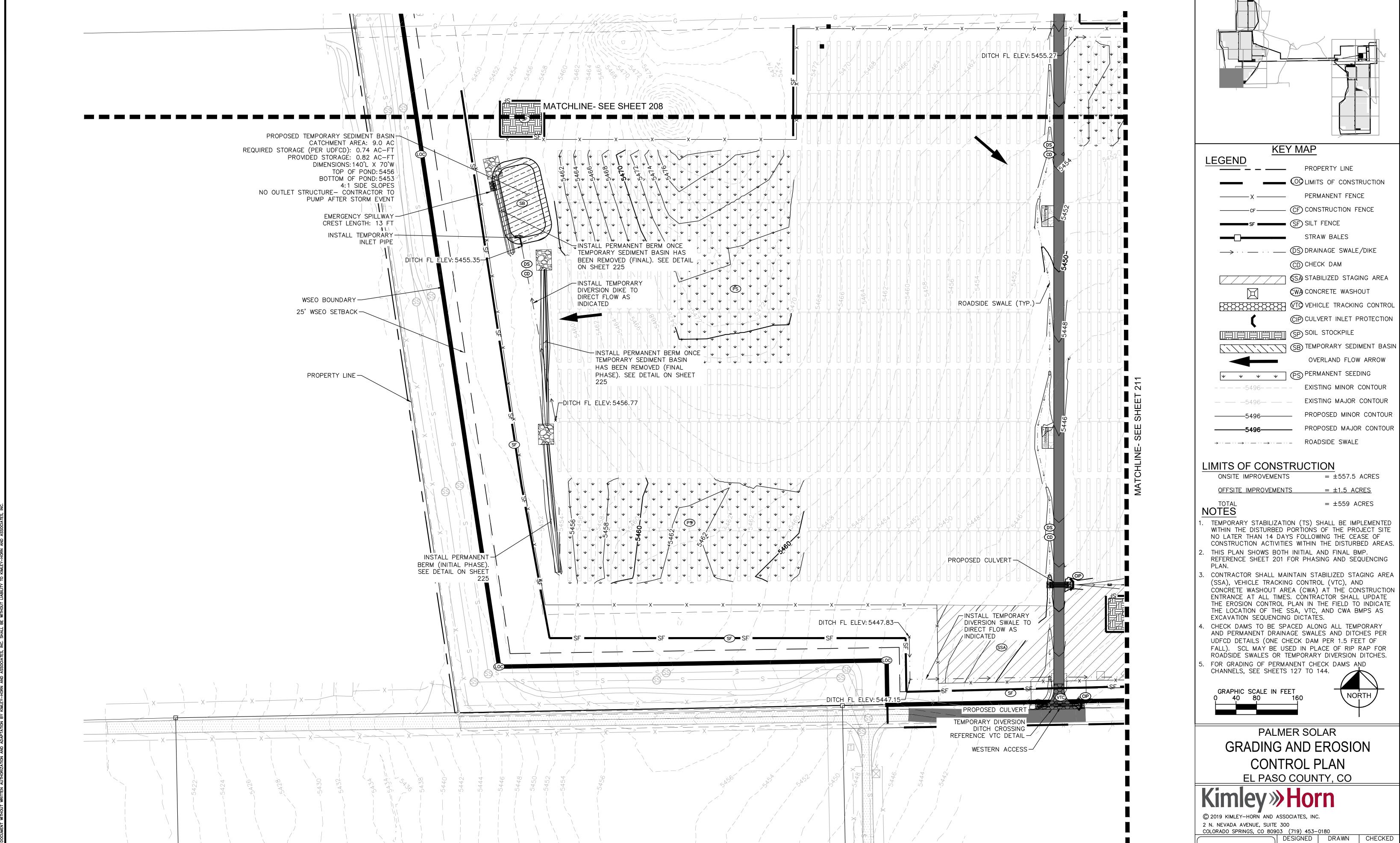
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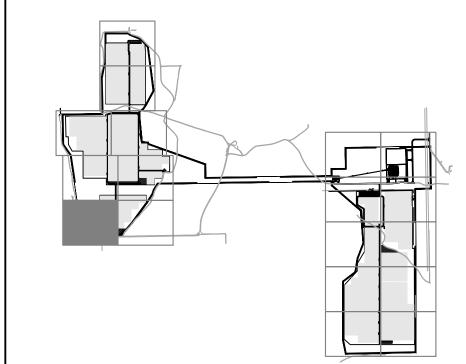
PROJECT NO. 096495003 DWG. NAME 096495003_EC

209

MATCHLINE- SEE SHEET 211

Call before you dig.





REFERENCE SHEET 201 FOR PHASING AND SEQUENCING

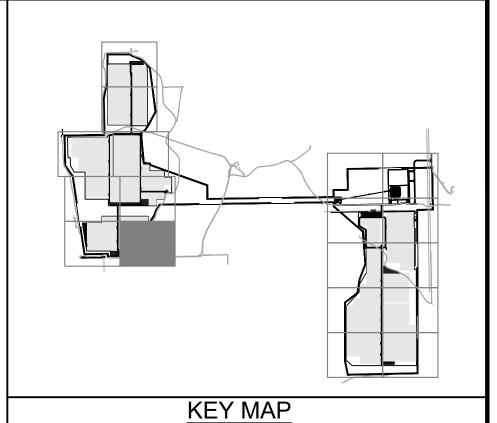
CONCRETE WASHOUT AREA (CWA) AT THE CONSTRUCTION ENTRANCE AT ALL TIMES. CONTRACTOR SHALL UPDATE THE EROSION CONTROL PLAN IN THE FIELD TO INDICATE THE LOCATION OF THE SSA, VTC, AND CWA BMPS AS

EJG EJG KRK SCALE (H): 1" = 80| SCAL<u>E_(V):</u> DATE: SHEET NO.

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FEBRUARY 22, 2019 PROJECT NO. 096495003

DWG. NAME 096495003_EC



LEGEND PROPERTY LINE OLIMITS OF CONSTRUCTION PERMANENT FENCE — CF CONSTRUCTION FENCE SF SILT FENCE STRAW BALES . ___ . . ___ DS DRAINAGE SWALE/DIKE CD CHECK DAM SA STABILIZED STAGING AREA CWA CONCRETE WASHOUT VTO VEHICLE TRACKING CONTROL CIP CULVERT INLET PROTECTION SP SOIL STOCKPILE SB) TEMPORARY SEDIMENT BASIN OVERLAND FLOW ARROW PS PERMANENT SEEDING EXISTING MINOR CONTOUR EXISTING MAJOR CONTOUR PROPOSED MINOR CONTOUR PROPOSED MAJOR CONTOUR →··—··→··—··— ROADSIDE SWALE LIMITS OF CONSTRUCTION ONSITE IMPROVEMENTS $= \pm 557.5$ ACRES

OFFSITE IMPROVEMENTS $= \pm 1.5$ ACRES

 $= \pm 559$ ACRES

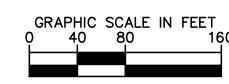
NOTES

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FOR GRADING OF PERMANENT CHECK DAMS AND CHANNELS, SEE SHEETS 127 TO 144.





GRADING AND EROSION CONTROL PLAN

EL PASO COUNTY, CO

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2 N. NEVADA AVENUE, SUITE 300 COLORADO SPRINGS, CO 80903 (719) 453-0180



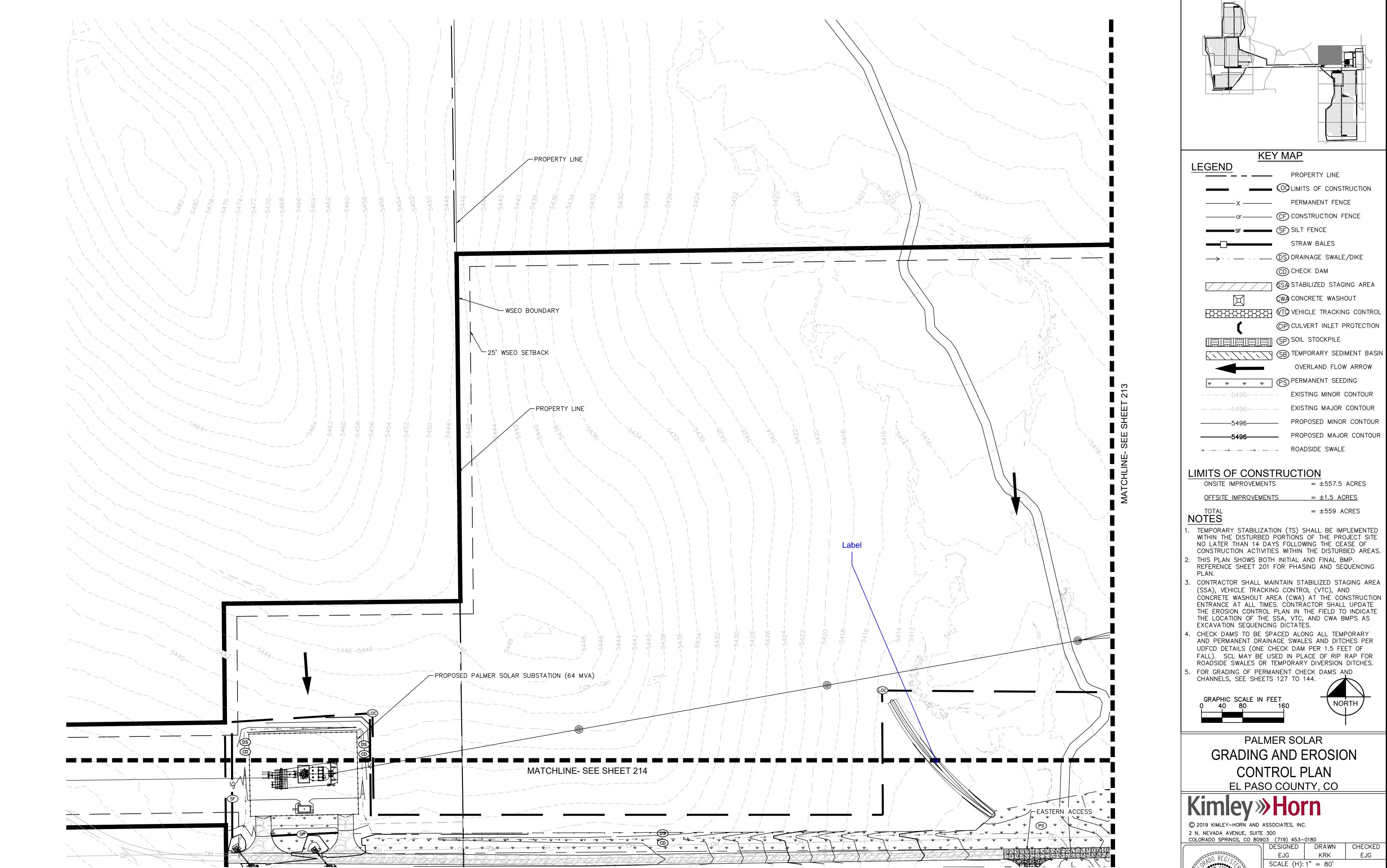
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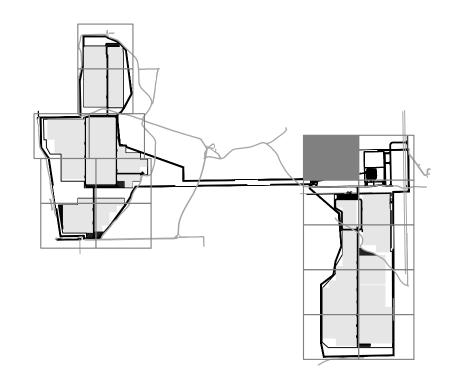
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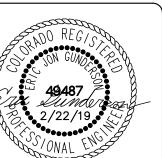
211

