PALMER SOLAR

GEC PLAN

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

STANDARD NOTES FOR EL PASO COUNTY GRADING AND EROSION CONTROL PLANS:

1. CONSTRUCTION MAY NOT COMMENCE UNTIL A CONSTRUCTION PERMIT IS OBTAINED FROM PLANNING AND COMMUNITY DEVELOPMENT (PCD) AND A PRE-CONSTRUCTION CONFERENCE IS HELD WITH PCD INSPECTORS.
2. STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF SITE WATERS, INCLUDING WETLANDS.
3. NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS TO REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
4. A SEPARATE STORMWATER MANAGEMENT PLAN (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 PCD INSPECTIONS STAFF.
6. SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN 21 CALENDAR DAYS AFTER FINAL GRADING, OR FINAL EARTH DISTURBANCE, HAS BEEN COMPLETED. DISTURBED AREAS AND STOCKPILES WHICH ARE NOT AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS SHALL ALSO BE MULCHED WITHIN 21 DAYS AFTER INTERIM GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN 60 DAYS SHALL ALSO BE SEEDED. ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND BMPS SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND ESTABLISHED.
7. TEMPORARY SOIL EROSION CONTROL FACILITIES SHALL BE REMOVED AND EARTH DISTURBANCE AREAS GRADED AND STABILIZED WITH PERMANENT SOIL EROSION CONTROL MEASURES PURSUANT TO STANDARDS AND SPECIFICATION PRESCRIBED IN THE DCM VOLUME II AND THE ENGINEERING CRITERIA MANUAL (ECM) APPENDIX I.
8. ALL PERSONS ENGAGED IN EARTH DISTURBANCE SHALL IMPLEMENT AND MAINTAIN ACCEPTABLE SOIL EROSION AND SEDIMENT CONTROL MEASURES INCLUDING BMPS IN CONFORMANCE WITH THE EROSION CONTROL TECHNICAL STANDARDS OF THE DRAINAGE CRITERIA MANUAL (DCM) VOLUME II AND IN ACCORDANCE WITH THE STORMWATER MANAGEMENT PLAN (SWMP).
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 POINTS.
24. PRIOR TO ACTUAL CONSTRUCTION THE PERMITEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
25. A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
26. THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY TERRACON CONSULTANTS AND SHALL BE CONSIDERED A PART OF THESE PLANS. REPORT NUMBER 23175117, DATED MAY 21, 2018.
27. AT LEAST TEN DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB 1 ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN (SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT:

    COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
    WATER QUALITY CONTROL DIVISION
    WQCD -PERMITS
    4300 CHERRY CREEK DRIVE SOUTH
    DENVER, CO 80246-1530
    ATTN: PERMITS UNIT

VICINITY MAP
1" =5000'

SHEET INDEX

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ADDITIONAL NOTES:

1. ANY REFERENCE TO SHEETS 100-168 WITHIN THIS PLANSET IS REFERRING TO THE PALMER SOLAR CIVIL CONSTRUCTION DOCUMENTS SET AS PREPARED BY KIMLEY-HORN.
2. TEMPORARY SOIL STOCKPILES SHOWN ON PLANS ARE FOR REFERENCE ONLY. CONTRACTOR SHALL RELOCATE STOCKPILES AS NEEDED. CONTRACTOR SHALL GET APPROVAL FROM PCM FOR STOCKPILE LOCATIONS.
3. ALL PERMANENT DITCHES SHOWN TO HAVE PERMANENT SEEDING.
4. WHERE TEMPORARY AND PERMANENT DITCHES CROSS SSA, DITCH SIDE SLOPES TO BE 6:1.
5. CONTRACTOR TO BE AWARE THAT ADDITIONAL FIELD ADJUSTMENTS OF WEST BERMS AND LEVEL SPREADERS AT POINT DISCHARGES WILL BE REQUIRED THROUGHOUT CONSTRUCTION.

CONTACTS:

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

EL PASO COUNTY ENGINEERING:
2880 INTERNATIONAL CIRCLE
COLORADO SPRINGS, CO 80910
PHONE: (719) 520-7877
CONTACT: JEFF RICE

SURVEYOR:
CLARK LAND SURVEYING, INC.
177 S. TIFFANY DRIVE, UNIT 1
PUEBLO WEST, CO 81007
TEL: (719) 582-1270
CONTACT: NATHANIEL MAESTAS, PLS

DEVELOPER:
JSI CONSTRUCTION GROUP
1710 29th STREET, SUITE 1068
BOULDER, CO 80301
TEL: (720) 838-2285
CONTACT: DARNELL EVERETT

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

LAND AREA:

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 (NW¼) 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:

TIMING:
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:
SUMMER 2020

AREAS:
TOTAL WSE-O AREA: 711 ACRES
TOTAL DISTURBED AREA: 547 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.

Mark D. Harris 3/8/2019
DATE

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 3/8/19
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 THIS DOCUMENT.