PROJECT NO. 096495003 DWG. NAME 096495003_EC





CONCRETE WASHOUT AREA (CWA) AT THE CONSTRUCTION ENTRANCE AT ALL TIMES. CONTRACTOR SHALL UPDATE THE EROSION CONTROL PLAN IN THE FIELD TO INDICATE

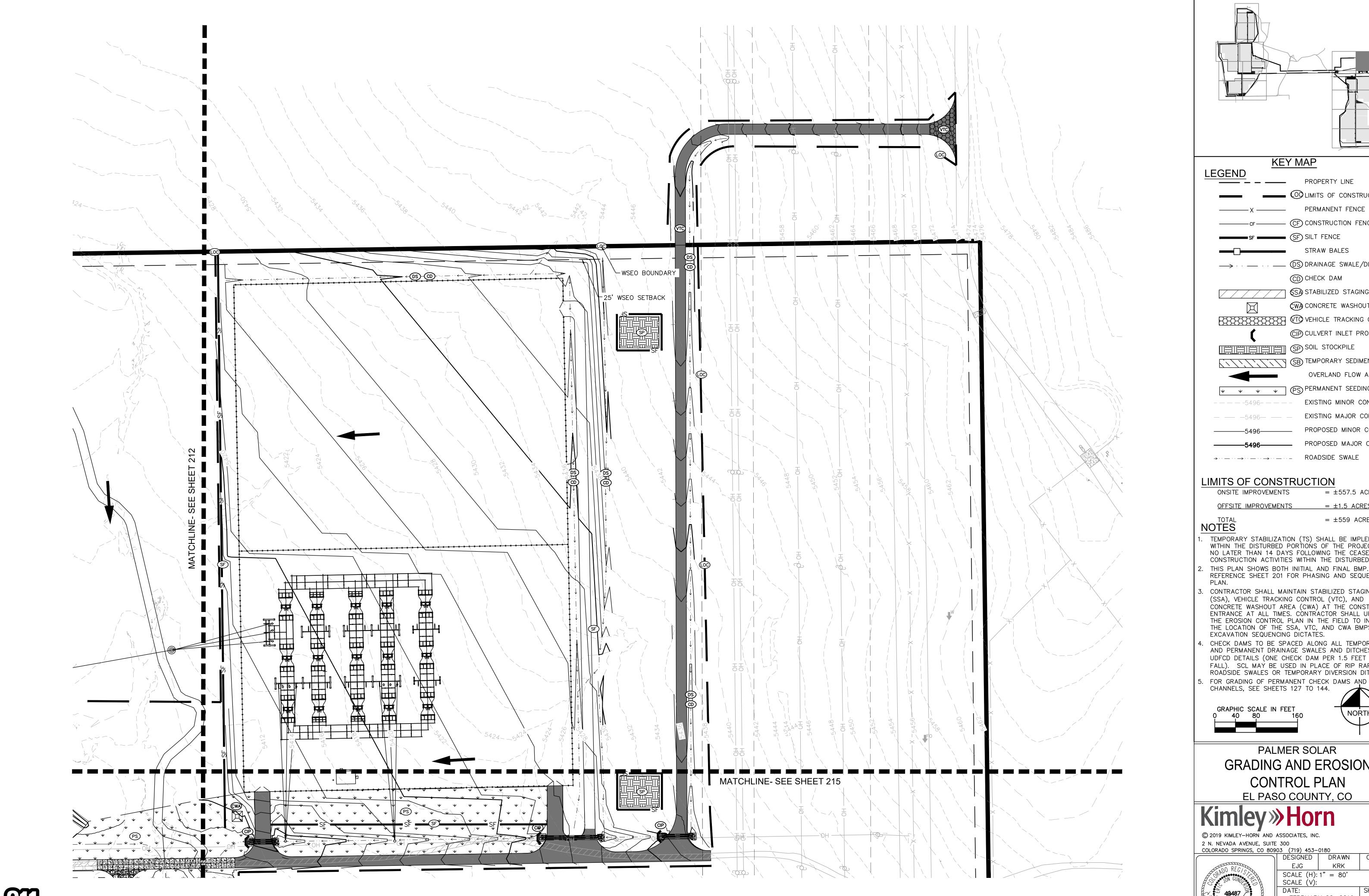


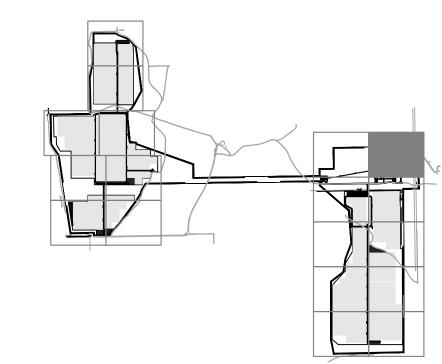
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PROPERTY LINE - OLIMITS OF CONSTRUCTION PERMANENT FENCE — CF CONSTRUCTION FENCE SF SILT FENCE STRAW BALES ___ .. ___ DS DRAINAGE SWALE/DIKE CD CHECK DAM SA STABILIZED STAGING AREA CWA CONCRETE WASHOUT VEHICLE TRACKING CONTROL CIP CULVERT INLET PROTECTION SP SOIL STOCKPILE SB TEMPORARY SEDIMENT BASIN OVERLAND FLOW ARROW PS PERMANENT SEEDING EXISTING MINOR CONTOUR EXISTING MAJOR CONTOUR PROPOSED MINOR CONTOUR PROPOSED MAJOR CONTOUR →··—··→··—··— ROADSIDE SWALE LIMITS OF CONSTRUCTION $= \pm 557.5$ ACRES

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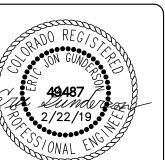
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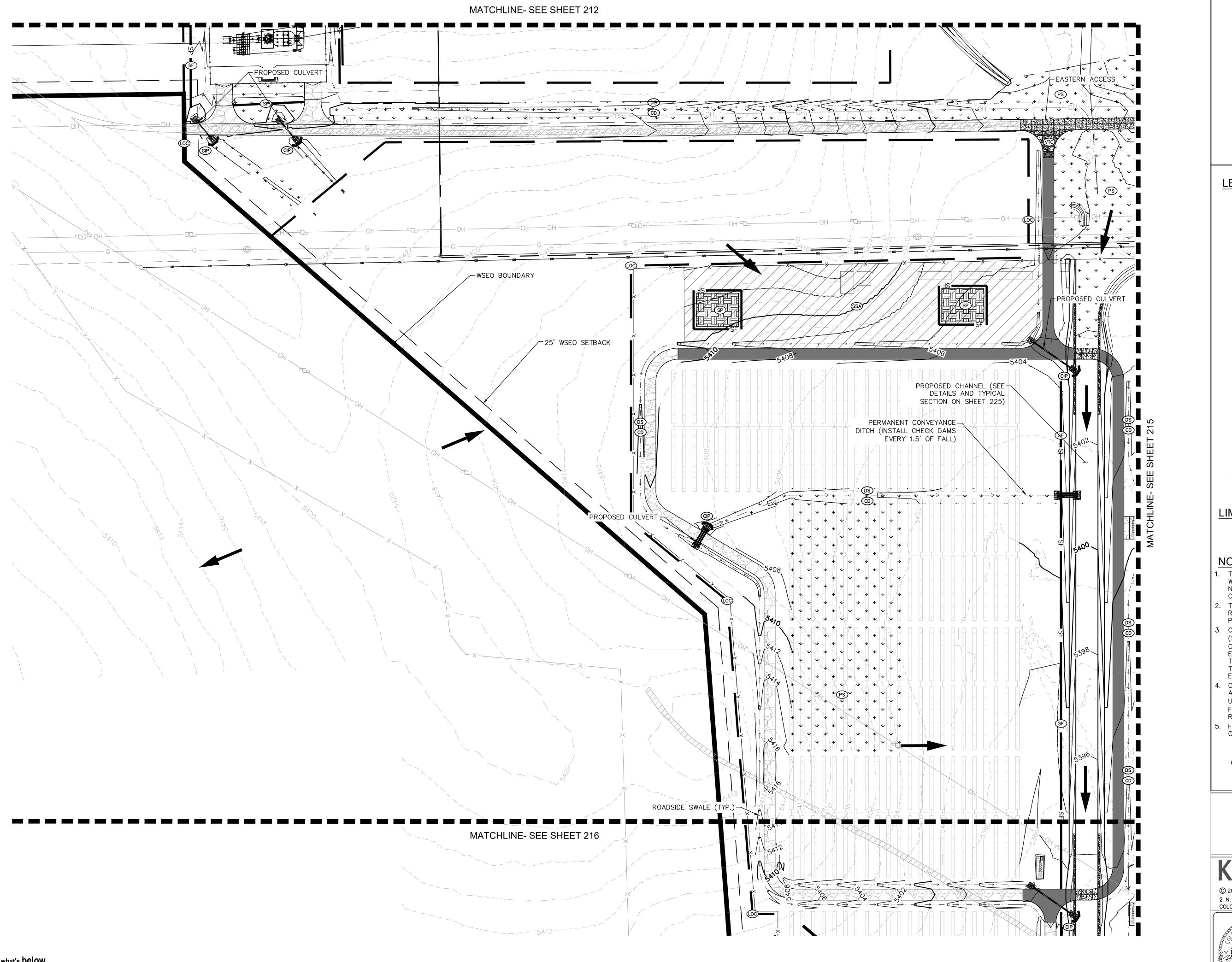
GRADING AND EROSION CONTROL PLAN

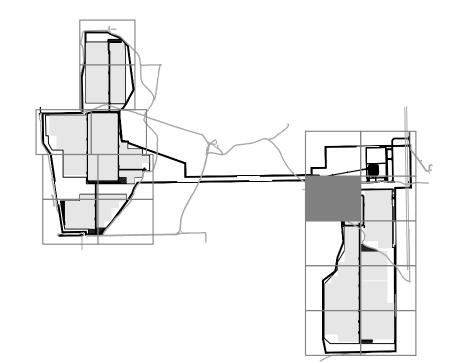
EL PASO COUNTY, CO



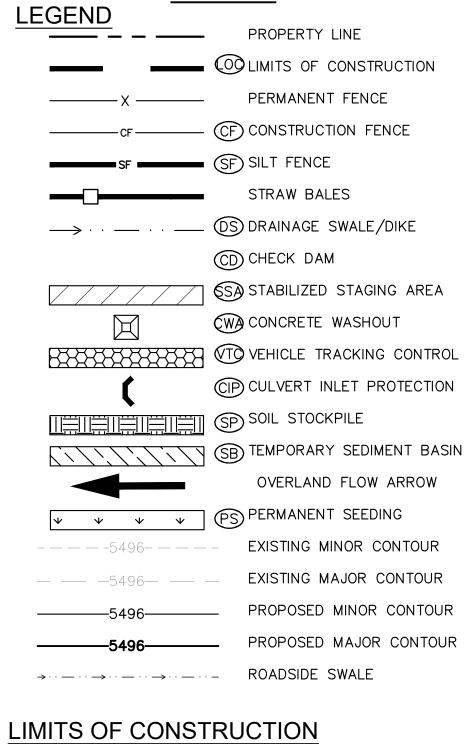
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PROJECT NO. 096495003 DWG. NAME 096495003_EC