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

DATE

PALMER SOLAR
GEC PLAN COVER SHEET
EL PASO COUNTY, CO

Kimley»Horn

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

COLORADO REGISTERED PROFESSIONAL ENGINEER ERIC GUNDERSON 49487 3/8/19

DESIGNED	DRAWN	CHECKED
EJG	KRK	EJG

SCALE (H):
SCALE (V):
DATE: FEBRUARY 22, 2019
PROJECT NO. 096495003
DWG. NAME 096495003_EC_CV
SHEET NO. 200

GRADING AND EROSION CONTROL PLAN-PLAN SUBMITTAL

K:\COS_Civil\096495003_Palmer Solar\CADD\Sheets\096495003_EC_CV.dwg Mar 08, 2019 kevin.kofford
XREFS: el paso street map x096495003b_cd_ec
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IMPLEMENTATION INFORMATION:

INITIAL PHASE	1. PREPARE AND SUBMIT THE STATE OF COLORADO, COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT (CDPHE) STATE STORMWATER DISCHARGE PERMIT APPLICATION. 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. 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. 4. INSTALL STABILIZED VEHICLE TRACKING CONTROL PAD (VTC) AS INDICATED ON THE GEC PLANS. 5. INSTALL SILT FENCE (SF) AND SCL AS SHOWN ON THE GEC PLANS. 6. CONSTRUCT REQUIRED STABILIZED STAGING AREA (SSA) 7. 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. 8. INSTALL TEMPORARY CONSTRUCTION FENCE FOR ANY AND ALL PORTIONS OF TEMPORARY SEDIMENT BASINS THAT RESIDE OUTSIDE THE LIMITS OF THE PERMANENT FENCE. 9. CONSTRUCT PERMANENT BERMS (WEST) IN LOCATIONS WITH NO DIVERSION DITCH OR TEMPORARY SEDIMENT POND. 10. INSTALL DIVERSION DITCHES AND TEMPORARY CHECK DAMS (EAST AND WEST). 11. 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. 12. COMPLETE DEMOLITION OF EXISTING SITE IMPROVEMENTS (EXISTING ROADWAY, OVERHEAD POWER LINE, AND POWER POLES) 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.
FINAL PHASE	1. CONFIRM EXISTING BMPS FROM THE INITIAL PHASE, WHICH ARE TO BE MAINTAINED THROUGHOUT CONSTRUCTION, ARE IN WORKING ORDER AND COMPLIANCE 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 IN ACCORDANCE WITH APPROVED RESEEDING LANDSCAPE PLANS. 9. REMOVE TEMPORARY SEDIMENT BASINS, RISER PIPES, AND OUTFALL PROTECTION/BERM. FILL IN TSB TO PRE-CONSTRUCTION GRADE AND REVEGETATE. 10. COMPLETE GRADING AND INSTALLATION OF PERMANENT STABILIZATION OVER SEDIMENT BASIN AREAS AND TEMPORARY DIVERSION DITCHES. 11. CONSTRUCT PERMANENT BERMS (WEST) IN AREAS WHERE SEDIMENT BASINS ARE FILLED IN. 12. ACHIEVE PERMANENT STABILIZATION IN ACCORDANCE WITH EL PASO COUNTY, CDPHE, AND OWNER REQUIREMENTS. 13. REMOVE REMAINING BMPS ONCE PERMANENT STABILIZATION (PS) HAS BEEN ACHIEVED. REPAIR AND STABILIZE AREAS DISTURBED THROUGH BMP REMOVAL. 14. 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. 15. NOTIFY EL PASO COUNTY OF THE INTENT TO FILE THE NOTICE OF INACTIVATION AND RECEIVE EL PASO COUNTY FIELD ACCEPTANCE PRIOR TO PROCEEDING WITH FILING THE NOTICE OF INACTIVATION WITH THE EL PASO COUNTY. 16. PROCEED WITH FILING THE NOTICE OF INACTIVATION WITH THE EL PASO COUNTY AND CDPHE. 17. 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
- 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 224.

GRAPHIC SCALE IN FEET
0 375 750 1500

NORTH

PALMER SOLAR
GRADING AND EROSION OVERALL PLAN
EL PASO COUNTY, CO

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

COLORADO REGISTERED PROFESSIONAL ENGINEER
ERIC JON GUNDERSON
39487
3/8/19

DESIGNED	DRAWN	CHECKED
EJG	KRK	EJG

SCALE (H): 1" = 750'
SCALE (V):
DATE: FEBRUARY 22, 2019
PROJECT NO. 096495003
DWG. NAME 096495003_EC_OVERALL
SHEET NO. 201

GRADING AND EROSION CONTROL PLAN-PLAN SUBMITTAL

K:\COS_Civil\096495003_Palmer Solar\CADD\Sheets\096495003_EC_OVERALL.dwg Mar 09, 2019 Eric.Gunderson
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KEY MAP
NOT TO SCALE

LEGEND

- WSEO OVERLAY BOUNDARY
- WSEO 25' SETBACK
- PROPERTY LINE
- EXISTING EASEMENT
- EXISTING FENCE
- PROPOSED FENCE
- EXISTING OVERHEAD ELECTRIC LINE
- PROPOSED OVERHEAD ELECTRIC LINE
- PROPOSED SILT FENCING
- PROPOSED STRAW BALES
- AREA TRIBUTARY TO TEMPORARY SEDIMENT BASINS
- CONSTRUCTION STAGING AREA

GRAPHIC SCALE IN FEET
0 200 400 800

NORTH

PALMER SOLAR
GRADING AND EROSION CONTROL - BIRDSALL ROAD SITE
EL PASO COUNTY, CO

Kimley»Horn

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COLORADO SPRINGS, CO 80903 (719) 453-0180

COLORADO REGISTERED PROFESSIONAL ENGINEER
49487
3/8/19

DESIGNED	DRAWN	CHECKED
EJG	KRK	EJG

SCALE (H): 1" = 400'
SCALE (V):
DATE: FEBRUARY 22, 2019
PROJECT NO. 096495003
DWG. NAME 096495003_EC_SP
SHEET NO. 202

GRADING AND EROSION CONTROL PLAN-PLAN SUBMITTAL

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KEY MAP
NOT TO SCALE

LEGEND

- WSEO OVERLAY BOUNDARY
- WSEO 25' SETBACK
- PROPERTY LINE
- EXISTING EASEMENT
- EXISTING FENCE
- PROPOSED FENCE
- EXISTING OVERHEAD ELECTRIC LINE
- PROPOSED OVERHEAD ELECTRIC LINE
- PROPOSED SILT FENCING
- PROPOSED STRAW BALES
- AREA TRIBUTARY TO TEMPORARY SEDIMENT BASINS
- CONSTRUCTION STAGING AREA

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.

GRAPHIC SCALE IN FEET
0 200 400 800

NORTH

PALMER SOLAR
GRADING AND EROSION CONTROL- SQUIRREL CREEK SITE
EL PASO COUNTY, CO

Kimley»Horn

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

COLORADO REGISTERED PROFESSIONAL ENGINEER
EJON BONDURANT
49487
3/8/19

DESIGNED	DRAWN	CHECKED
EJG	KRK	EJG

SCALE (H): 1" = 400'
SCALE (V):
DATE: FEBRUARY 22, 2019
SHEET NO. 203
PROJECT NO. 096495003
DWG. NAME 096495003_EC_SP

GRADING AND EROSION CONTROL PLAN-PLAN SUBMITTAL

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MATCHLINE- SEE SHEET 205

KEY MAP
NOT TO SCALE

LEGEND

- PROPERTY LINE
- (LOC) LIMITS OF CONSTRUCTION
- PERMANENT FENCE
- (CF) CONSTRUCTION FENCE
- (SF) SILT FENCE
- STRAW BALES
- (DS) DRAINAGE SWALE/DIKE
- (CD) CHECK DAM
- (SSA) STABILIZED STAGING AREA
- (CWA) CONCRETE WASHOUT
- (VTC) VEHICLE TRACKING CONTROL
- (CIP) CULVERT INLET PROTECTION
- (SP) SOIL STOCKPILE
- (SB) TEMPORARY SEDIMENT BASIN
- OVERLAND FLOW ARROW
- (PS) PERMANENT SEEDING
- 5496 EXISTING MINOR CONTOUR
- 5496 EXISTING MAJOR CONTOUR
- 5496 PROPOSED MINOR CONTOUR
- 5496 PROPOSED MAJOR CONTOUR
- ROADSIDE SWALE

LIMITS OF CONSTRUCTION

ONSITE IMPROVEMENTS	= ±557.5 ACRES
OFFSITE IMPROVEMENTS	= ±1.5 ACRES
TOTAL	= ±559 ACRES

NOTES

1. 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.
2. THIS PLAN SHOWS BOTH INITIAL AND FINAL BMP. REFERENCE SHEET 201 FOR PHASING AND SEQUENCING PLAN.
3. 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.
4. 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 OR HAY BALES MAY BE USED IN PLACE OF RIP RAP FOR ROADSIDE SWALES AND TEMPORARY DIVERSION DITCHES UNLESS OTHERWISE NOTED.
5. FOR GRADING OF PERMANENT CHECK DAMS AND CHANNELS, SEE SHEETS 127 TO 144.
6. ALL DITCHES FLOWING WEST ON BIRDSALL SITE TO HAVE RIP RAP CHECK DAMS.

GRAPHIC SCALE IN FEET
0 40 80 160

NORTH

PALMER SOLAR

GRADING AND EROSION CONTROL PLAN

EL PASO COUNTY, CO

Kimley»Horn

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COLORADO SPRINGS, CO 80903 (719) 453-0180

COLORADO REGISTERED PROFESSIONAL ENGINEER
STEVEN GUNDERSON
19487
3/8/19

DESIGNED	DRAWN	CHECKED
EJG	KRK	EJG

SCALE (H): 1" = 80'
SCALE (V):