KEY MAP



ONSITE IMPROVEMENTS $= \pm 557.5$ ACRES

 $= \pm 1.5$ ACRES OFFSITE IMPROVEMENTS

NOTES

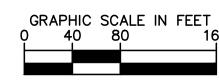
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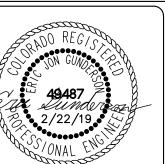




PALMER SOLAR **GRADING AND EROSION** CONTROL PLAN

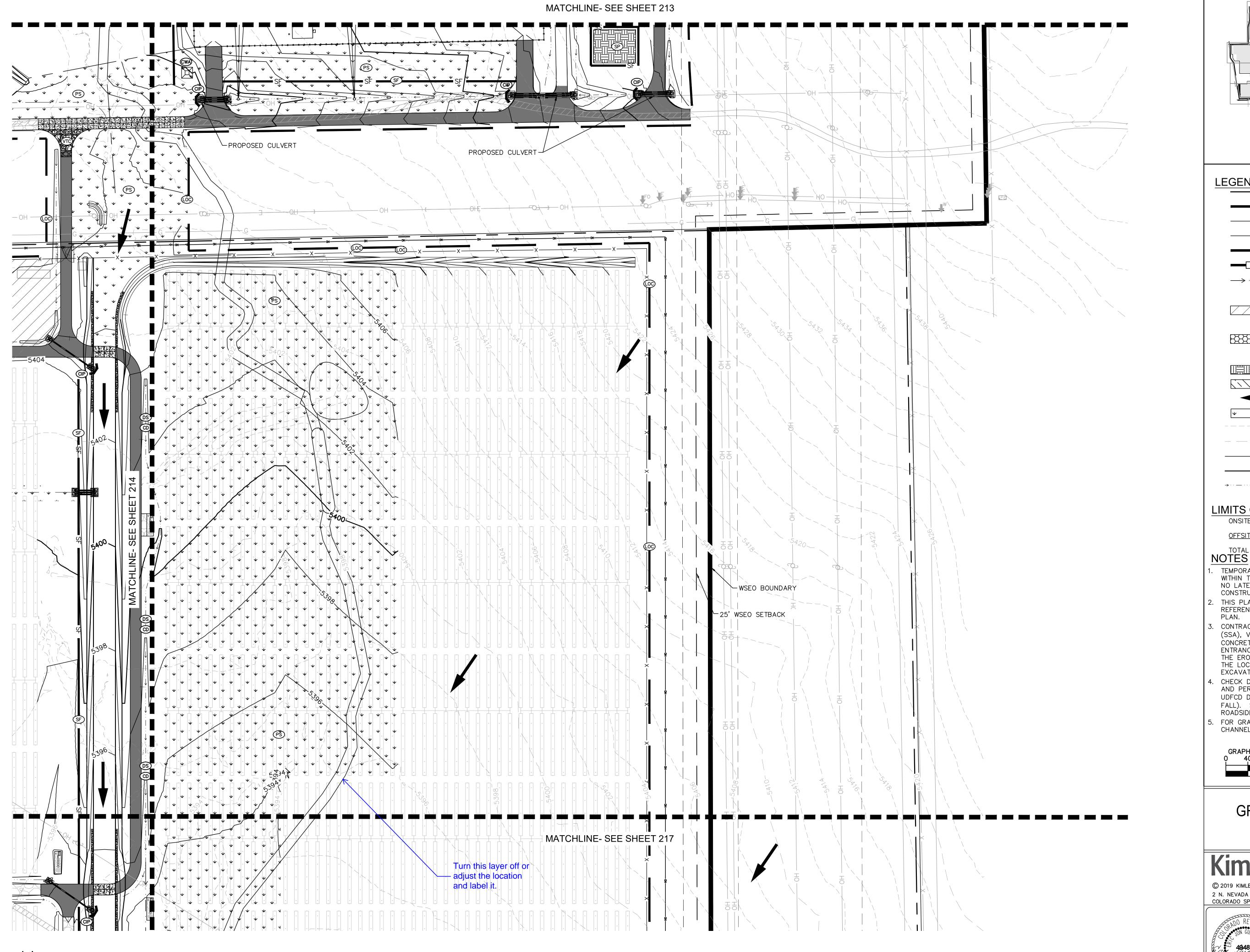
EL PASO COUNTY, CO

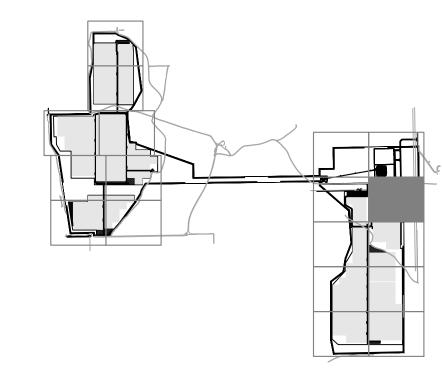
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KEY MAP LEGEND PROPERTY LINE - OLIMITS OF CONSTRUCTION PERMANENT FENCE CF CONSTRUCTION FENCE SF SILT FENCE STRAW BALES CD CHECK DAM SA STABILIZED STAGING AREA CWA CONCRETE WASHOUT VTO VEHICLE TRACKING CONTROL CIP CULVERT INLET PROTECTION SP SOIL STOCKPILE SB TEMPORARY SEDIMENT BASIN OVERLAND FLOW ARROW PS PERMANENT SEEDING EXISTING MINOR CONTOUR EXISTING MAJOR CONTOUR PROPOSED MINOR CONTOUR PROPOSED MAJOR CONTOUR →··—··→··—··— ROADSIDE SWALE

LIMITS OF CONSTRUCTION

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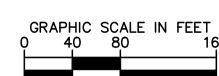
 $= \pm 1.5$ ACRES OFFSITE IMPROVEMENTS

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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. THIS PLAN SHOWS BOTH INITIAL AND FINAL BMP.

REFERENCE SHEET 201 FOR PHASING AND SEQUENCING

- CONTRACTOR SHALL MAINTAIN STABILIZED STAGING AREA (SSA), VEHICLE TRACKING CONTROL (VTC), AND CONCRETE WASHOUT AREA (CWA) AT THE CONSTRUCTION ENTRANCE AT ALL TIMES. CONTRACTOR SHALL UPDATE THE EROSION CONTROL PLAN IN THE FIELD TO INDICATE THE LOCATION OF THE SSA, VTC, AND CWA BMPS AS EXCAVATION SEQUENCING DICTATES.
- CHECK DAMS TO BE SPACED ALONG ALL TEMPORARY AND PERMANENT DRAINAGE SWALES AND DITCHES PER UDFCD DETAILS (ONE CHECK DAM PER 1.5 FEET OF FALL). SCL MAY BE USED IN PLACE OF RIP RAP FOR
- ROADSIDE SWALES OR TEMPORARY DIVERSION DITCHES. FOR GRADING OF PERMANENT CHECK DAMS AND CHANNELS, SEE SHEETS 127 TO 144.



PALMER SOLAR **GRADING AND EROSION** CONTROL PLAN

EL PASO COUNTY, CO

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COLORADO SPRINGS, CO 80903 (719) 453-0180

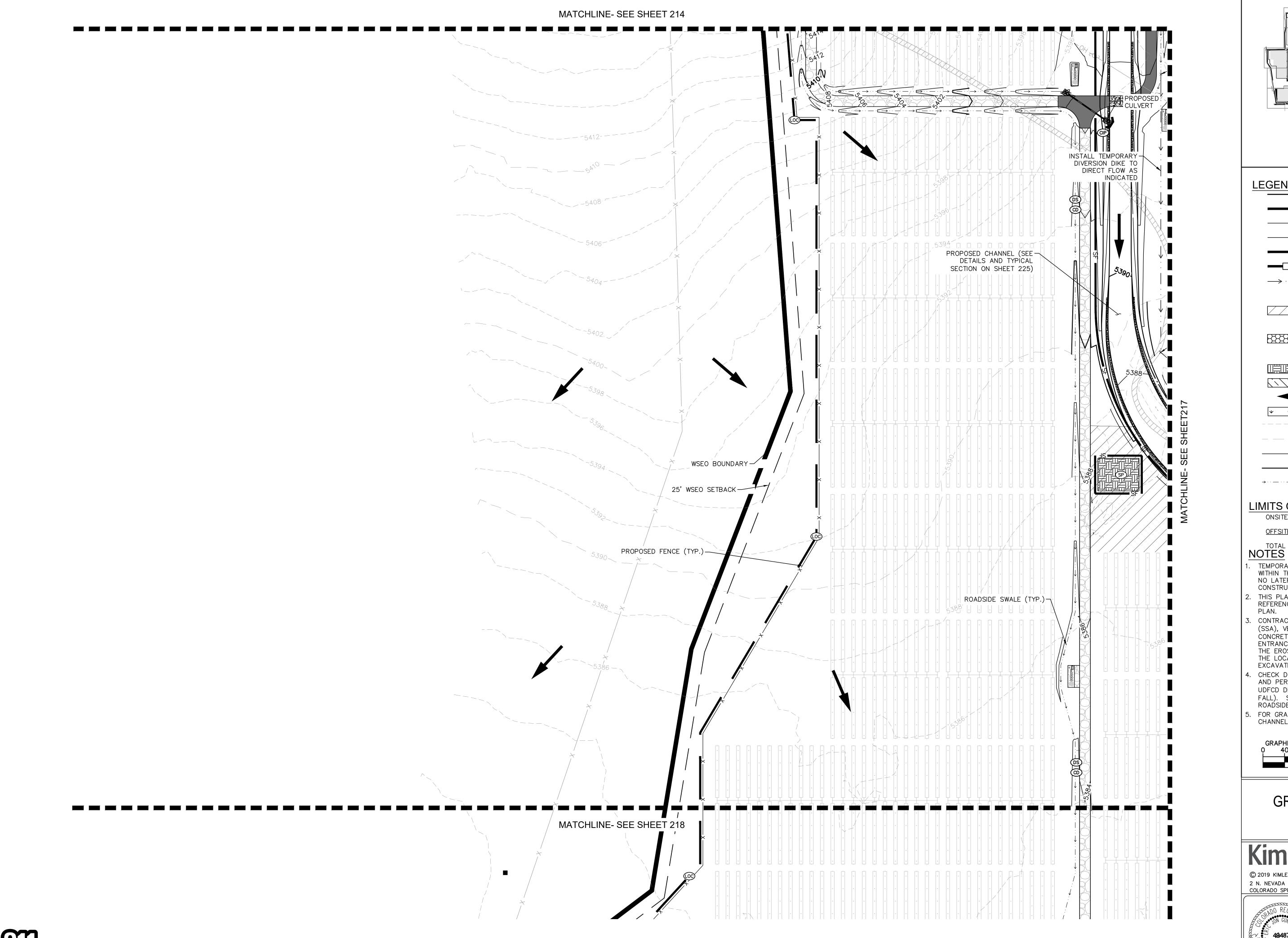
DESIGNED DRAWN CHECKED EJG KRK EJG SCALE (H): 1" = 80' SCALE (V): DATE: SHEET NO.