DATE: FEBRUARY 22, 2019

PROJECT NO. 096495003

DWG. NAME 096495003_EC

SHEET NO. 204

GRADING AND EROSION CONTROL PLAN-PLAN SUBMITTAL

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PPR-19-006

KEY MAP

LEGEND

- PROPERTY LINE
- LOC LIMITS OF CONSTRUCTION
- X PERMANENT FENCE
- CF CONSTRUCTION FENCE
- SF SILT FENCE
- STRAW BALES
- DS DRAINAGE SWALE/DIKE
- CD CHECK DAM
- SSA STABILIZED STAGING AREA
- CWA CONCRETE WASHOUT
- VTC VEHICLE TRACKING CONTROL
- CIP CULVERT INLET PROTECTION
- SP SOIL STOCKPILE
- SB TEMPORARY SEDIMENT BASIN
- OVERLAND FLOW ARROW
- PS PERMANENT SEEDING
- 5496 EXISTING MINOR CONTOUR
- 5496 EXISTING MAJOR CONTOUR
- 5496 PROPOSED MINOR CONTOUR
- 5496 PROPOSED MAJOR CONTOUR
- ROADSIDE SWALE

LIMITS OF CONSTRUCTION

ONSITE IMPROVEMENTS	= ±557.5 ACRES
OFFSITE IMPROVEMENTS	= ±1.5 ACRES
TOTAL	= ±559 ACRES

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6. ALL DITCHES FLOWING WEST ON BIRDSALL SITE TO HAVE RIP RAP CHECK DAMS.

GRAPHIC SCALE IN FEET
0 40 80 160

NORTH

PALMER SOLAR

GRADING AND EROSION CONTROL PLAN

EL PASO COUNTY, CO

Kimley»Horn

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COLORADO SPRINGS, CO 80903 (719) 453-0180

COLORADO REGISTERED PROFESSIONAL ENGINEER ERIC VON GUNDEN 49487 3/8/19

DESIGNED	DRAWN	CHECKED
EJG	KRK	EJG

SCALE (H): 1" = 80'
SCALE (V):
DATE: FEBRUARY 22, 2019
PROJECT NO. 096495003
DWG. NAME 096495003_EC
SHEET NO. 205

GRADING AND EROSION CONTROL PLAN-PLAN SUBMITTAL

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LEGEND

- PROPERTY LINE
- LOC LIMITS OF CONSTRUCTION
- X PERMANENT FENCE
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- SF SILT FENCE
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- DS DRAINAGE SWALE/DIKE
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- SSA STABILIZED STAGING AREA
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- VTC VEHICLE TRACKING CONTROL
- CIP CULVERT INLET PROTECTION
- SP SOIL STOCKPILE
- SB TEMPORARY SEDIMENT BASIN
- OVERLAND FLOW ARROW
- PS PERMANENT SEEDING
- 5496 EXISTING MINOR CONTOUR
- 5496 EXISTING MAJOR CONTOUR
- 5496 PROPOSED MINOR CONTOUR
- 5496 PROPOSED MAJOR CONTOUR
- ROADSIDE SWALE

LIMITS OF CONSTRUCTION

ONSITE IMPROVEMENTS	= ±557.5 ACRES
OFFSITE IMPROVEMENTS	= ±1.5 ACRES
TOTAL	= ±559 ACRES

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GRAPHIC SCALE IN FEET
0 40 80 160

NORTH

PALMER SOLAR

GRADING AND EROSION CONTROL PLAN

EL PASO COUNTY, CO

Kimley»Horn

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COLORADO SPRINGS, CO 80903 (719) 453-0180

COLORADO REGISTERED PROFESSIONAL ENGINEER 49487 3/8/19

DESIGNED	DRAWN	CHECKED
EJG	KRK	EJG

SCALE (H): 1" = 80'
SCALE (V):

DATE: FEBRUARY 22, 2019

SHEET NO. 206

PROJECT NO. 096495003

DWG. NAME 096495003_EC

GRADING AND EROSION CONTROL PLAN-PLAN SUBMITTAL

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KEY MAP

LEGEND

- PROPERTY LINE
- (LOC) LIMITS OF CONSTRUCTION
- PERMANENT FENCE
- (CF) CONSTRUCTION FENCE
- (SF) SILT FENCE
- STRAW BALES
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- (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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OFFSITE IMPROVEMENTS	= ±1.5 ACRES
TOTAL	= ±559 ACRES

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GRAPHIC SCALE IN FEET
0 40 80 160

NORTH

PALMER SOLAR

GRADING AND EROSION CONTROL PLAN

EL PASO COUNTY, CO

Kimley»Horn

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COLORADO SPRINGS, CO 80903 (719) 453-0180

COLORADO REGISTERED PROFESSIONAL ENGINEER
ERIC JON GUSTAFSON
49487
3/8/19

DESIGNED	DRAWN	CHECKED
EJG	KRK	EJG

SCALE (H): 1" = 80'
SCALE (V):

DATE: FEBRUARY 22, 2019

PROJECT NO. 096495003

DWG. NAME 096495003_EC

SHEET NO. 207

GRADING AND EROSION CONTROL PLAN-PLAN SUBMITTAL

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KEY MAP

LEGEND

- PROPERTY LINE
- LOC LIMITS OF CONSTRUCTION
- X PERMANENT FENCE
- CF CONSTRUCTION FENCE
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- STRAW BALES
- DS DRAINAGE SWALE/DIKE
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- SSA STABILIZED STAGING AREA
- CWA CONCRETE WASHOUT
- VTC VEHICLE TRACKING CONTROL
- CIP CULVERT INLET PROTECTION
- SP SOIL STOCKPILE
- SB TEMPORARY SEDIMENT BASIN
- OVERLAND FLOW ARROW
- PS PERMANENT SEEDING
- 5496 EXISTING MINOR CONTOUR
- 5496 EXISTING MAJOR CONTOUR
- 5496 PROPOSED MINOR CONTOUR
- **5496** PROPOSED MAJOR CONTOUR
- ROADSIDE SWALE

LIMITS OF CONSTRUCTION

ONSITE IMPROVEMENTS	= ±557.5 ACRES
OFFSITE IMPROVEMENTS	= ±1.5 ACRES
TOTAL	= ±559 ACRES

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GRAPHIC SCALE IN FEET
0 40 80 160

NORTH

PALMER SOLAR

GRADING AND EROSION CONTROL PLAN

EL PASO COUNTY, CO

Kimley»Horn

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COLORADO SPRINGS, CO 80903 (719) 453-0180

COLORADO REGISTERED PROFESSIONAL ENGINEER EJG 49487 3/8/19

DESIGNED	DRAWN	CHECKED
EJG	KRK	EJG

SCALE (H): 1" = 80'
SCALE (V):

DATE: FEBRUARY 22, 2019

SHEET NO. 208

PROJECT NO. 096495003

DWG. NAME 096495003_EC

GRADING AND EROSION CONTROL PLAN–PLAN SUBMITTAL

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PPR-19-006

KEY MAP

LEGEND

- PROPERTY LINE
- (LOC) LIMITS OF CONSTRUCTION
- PERMANENT FENCE
- (CF) CONSTRUCTION FENCE
- (SF) SILT FENCE
- STRAW BALES
- (DS) DRAINAGE SWALE/DIKE
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- (SSA) STABILIZED STAGING AREA
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- (CIP) CULVERT INLET PROTECTION
- (SP) SOIL STOCKPILE
- (SB) TEMPORARY SEDIMENT BASIN
- OVERLAND FLOW ARROW
- (PS) PERMANENT SEEDING
- 5496 EXISTING MINOR CONTOUR
- 5496 EXISTING MAJOR CONTOUR
- 5496 PROPOSED MINOR CONTOUR
- 5496 PROPOSED MAJOR CONTOUR
- ROADSIDE SWALE

LIMITS OF CONSTRUCTION

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OFFSITE IMPROVEMENTS	= ±1.5 ACRES
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NOTES

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GRAPHIC SCALE IN FEET
0 40 80 160

NORTH

PALMER SOLAR

GRADING AND EROSION CONTROL PLAN

EL PASO COUNTY, CO

Kimley»Horn

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COLORADO SPRINGS, CO 80903 (719) 453-0180

COLORADO REGISTERED PROFESSIONAL ENGINEER
EJG
49487
3/8/19

DESIGNED	DRAWN	CHECKED
EJG	KRK	EJG

SCALE (H): 1" = 80'
SCALE (V):
DATE: FEBRUARY 22, 2019
PROJECT NO. 096495003
DWG. NAME 096495003_EC
SHEET NO. 209

GRADING AND EROSION CONTROL PLAN-PLAN SUBMITTAL

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KEY MAP

LEGEND

- PROPERTY LINE
- LOC LIMITS OF CONSTRUCTION
- X PERMANENT FENCE
- CF CONSTRUCTION FENCE
- SF SILT FENCE
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- SP SOIL STOCKPILE
- SB TEMPORARY SEDIMENT BASIN
- OVERLAND FLOW ARROW
- PS PERMANENT SEEDING
- 5496 EXISTING MINOR CONTOUR
- 5496 EXISTING MAJOR CONTOUR
- 5496 PROPOSED MINOR CONTOUR
- 5496 PROPOSED MAJOR CONTOUR
- ROADSIDE SWALE

LIMITS OF CONSTRUCTION

ONSITE IMPROVEMENTS	= ±557.5 ACRES
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6. ALL DITCHES FLOWING WEST ON BIRDSALL SITE TO HAVE RIP RAP CHECK DAMS.

GRAPHIC SCALE IN FEET
0 40 80 160

NORTH

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

Kimley»Horn

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

COLORADO REGISTERED PROFESSIONAL ENGINEER ERIC JON GUSTAFSON 39487 3/8/19

DESIGNED	DRAWN	CHECKED
EJG	KRK	EJG

SCALE (H): 1" = 80'
SCALE (V):
DATE: FEBRUARY 22, 2019
PROJECT NO. 096495003
DWG. NAME 096495003_EC
SHEET NO. 210

GRADING AND EROSION CONTROL PLAN-PLAN SUBMITTAL

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PPR-19-006

KEY MAP

LEGEND

- PROPERTY LINE
- LOC LIMITS OF CONSTRUCTION
- PERMANENT FENCE
- CF CONSTRUCTION FENCE
- SF SILT FENCE
- STRAW BALES
- DS DRAINAGE SWALE/DIKE
- CD CHECK DAM
- SSA STABILIZED STAGING AREA
- CWA CONCRETE WASHOUT
- VTC VEHICLE TRACKING CONTROL
- CIP CULVERT INLET PROTECTION
- SP SOIL STOCKPILE
- SB TEMPORARY SEDIMENT BASIN
- OVERLAND FLOW ARROW
- PS PERMANENT SEEDING
- 5496 EXISTING MINOR CONTOUR
- 5496 EXISTING MAJOR CONTOUR
- 5496 PROPOSED MINOR CONTOUR
- 5496 PROPOSED MAJOR CONTOUR
- ROADSIDE SWALE