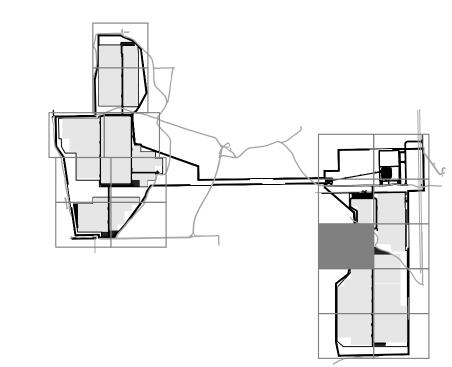
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FEBRUARY 22, 2019 PROJECT NO. 096495003

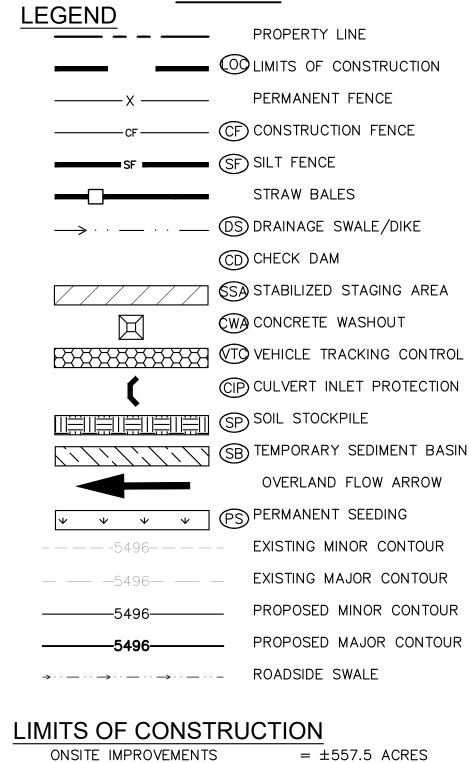
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KEY MAP



ONSITE IMPROVEMENTS

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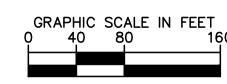
 $= \pm 559$ ACRES

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.

THIS PLAN SHOWS BOTH INITIAL AND FINAL BMP. REFERENCE SHEET 201 FOR PHASING AND SEQUENCING

- CONTRACTOR SHALL MAINTAIN STABILIZED STAGING AREA (SSA), VEHICLE TRACKING CONTROL (VTC), AND CONCRETE WASHOUT AREA (CWA) AT THE CONSTRUCTION ENTRANCE AT ALL TIMES. CONTRACTOR SHALL UPDATE THE EROSION CONTROL PLAN IN THE FIELD TO INDICATE THE LOCATION OF THE SSA, VTC, AND CWA BMPS AS
- EXCAVATION SEQUENCING DICTATES. CHECK DAMS TO BE SPACED ALONG ALL TEMPORARY AND PERMANENT DRAINAGE SWALES AND DITCHES PER UDFCD DETAILS (ONE CHECK DAM PER 1.5 FEET OF FALL). SCL MAY BE USED IN PLACE OF RIP RAP FOR ROADSIDE SWALES OR TEMPORARY DIVERSION DITCHES.

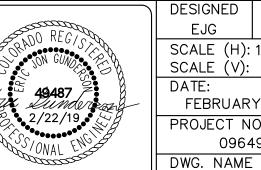
FOR GRADING OF PERMANENT CHECK DAMS AND CHANNELS, SEE SHEETS 127 TO 144.



PALMER SOLAR **GRADING AND EROSION** CONTROL PLAN

EL PASO COUNTY, CO

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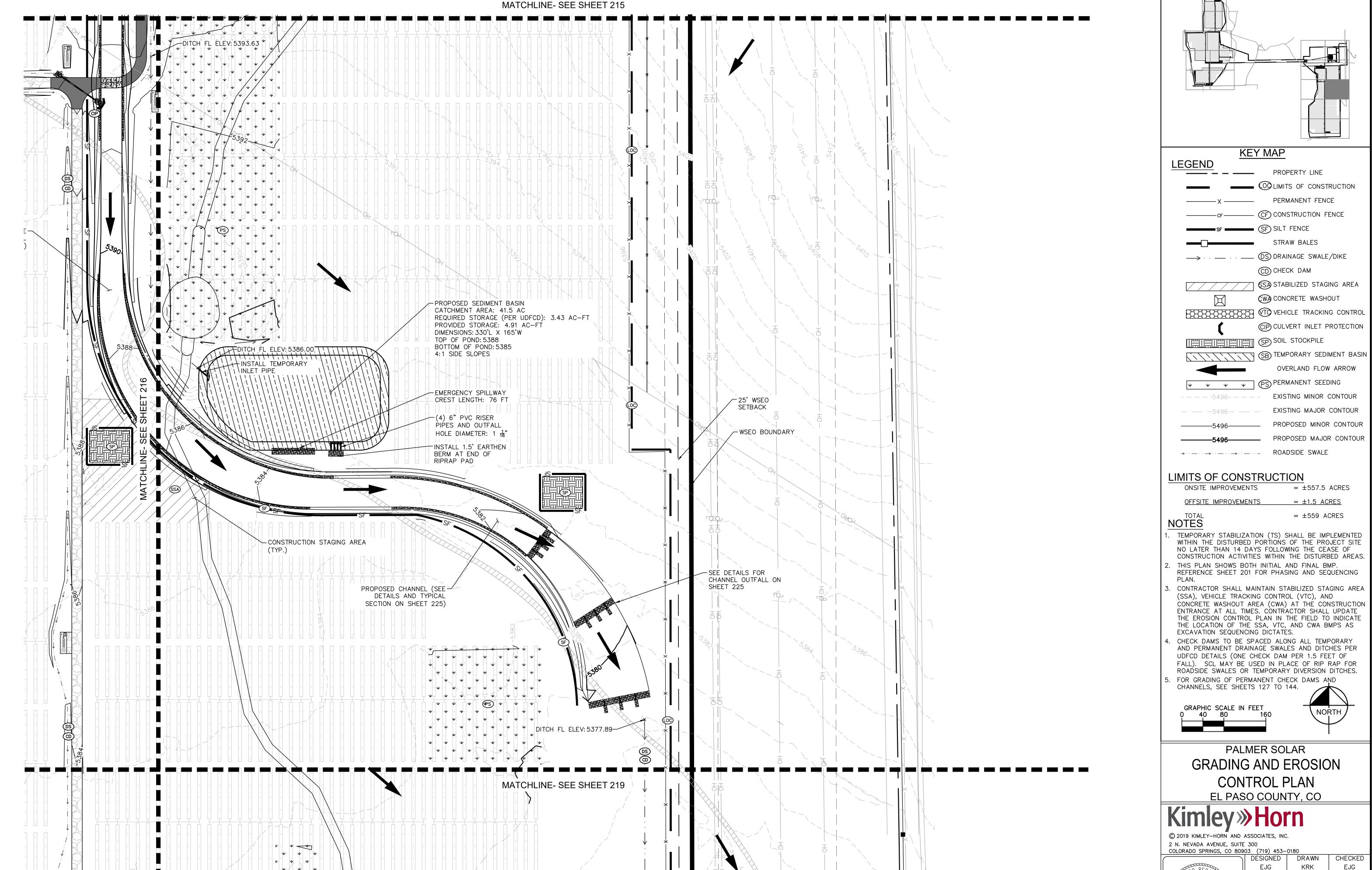


COLORADO SPRINGS, CO 80903 (719) 453-0180

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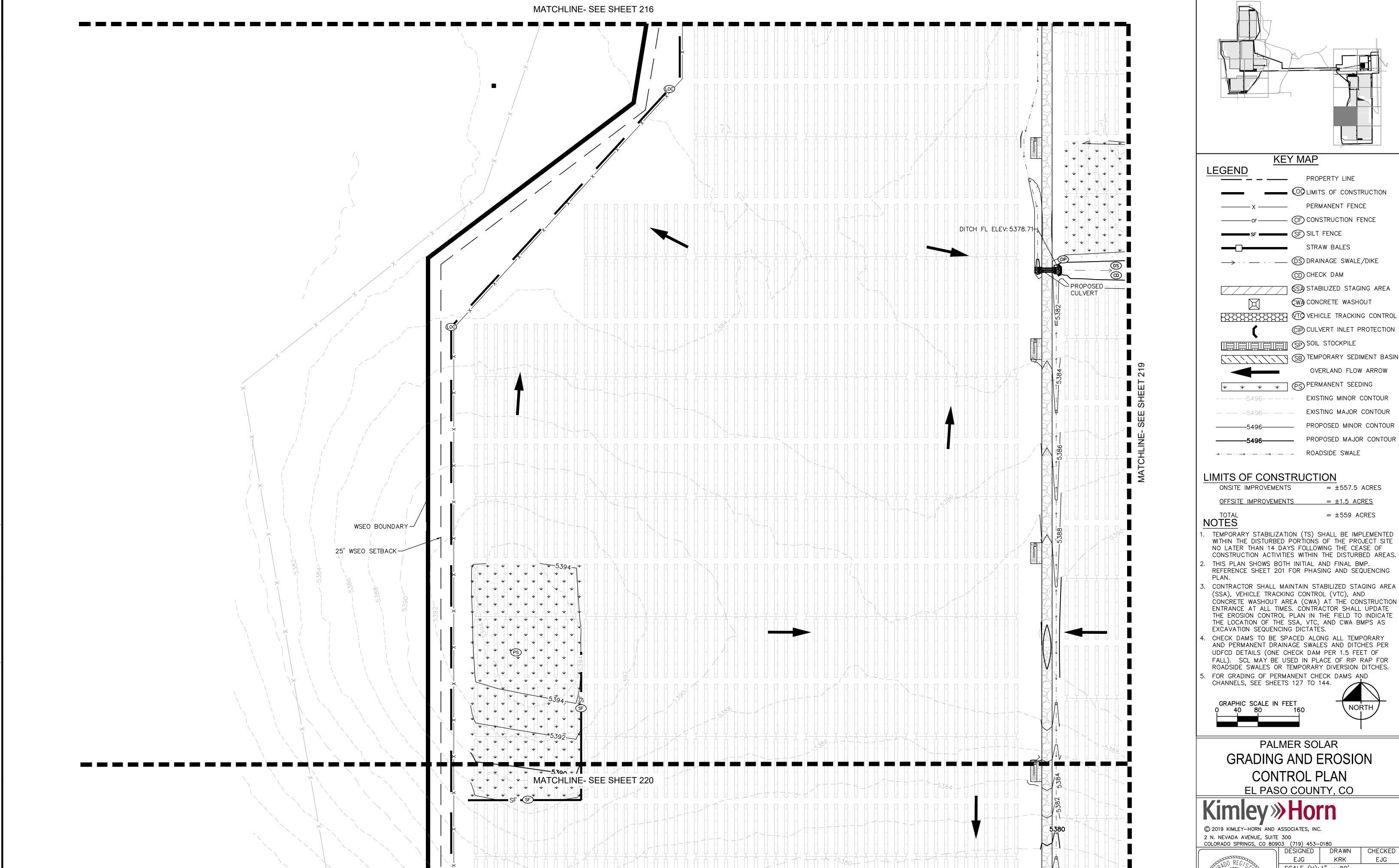
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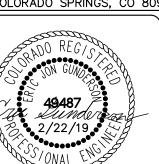
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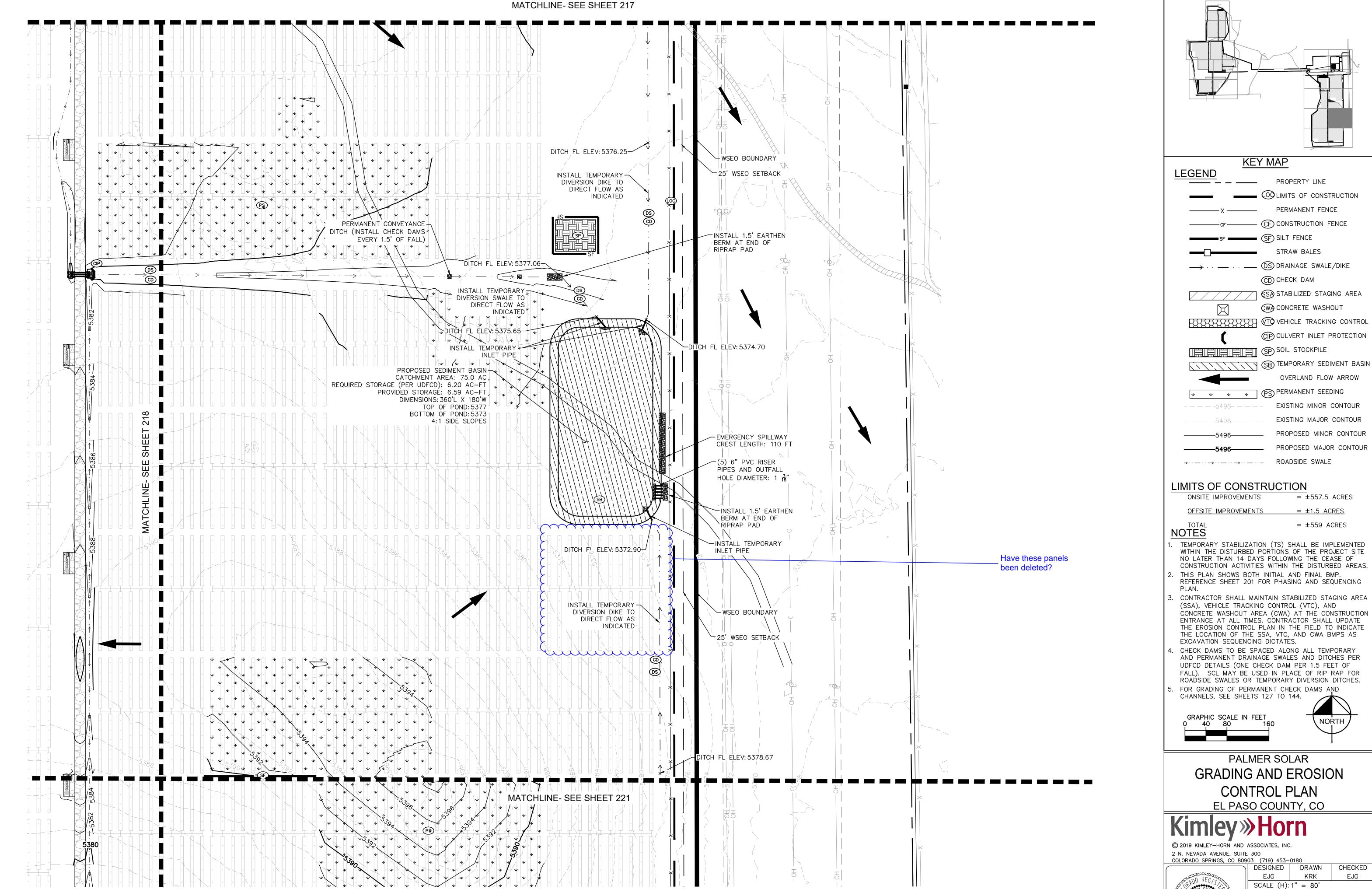
CONCRETE WASHOUT AREA (CWA) AT THE CONSTRUCTION