LIMITS OF CONSTRUCTION

ONSITE IMPROVEMENTS	= ±557.5 ACRES
OFFSITE IMPROVEMENTS	= ±1.5 ACRES
TOTAL IMPROVEMENTS	= ±559.0 ACRES

NOTES

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GRADING AND EROSION CONTROL PLAN

EL PASO COUNTY, CO

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COLORADO REGISTERED PROFESSIONAL ENGINEER
JEFFREY CONDON
49487
3/8/19

DESIGNED	DRAWN	CHECKED
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SCALE (H): 1" = 80'
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PROJECT NO. 096495003
DWG. NAME 096495003_EC
SHEET NO. 211

GRADING AND EROSION CONTROL PLAN-PLAN SUBMITTAL

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- OVERLAND FLOW ARROW
- (PS) PERMANENT SEEDING
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49487
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GRADING AND EROSION CONTROL PLAN-PLAN SUBMITTAL

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MATCHLINE- SEE SHEET 212

PROPOSED CULVERT

EASTERN ACCESS

CUT

WSEO BOUNDARY

25' WSEO SETBACK

PROPOSED CULVERT

PROPOSED CULVERT

PROPOSED CHANNEL (SEE DETAILS AND TYPICAL SECTION ON SHEET 226)

PERMANENT CONVEYANCE DITCH (INSTALL CHECK DAMS EVERY 1.5' OF FALL)

PROPOSED CULVERT

ROADSIDE SWALE (TYP.)

MATCHLINE- SEE SHEET 216

MATCHLINE- SEE SHEET 215

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NORTH

PALMER SOLAR

GRADING AND EROSION CONTROL PLAN

EL PASO COUNTY, CO

Kimley»Horn

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COLORADO SPRINGS, CO 80903 (719) 453-0180

COLORADO REGISTERED PROFESSIONAL ENGINEER 49487 3/8/19

DESIGNED	DRAWN	CHECKED
EJG	KRK	EJG

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DATE: FEBRUARY 22, 2019

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DWG. NAME 096495003_EC

SHEET NO. 214

GRADING AND EROSION CONTROL PLAN–PLAN SUBMITTAL

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MATCHLINE- SEE SHEET 213

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COLORADO REGISTERED PROFESSIONAL ENGINEER
ERIC JON GUNDERSON
49487
3/8/19

DESIGNED	DRAWN	CHECKED
EJG	KRK	EJG

SCALE (H): 1" = 80'
SCALE (V):

DATE: FEBRUARY 22, 2019

SHEET NO. 215

PROJECT NO. 096495003

DWG. NAME 096495003_EC

GRADING AND EROSION CONTROL PLAN–PLAN SUBMITTAL

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5. FOR GRADING OF PERMANENT CHECK DAMS AND CHANNELS, SEE SHEETS 127 TO 144.
6. ALL DITCHES FLOWING WEST ON BIRDSALL SITE TO HAVE RIP RAP CHECK DAMS.

GRAPHIC SCALE IN FEET
0 40 80 160

NORTH

PALMER SOLAR

GRADING AND EROSION CONTROL PLAN

EL PASO COUNTY, CO

Kimley»Horn

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

COLORADO REGISTERED ERIC JON GUNDERSON 39487 3/8/19 PROFESSIONAL ENGINEER

DESIGNED	DRAWN	CHECKED
EJG	KRK	EJG

SCALE (H): 1" = 80'
SCALE (V):

DATE: FEBRUARY 22, 2019

PROJECT NO. 096495003

DWG. NAME 096495003_EC

SHEET NO. 217

GRADING AND EROSION CONTROL PLAN-PLAN SUBMITTAL

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PPR-19-006

KEY MAP

LEGEND

- PROPERTY LINE
- (LOC) LIMITS OF CONSTRUCTION
- X — PERMANENT FENCE
- CF — (CF) CONSTRUCTION FENCE
- SF — (SF) SILT FENCE
- STRAW BALES
- (DS) DRAINAGE SWALE/DIKE
- (CD) CHECK DAM
- (SSA) STABILIZED STAGING AREA
- (CWA) CONCRETE WASHOUT
- (VTC) VEHICLE TRACKING CONTROL
- (CIP) CULVERT INLET PROTECTION
- (SP) SOIL STOCKPILE
- (SB) TEMPORARY SEDIMENT BASIN
- OVERLAND FLOW ARROW
- (PS) PERMANENT SEEDING
- 5496 — EXISTING MINOR CONTOUR
- 5496 — EXISTING MAJOR CONTOUR
- 5496 — PROPOSED MINOR CONTOUR
- **5496** — PROPOSED MAJOR CONTOUR
- ROADSIDE SWALE

LIMITS OF CONSTRUCTION

ONSITE IMPROVEMENTS	= ±557.5 ACRES
OFFSITE IMPROVEMENTS	= ±1.5 ACRES
TOTAL	= ±559 ACRES

NOTES

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COLORADO REGISTERED PROFESSIONAL ENGINEER
EDWARD JOHN GONDEK
49487
3/8/19

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MATCHLINE- SEE SHEET 219

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Stabilized Staging Area (SSA) SM-6

SSA-1. STABILIZED STAGING AREA

STABILIZED STAGING AREA INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   -LOCATION OF STAGING AREA(S).
   -CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.