300		
3 (719) 453–	0180	
DESIGNED	DRAWN	CHECK
EJG	KRK	EJG
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SB TEMPORARY SEDIMENT BASIN

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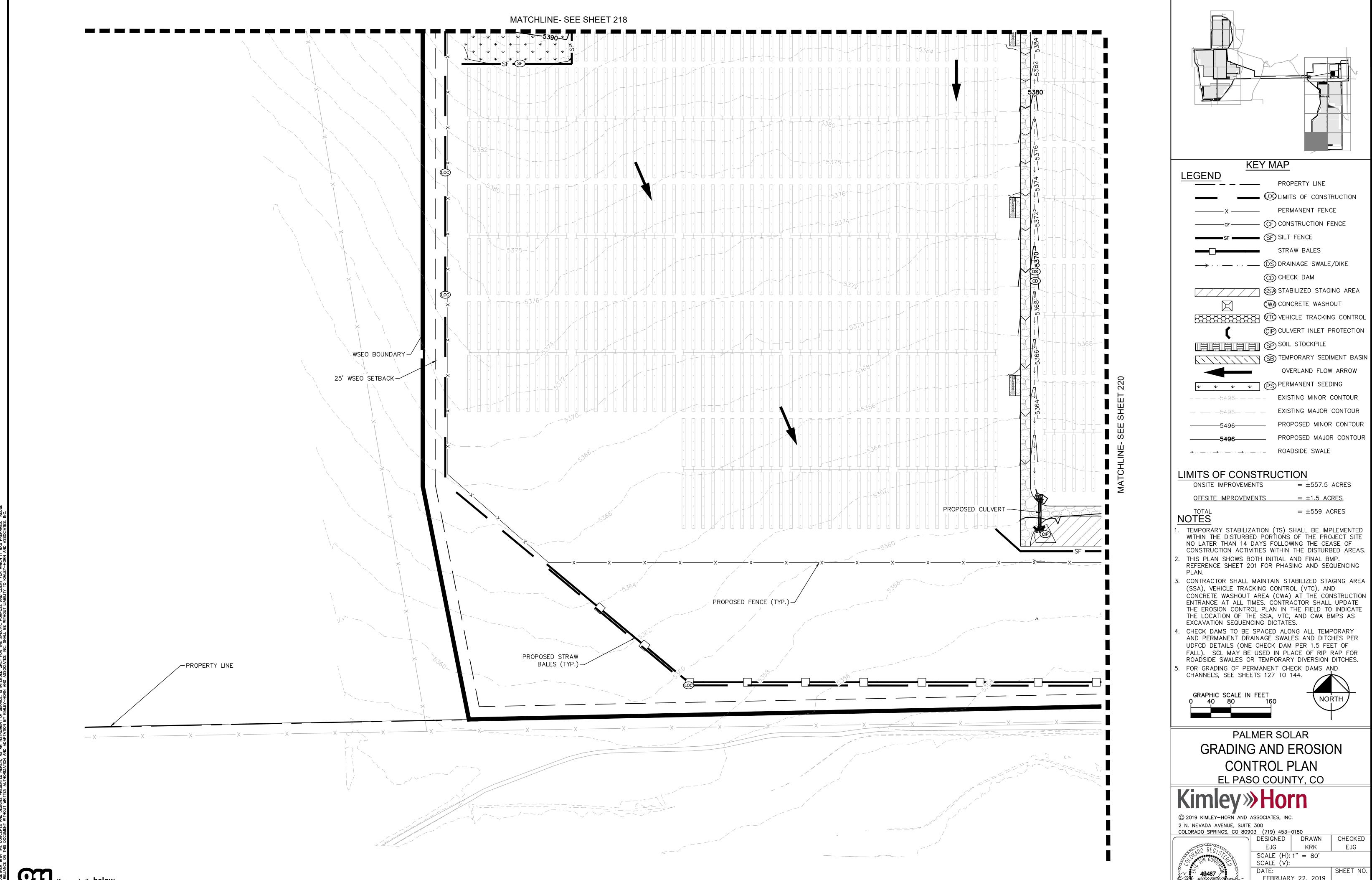
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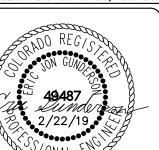
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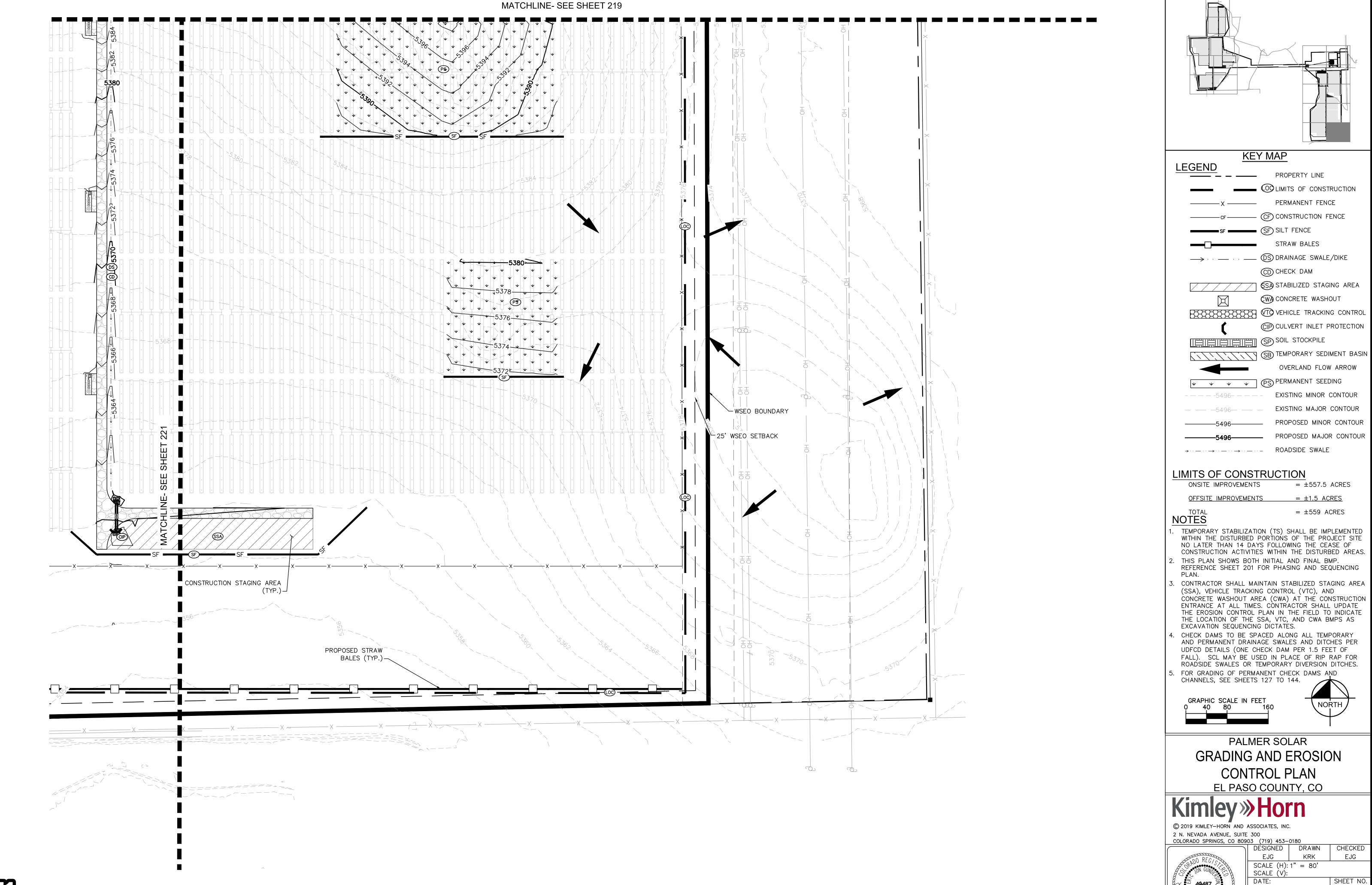
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EJG SHEET NO.