2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.

3. STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.

4. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 4" THICK GRANULAR MATERIAL.

5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

6. ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

STABILIZED STAGING AREA 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 IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

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 OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

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)

Vehicle Tracking Control (VTC) SM-4

VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

SM-4 Vehicle Tracking Control (VTC)

VTC-2. AGGREGATE VEHICLE TRACKING CONTROL WITH WASH RACK

Vehicle Tracking Control (VTC) SM-4

VTC-3. VEHICLE TRACKING CONTROL W/ CONSTRUCTION MAT OR TURF REINFORCEMENT MAT (TRM)

SM-4 Vehicle Tracking Control (VTC)

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.

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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)

Sediment Basin (SB) SC-7

SC-7 Sediment Basin (SB)

TABLE SB-1. SIZING INFORMATION FOR STANDARD SEDIMENT BASIN

Upstream Drainage Area (rounded to nearest acre), (ac)	Basin Bottom Width (W), (ft)	Spillway Crest Length (CL), (ft)	Hole Diameter (HD), (in)
1	12 1/2	2	9/32
2	21	3	15/64
3	28	5	1/2
4	33 1/2	6	9/16
5	38 1/2	8	17/32
6	43	9	37/32
7	47 1/4	11	39/32
8	51	12	21/32
9	55	13	11/16
10	58 1/4	15	15/16
11	61	16	23/32
12	64	18	
13	67 1/2	19	1 1/16
14	70 1/2	21	1 1/8
15	73 1/4	22	1 3/16

SEDIMENT BASIN INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   -LOCATION OF SEDIMENT BASIN.
   -TYPE OF BASIN (STANDARD BASIN OR NONSTANDARD BASIN).
   -FOR STANDARD BASIN, BOTTOM WIDTH W, CREST LENGTH CL, AND HOLE DIAMETER, HD.
   -FOR NONSTANDARD BASIN, SEE CONSTRUCTION DRAWINGS FOR DESIGN OF BASIN INCLUDING RISER HEIGHT H, NUMBER OF COLUMNS N, HOLE DIAMETER HD AND PIPE DIAMETER D.

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.

6. 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 LARGER THAN 15 ACRES.

PALMER SOLAR
GESC DETAILS

EL PASO COUNTY, CO

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COLORADO REGISTERED PROFESSIONAL ENGINEER 49487 3/8/19

DESIGNED	DRAWN	CHECKED
EJG	KRK	EJG

SCALE (H):
SCALE (V):
DATE: FEBRUARY 22, 2019
PROJECT NO. 096495003
DWG. NAME 096495003_EC_DT
SHEET NO. 222

GRADING AND EROSION CONTROL PLAN-PLAN SUBMITTAL

K:\COS_Civil\096495003_Palmer Solar\CADD\Sheets\096495003_EC_DT.dwg Mar 08, 2019 kevin.kofford
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Know what's below. Call before you dig.

PPR-19-006

Sediment Basin (SB) SC-7

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 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 LOCAL JURISDICTION.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO)

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.

Inlet Protection (IP) SC-6

CIP–1. CULVERT INLET PROTECTION

CULVERT INLET PROTECTION INSTALLATION NOTES

1. 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 DISCOVERY OF THE FAILURE.

4. SEDIMENT ACCUMULATED IN 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.

SC-6 Inlet Protection (IP)

GENERAL INLET PROTECTION INSTALLATION NOTES

1. 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 DIFFERENCES ARE NOTED.

INLET PROTECTION MAINTENANCE NOTES

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

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

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

4. SEDIMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED AS NECESSARY TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN STORAGE VOLUME REACHES 50% OF CAPACITY, A DEPTH OF 6" WHEN SILT FENCE IS USED, OR ¼ 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 DIFFERENCES ARE NOTED.

NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF INLET PROTECTION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY PROPRIETARY INLET PROTECTION METHODS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY INLET PROTECTION; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.

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.

Check Dams (CD) EC-12

CD–1. CHECK DAM

EC-12 Check Dams (CD)

CHECK DAM INSTALLATION NOTES

1. 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") OR TYPE L (D50 9").

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 OF THE CHECK DAM.

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 EROSION, AND PERFORM NECESSARY MAINTENANCE.

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

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

4. SEDIMENT ACCUMULATED UPSTREAM OF 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 DIFFERENCES ARE NOTED.

Earth Dikes and Drainage Swales (ED/DS) EC-10

ED–1. COMPACTED UNLINED EARTH DIKE FORMED BY BERM

DS–1. COMPACTED UNLINED EXCAVATED SWALE

DS–2. COMPACTED UNLINED SWALE FORMED BY CUT AND FILL

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

EC-10 Earth Dikes and Drainage Swales (ED/DS)

EARTH DIKE AND DRAINAGE SWALE INSTALLATION NOTES

1. SEE SITE PLAN FOR:
   – 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 LAND-DISTURBING ACTIVITIES IN PROXIMITY.