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FEBRUARY 22, 2019 PROJECT NO. 096495003

DWG. NAME 096495003_EC Urban Drainage and Flood Control District

Urban Storm Drainage Criteria Manual Volume 3

SM-6 Stabilized Staging Area (SSA)

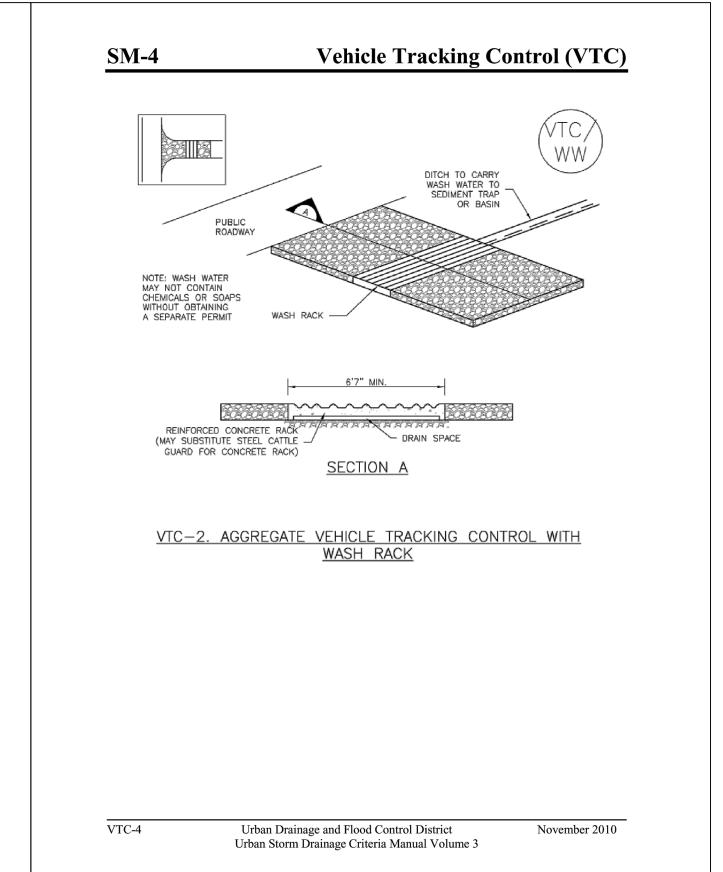
STABILIZED STAGING AREA MAINTENANCE NOTES 5. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS. 6. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED. 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.

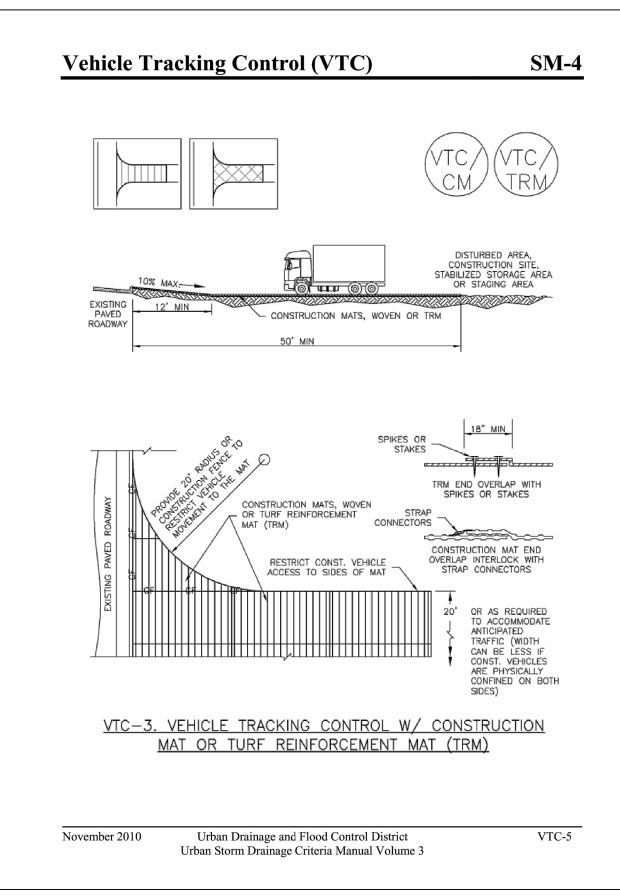
(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

(WIDTH CAN BE LESS IF CONST. VEHICLES ARE PHYSICALLY CONFINED ON BOTH SIDES) SIDEWALK OR OTHER PAVED SURFACE JNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, USE - CDOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" MINUS ROCK NON-WOVEN GEOTEXTILE FABRIC BETWEEN SOIL AND ROCK UNLESS OTHERWISE SPECIFIED BY LOCAL INSTALL ROCK FLUSH WITH OR BELOW TOP OF PAVEMENT JURISDICTION, USE COOT SECT. #703, AASHTO OR 6" MINUS ROCK NON-WOVEN GEOTEXTILE COMPACTED SUBGRADE · SECTION A VTC-1. AGGREGATE VEHICLE TRACKING CONTROL Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

Vehicle Tracking Control (VTC)

SM-4





SM-4 Vehicle Tracking Control (VTC)

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

Urban Drainage and Flood Control District

Urban Storm Drainage Criteria Manual Volume 3

November 2010

 SEE PLAN VIEW FOR
 -LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S).
 -TYPE OF CONSTRUCTION ENTRANCE(S)/EXITS(S) (WITH/WITHOUT WHEEL WASH, 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 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)

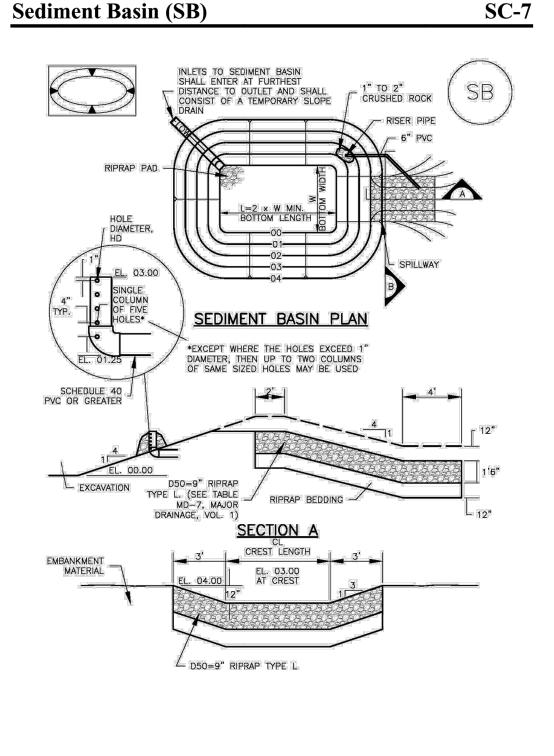
Urban Drainage and Flood Control District

Urban Storm Drainage Criteria Manual Volume 3

VTC-6

August 2013

November 2010

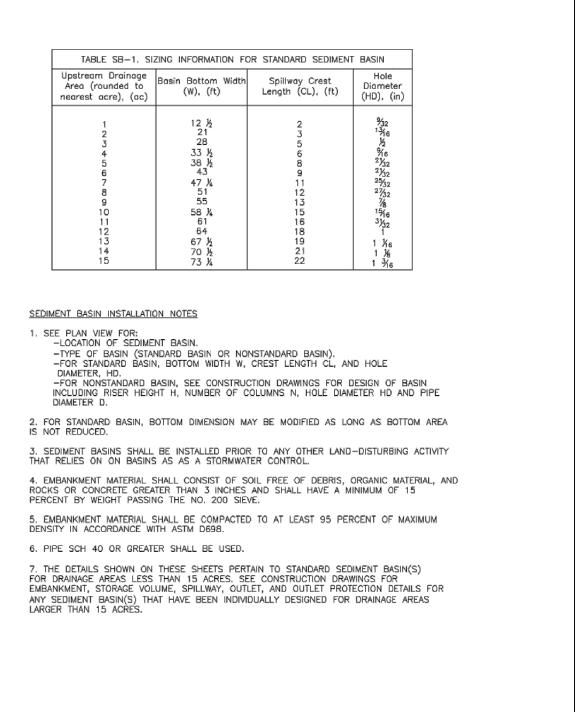


Urban Drainage and Flood Control District

Urban Storm Drainage Criteria Manual Volume 3

SB-5

SB-6



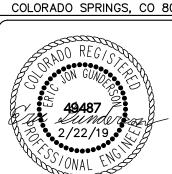
Urban Drainage and Flood Control District

Urban Storm Drainage Criteria Manual Volume 3

Sediment Basin (SB)

August 2013





DESIGNED DRAWN CHECKED KRK EJG EJG SCALE (H): SCALE (V): DATE: SHEET NO. FEBRUARY 22, 2019 PROJECT NO. 222

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EL PASO COUNTY, CO

© 2019 KIMLEY-HORN AND ASSOCIATES, INC. 2 N. NEVADA AVENUE, SUITE 300 COLORADO SPRINGS, CO 80903 (719) 453-0180

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SEDIMENT BASIN 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 IN BASIN SHALL BE REMOVED AS NEEDED TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN SEDIMENT DEPTH REACHES ONE FOOT (I.E., TWO FEET

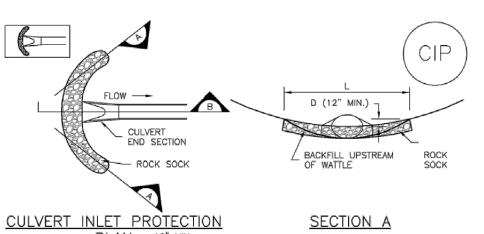
5. SEDIMENT BASINS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS ACCEPTED BY THE LOCAL JURISDICTION. 6. WHEN SEDIMENT BASINS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO)

<u>NOTE:</u> 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.

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

SC-6 Inlet Protection (IP)



PLAN F 10" MIN. KEY IN ROCK SOCK O" ON BEDROCK, PAVEMENT OR RIPRAP KEY IN ROCK SOCK 2" ON EARTH SECTION B

CIP-1. CULVERT INLET PROTECTION

CULVERT INLET PROTECTION INSTALLATION NOTES

SEE PLAN VIEW FOR
 -LOCATION OF CULVERT INLET PROTECTION.

2. SEE ROCK SOCK DESIGN DETAIL FOR ROCK GRADATION REQUIREMENTS AND JOINTING DETAIL.

CULVERT 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 4. SEDIMENT ACCUMULATED UPSTREAM OF THE CULVERT SHALL BE REMOVED WHEN THE

SEDIMENT DEPTH IS ½ THE HEIGHT OF THE ROCK SOCK. 5. CULVERT INLET PROTECTION SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED AND APPROVED BY THE LOCAL JURISDICTION. (DETAILS ADAPTED FROM 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.

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

2. 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

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

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

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 STRAW BALES.

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.

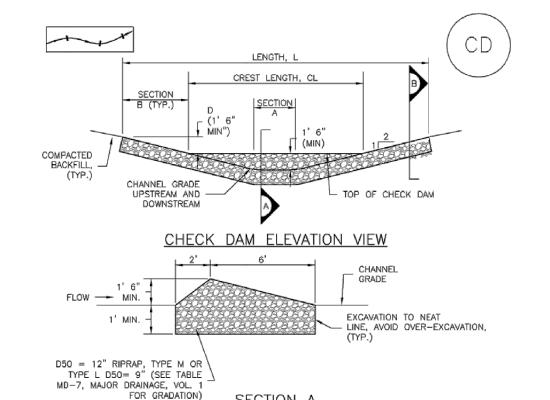
6. WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(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

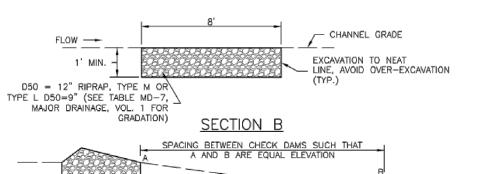
NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF INLET PROTECTION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY PROPRIETARY INLET PROTECTION METHODS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY INLET PROTECTION; HOWEVER, IN THE 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.

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.

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



Check Dams (CD)



CD-1. CHECK DAM

Urban Storm Drainage Criteria Manual Volume 3

Urban Drainage and Flood Control District

CHANNEL GRADE

EC-12

Check Dams (CD)

CHECK DAM INSTALLATION NOTES

 SEE PLAN VIEW FOR:
 -LOCATION OF CHECK DAMS. -CHECK DAM TYPE (CHECK DAM OR REINFORCED CHECK DAM).

-LENGTH (L), CREST LENGTH (CL), AND DEPTH (D). 2. CHECK DAMS INDICATED ON INITIAL SWMP SHALL BE INSTALLED AFTER CONSTRUCTION

FENCE, BUT PRIOR TO ANY UPSTREAM LAND DISTURBING ACTIVITIES.

3. RIPRAP UTILIZED FOR CHECK DAMS SHOULD BE OF APPROPRIATE SIZE FOR THE APPLICATION, TYPICAL TYPES OF RIPRAP USED FOR CHECK DAMS ARE TYPE M (D50 12")

4. RIPRAP PAD SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF 1'.

5. THE ENDS OF THE CHECK DAM SHALL BE A MINIMUM OF 1' 6" HIGHER THAN THE CENTER

EROSION, AND PERFORM NECESSARY MAINTENANCE.

CHECK DAM 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

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 THE CHECK DAMS SHALL BE REMOVED WHEN THE

SEDIMENT DEPTH IS WITHIN ½ OF THE HEIGHT OF THE CREST. 5. CHECK DAMS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

6. WHEN CHECK DAMS ARE REMOVED, EXCAVATIONS SHALL BE FILLED WITH SUITABLE COMPACTED BACKFILL. DISTURBED AREA SHALL BE SEEDED AND MULCHED AND COVERED WITH GEOTEXTILE OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, 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

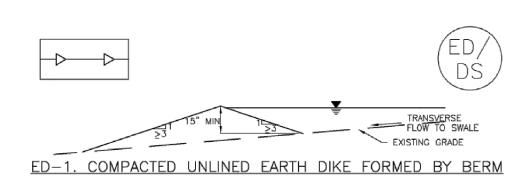
CD-4

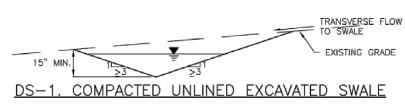
Urban Drainage and Flood Control District

Urban Storm Drainage Criteria Manual Volume 3

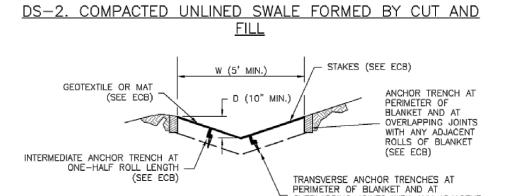
November 2010

Earth Dikes and Drainage Swales (ED/DS)









DS-3. ECB LINED SWALE (CUT AND FILL OR BERM)

November 2010

Urban Drainage and Flood Control District

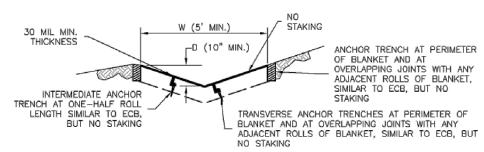
Urban Storm Drainage Criteria Manual Volume 3

ED/DS-3

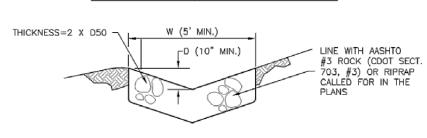
OVERLAPPING JOINTS WITH ANY ADJACENT

ROLLS OF BLANKET (SEE ECB)

Earth Dikes and Drainage Swales (ED/DS)



DS-4. SYNTHETIC LINED SWALE



DS-5. RIPRAP LINED SWALE

EARTH DIKE AND DRAINAGE SWALE INSTALLATION NOTES 1. SEE SITE PLAN FOR:

CULVERT WITH A MINIMUM DIAMETER OF 12 INCHES.

- LOCATION OF DIVERSION SWALE TYPE OF SWALE (UNLINED, COMPACTED AND/OR LINED).

- LENGTH OF EACH SWALE. - DEPTH, D, AND WIDTH, W DIMENSIONS. FOR ECB/TRM LINED DITCH, SEE ECB DETAIL.
 FOR RIPRAP LINED DITCH, SIZE OF RIPRAP, D50.

2. SEE DRAINAGE PLANS FOR DETAILS OF PERMANENT CONVEYANCE FACILITIES AND/OR DIVERSION SWALES EXCEEDING 2-YEAR FLOW RATE OR 10 CFS. 3. EARTH DIKES AND SWALES INDICATED ON SWMP PLAN SHALL BE INSTALLED PRIOR TO

4. EMBANKMENT IS TO BE COMPACTED TO 90% OF MAXIMUM DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D698. 5. SWALES ARE TO DRAIN TO A SEDIMENT CONTROL BMP.

6. FOR LINED DITCHES, INSTALLATION OF ECB/TRM SHALL CONFORM TO THE REQUIREMENTS 7. WHEN CONSTRUCTION TRAFFIC MUST CROSS A DIVERSION SWALE, INSTALL A TEMPORARY

ED/DS-4

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

November 2010

EARTH DIKE AND DRAINAGE SWALE MAINTENANCE NOTES

Earth Dikes and Drainage Swales (ED/DS)

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. SWALES SHALL REMAIN IN PLACE UNTIL THE END OF CONSTRUCTION; IF APPROVED BY LOCAL JURISDICTION, SWALES MAY BE LEFT IN PLACE. 5. WHEN A SWALE IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOPSOIL,

SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION. (DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF COLORADO SPRINGS, COLORADO, NOT AVAILABLE IN

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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ED/DS-5

PALMER SOLAR **GESC DETAILS**

EL PASO COUNTY, CO

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COLORADO SPRINGS, CO 80903 (719) 453-0180

DESIGNED

2 N. NEVADA AVENUE, SUITE 300

EJG EJG KRK SCALE (H): SCALE (V): DATE: SHEET NO. FEBRUARY 22, 2019 PROJECT NO. 223 096495003 DWG. NAME 096495003 EC DT

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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

^a 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

^b 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.

Temporary and Permanent Seeding (TS/PS)

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

Common ^a Name	Botanical Name	Growth Season ^b	Growth Form	Seeds/ Pound	Pounds of PLS/acre
Alakali Soil Seed Mix					
Alkali sacaton	Sporobolus airoides	Cool	Bunch	1,750,000	0.25
Basin wildrye	Elymus cinereus	Cool	Bunch	165,000	2.5
Sodar streambank wheatgrass	Agropyron riparium 'Sodar'	Cool	Sod	170,000	2.5
Jose tall wheatgrass	Agropyron elongatum 'Jose'	Cool	Bunch	79,000	7.0
Arriba western wheatgrass	Agropyron smithii 'Arriba'	Cool	Sod	110,000	5.5
Total					17.75
Fertile Loamy Soil Seed Mix					
Ephriam crested wheatgrass	Agropyron cristatum 'Ephriam'	Cool	Sod	175,000	2.0
Dural hard fescue	Festuca ovina 'duriuscula'	Cool	Bunch	565,000	1.0
Lincoln smooth brome	Bromus inermis leyss 'Lincoln'	Cool	Sod	130,000	3.0
Sodar streambank wheatgrass	Agropyron riparium 'Sodar'	Cool	Sod	170,000	2.5
Arriba western wheatgrass	Agropyron smithii 'Arriba'	Cool	Sod	110,000	7.0
Total					15.5
High Water Table Soil Seed Mix					
Meadow foxtail	Alopecurus pratensis	Cool	Sod	900,000	0.5
Redtop	Agrostis alba	Warm	Open sod	5,000,000	0.25
Reed canarygrass	Phalaris arundinacea	Cool	Sod	68,000	0.5
Lincoln smooth brome	Bromus inermis leyss 'Lincoln'	Cool	Sod	130,000	3.0
Pathfinder switchgrass	Panicum virgatum 'Pathfinder'	Warm	Sod	389,000	1.0
Alkar tall wheatgrass	Agropyron elongatum 'Alkar'	Cool	Bunch	79,000	5.5
Total					10.75
Transition Turf Seed Mix ^c					
Ruebens Canadian bluegrass	Poa compressa 'Ruebens'	Cool	Sod	2,500,000	0.5
Dural hard fescue	Festuca ovina 'duriuscula'	Cool	Bunch	565,000	1.0
Citation perennial ryegrass	Lolium perenne 'Citation'	Cool	Sod	247,000	3.0
Lincoln smooth brome	Bromus inermis leyss 'Lincoln'	Cool	Sod	130,000	3.0
Total					7.5

Temporary and Permanent Seeding (TS/PS) EC-2

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

Common Name	Botanical Name	Growth Season ^b	Growth Form	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	0.25
Vaughn sideoats grama	Bouteloua curtipendula 'Vaughn'	Warm	Sod	191,000	2.0
Arriba western wheatgrass	Agropyron smithii 'Arriba'	Cool	Sod	110,000	5.5
Total					10.25
Heavy Clay, Rocky Foothill Seed	Mix				
Ephriam crested wheatgrass ^d	Agropyron cristatum 'Ephriam'	Cool	Sod	175,000	1.5
Oahe Intermediate wheatgrass	Agropyron intermedium 'Oahe'	Cool	Sod	115,000	5.5
Vaughn sideoats gramae	Bouteloua curtipendula 'Vaughn'	Warm	Sod	191,000	2.0
Lincoln smooth brome	Bromus inermis leyss 'Lincoln'	Cool	Sod	130,000	3.0
Arriba western wheatgrass	Agropyron smithii 'Arriba'	Cool	Sod	110,000	5.5
Total					17.5

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.

b See Table TS/PS-3 for seeding dates.

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	Annual Grasses (Numbers in table reference species in Table 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 also be necessary.

Protect seeded areas from construction equipment and vehicle access.

TEMPORARY SEEDING TO BE PER THE UDFCD STANDARD DETAILS SHOWN HERON, PERMANENT SEEDING TO BE COUNTY AND OWNER APPROVED NRCS MIXTURE

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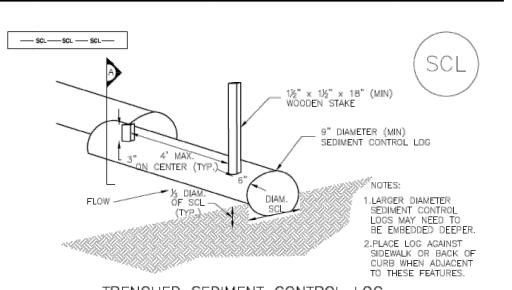
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SC-2

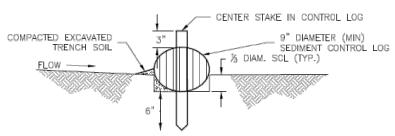
Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 June 2012

Sediment Control Log (SCL)

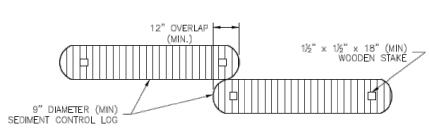
SCL-3



TRENCHED SEDIMENT CONTROL LOG



TRENCHED SEDIMENT CONTROL LOG

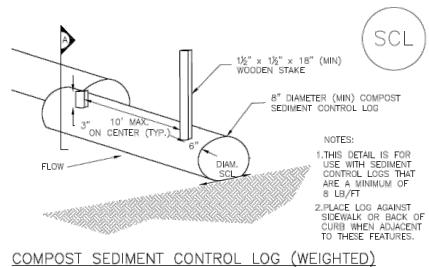


LOG JOINTS

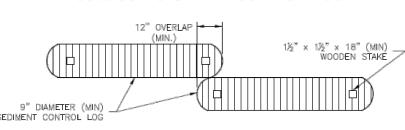
SCL-1. TRENCHED SEDIMENT CONTROL LOG

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Sediment Control Log (SCL)



CENTER STAKE IN CONTROL LOG SEDIMENT CONTROL LOG BLOWN/PLACED FILTER_ MEDIA OR SOIL



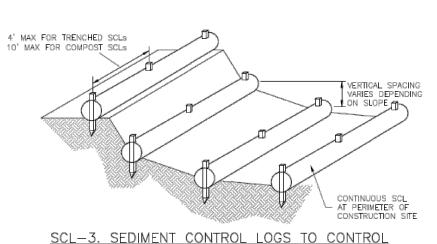
SCL-2. COMPOST SEDIMENT CONTROL LOG (WEIGHTED)

LOG JOINTS

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

November 2015

Sediment Control Log (SCL)



SLOPE LENGTH

Sediment Control Log (SCL)

SEDIMENT CONTROL LOG INSTALLATION NOTES

1. SEE PLAN VIEW FOR LOCATION AND LENGTH OF SEDIMENT CONTROL LOGS.

SEDIMENT CONTROL LOGS THAT ACT AS A PERIMETER CONTROL SHALL BE INSTALLED PRIOR TO ANY UPGRADIENT LAND-DISTURBING ACTIVITIES.

 SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR OR COCONUT FIBER, AND SHALL BE FREE OF ANY NOXIOUS WEED SEEDS OR DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.

SEDIMENT CONTROL LOGS MAY BE USED AS SMALL CHECK DAMS IN DITCHES AND SWALES. HOWEVER, THEY SHOULD NOT BE USED IN PERENNIAL STREAMS.

5. IT IS RECOMMENDED THAT SEDIMENT CONTROL LOGS BE TRENCHED INTO THE GROUND TO A DEPTH OF APPROXIMATELY % OF THE DIAMETER OF THE LOG. IF TRENCHING TO THIS DEPTH IS NOT FEASIBLE AND/OR DESIRABLE (SHORT TERM INSTALLATION WITH DESIRE NOT TO DAMAGE LANDSCAPE) A LESSER TRENCHING DEPTH MAY BE ACCEPTABLE WITH MORE ROBUST STAKING. COMPOST LOGS THAT ARE 8 LB/FT DO NOT NEED TO BE TRENCHED.

6. THE UPHILL SIDE OF THE SEDIMENT CONTROL LOG SHALL BE BACKFILLED WITH SOIL OR FILTER MATERIAL THAT IS FREE OF ROCKS AND DEBRIS. THE SOIL SHALL BE TIGHTLY COMPACTED INTO THE SHAPE OF A RIGHT TRIANGLE USING A SHOVEL OR WEIGHTED LAWN ROLLER OR BLOWN IN PLACE.

7. FOLLOW MANUFACTURERS' GUIDANCE FOR STAKING. IF MANUFACTURERS' INSTRUCTIONS DO NOT SPECIFY SPACING, STAKES SHALL BE PLACED ON 4' CENTERS AND EMBEDDED A MINIMUM OF 6" INTO THE GROUND. 3" OF THE STAKE SHALL PROTRUDE FROM THE TOP OF THE LOG. STAKES THAT ARE BROKEN PRIOR TO INSTALLATION SHALL BE REPLACED, COMPOST LOGS SHOULD BE STAKED 10' ON CENTER. SEDIMENT CONTROL LOG 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.

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

4. SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT CONTROL LOG SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 1/2 OF THE HEIGHT OF THE SEDIMENT CONTROL LOG. 5. SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION.COMPOST FROM COMPOST LOGS MAY BE LEFT IN PLACE AS LONG AS BAGS ARE REMOVED AND THE AREA SEEDED. IF DISTURBED AREAS EXIST AFTER REMOVAL, THEY SHALL BE COVERED WITH SOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY

THE LOCAL JURISDICTION. (DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO, JEFFERSON COUNTY, COLORADO, DOUGLAS COUNTY, 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.

SCL-6

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PALMER SOLAR

PERMANENT SEEDING MIX

<u>SPECIES</u>

SANDBERG BLUEGRASS

STREAMBANK WHEATGRASS

CRESTED WHEATGRASS

BLUE GRAMA

BUFFALOGRASS

SIDEOATS GRAMA

GREEN NEEDLEGRASS

SHEEP FESCUE

TOTAL

LBS/ACRE

0.25

1.25

2.00

0.25

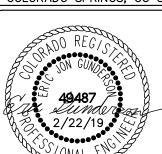
2.50

1.25

1.25

1.25

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EJG SCALE (V): DATE:

DESIGNED | DRAWN | CHECKED KRK FEBRUARY 22, 2019 PROJECT NO.

November 2015

November 2015

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SCL-5

November 2015

GESC DETAILS

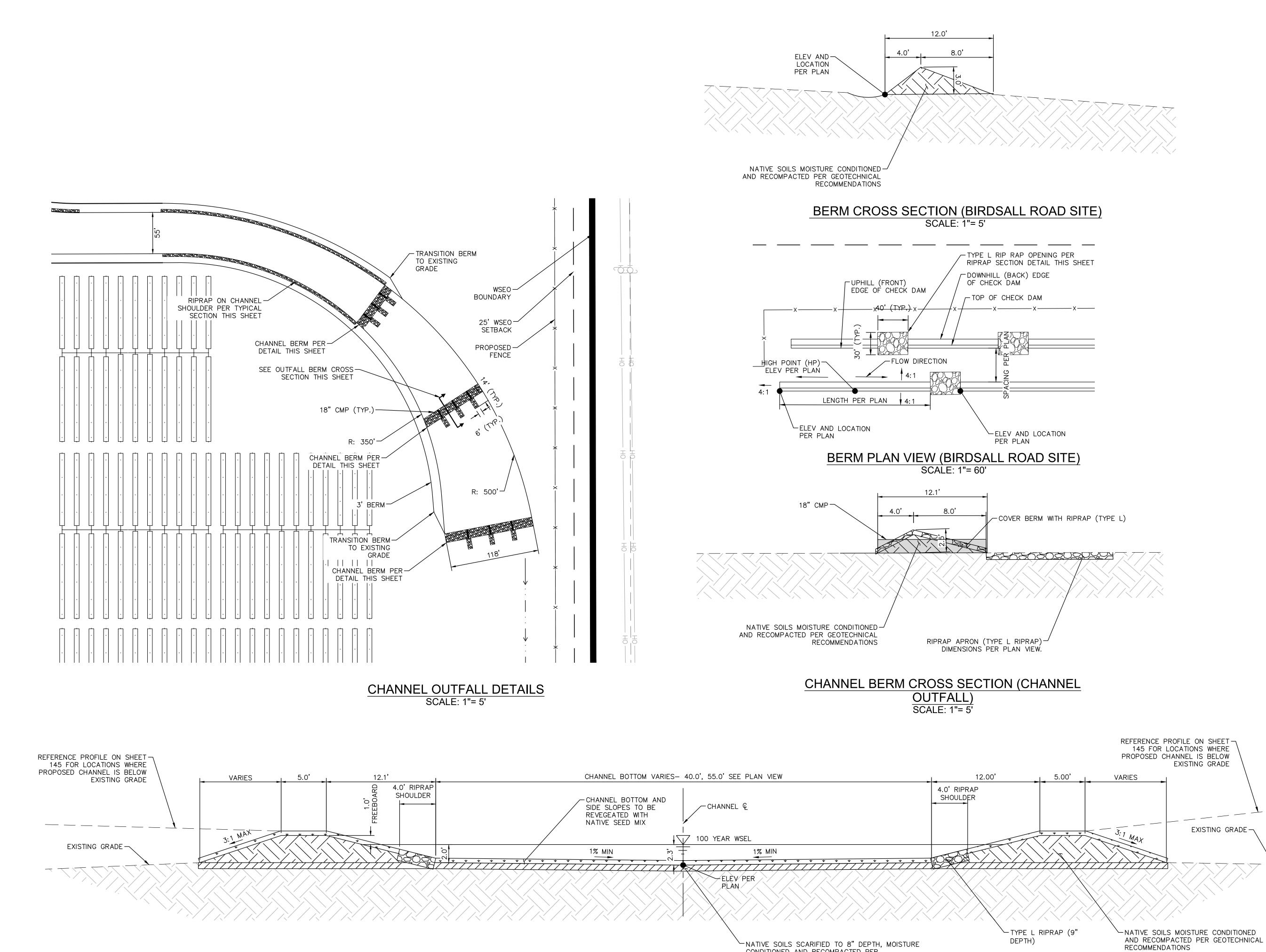
EL PASO COUNTY, CO

2 N. NEVADA AVENUE, SUITE 300 COLORADO SPRINGS, CO 80903 (719) 453-0180 SCALE (H):

096495003 DWG. NAME 096495003 FC DT

SHEET NO. 224

EJG



PALMER SOLAR **GESC DETAILS** EL PASO COUNTY, CO © 2019 KIMLEY-HORN AND ASSOCIATES, INC. 2 N. NEVADA AVENUE, SUITE 300
COLORADO SPRINGS, CO 80903 (719) 453-0180

DESIGNED DRAWN CHECKED

KRK EJG SCALE (H): SCALE (V): DATE: SHEET NO. FEBRUARY 22, 2019 PROJECT NO. 225 096495003 DWG. NAME

096495003_EC_DT

CHANNEL CROSS SECTION SCALE: 1"= 5'

-NATIVE SOILS SCARIFIED TO 8" DEPTH, MOISTURE

CONDITIONS CONTRACTOR SHALL SCARIFY 8"
DEPTH OF NATIVE SOIL BEFORE PLACING

CONDITIONED AND RECOMPACTED PER GEOTECHNICAL RECOMMENDATIONS. IN FILL

ADDITIONAL FILL

DEPTH)

Markup Summary

Callout (2)



Subject: Callout

Page Label: [16] 215 GRADING AND EROSION CONTROL

PLAN

Author: dsdrice

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Subject: Callout

Page Label: [13] 212 GRADING AND EROSION CONTROL

PLAN

Author: dsdrice

Date: 3/3/2019 4:42:17 PM

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