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 OF THE ECB DETAIL.

7. WHEN CONSTRUCTION TRAFFIC MUST CROSS A DIVERSION SWALE, INSTALL A TEMPORARY CULVERT WITH A MINIMUM DIAMETER OF 12 INCHES.

Earth Dikes and Drainage Swales (ED/DS) EC-10

EARTH DIKE AND DRAINAGE SWALE 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. 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 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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PALMER SOLAR
GESC DETAILS

EL PASO COUNTY, CO

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COLORADO SPRINGS, CO 80903 (719) 453-0180

COLORADO REGISTERED PROFESSIONAL ENGINEER 49487 3/8/19

DESIGNED	DRAWN	CHECKED
EJG	KRK	EJG

SCALE (H):
SCALE (V):
DATE: FEBRUARY 22, 2019
PROJECT NO. 096495003
DWG. NAME 096495003_EC_DT
SHEET NO. 223

GRADING AND EROSION CONTROL PLAN-PLAN SUBMITTAL

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

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	½
5. Millet	Warm	3 - 15	½ - ¾
6. Sudangrass	Warm	5–10	½ - ¾
7. Sorghum	Warm	5–10	½ - ¾
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. Tritticale	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 the mulch.

[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.

[c] Seeding rates should be doubled if seed is broadcast, or increased by 50 percent if done using a Brillion Drill or by hydraulic seeding.

EC-2 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[d]					
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 grama[e]	*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**

[a] 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 hydraulic seeding is used, hydraulic mulching should be done as a separate operation.

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

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

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

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

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

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

	Annual Grasses (Numbers in table reference speeies 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			✓	✓

Mulch

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

PERMANENT SEEDING MIX

SPECIES	LBS/ACRE
SANDBERG BLUEGRASS	0.25
STREAMBANK WHEATGRASS	1.25
CRESTED WHEATGRASS	2.00
BLUE GRAMA	0.25
BUFFALOGRASS	2.50
SIDEOATS GRAMA	1.25
GREEN NEEDLEGRASS	1.25
SHEEP FESCUE	1.25
TOTAL	10

Sediment Control Log (SCL) SC-2

TRENCHED SEDIMENT CONTROL LOG

SECTION Ⓐ
TRENCHED SEDIMENT CONTROL LOG

LOG JOINTS

SCL-1. TRENCHED SEDIMENT CONTROL LOG

SC-2 Sediment Control Log (SCL)

COMPOST SEDIMENT CONTROL LOG (WEIGHTED)

SECTION Ⓐ
COMPOST SEDIMENT CONTROL LOG

LOG JOINTS

SCL-2. COMPOST SEDIMENT CONTROL LOG (WEIGHTED)

Sediment Control Log (SCL) SC-2

SCL-3. SEDIMENT CONTROL LOGS TO CONTROL SLOPE LENGTH

SC-2 Sediment Control Log (SCL)

SEDIMENT CONTROL LOG INSTALLATION NOTES

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

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

3. 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.

4. 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 ⅓ 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.

3. 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 ½ 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 TOP 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 JURSDICTIONS 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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GESC DETAILS

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COLORADO REGISTERED PROFESSIONAL ENGINEER JEFFREY CONDON 49487 3/8/19

DESIGNED EJG	DRAWN KRK	CHECKED EJG
SCALE (H): SCALE (V):		
DATE: FEBRUARY 22, 2019		SHEET NO. 224
PROJECT NO. 096495003		
DWG. NAME 096495003_EC_DT		

GRADING AND EROSION CONTROL PLAN-PLAN SUBMITTAL

K:\COS_Civil\096495003_Palmer Solar\CADD\Sheets\096495003_EC_DT.dwg Mar 08, 2019 kevin.kofford
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PPR-19-006

CONCRETE WASHOUT AREA PLAN

SECTION A

CWA-1. CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   -CWA INSTALLATION LOCATION.

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 LEAST 3' DEEP.

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.

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.

STRAW BALE

TRENCH FOR STRAW BALE

SECTION A

SBB-1. STRAW BALE

STRAW BALE INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   -LOCATION(S) OF STRAW BALES.

2. STRAW BALES SHALL CONSIST OF CERTIFIED WEED FREE STRAW OR HAY. LOCAL JURISDICTIONS MAY REQUIRE PROOF THAT BALES ARE WEED FREE.

3. STRAW BALES SHALL CONSIST OF APPROXIMATELY 5 CUBIC FEET OF STRAW OR HAY AND WEIGH NOT LESS THAN 35 POUNDS.

4. WHEN STRAW BALES ARE USED IN SERIES AS A BARRIER, THE END OF EACH BALE SHALL BE TIGHTLY ABUTTING ONE ANOTHER.

5. STRAW BALE DIMENSIONS SHALL BE APPROXIMATELY 36"x18"x18".

6. A UNIFORM ANCHOR TRENCH SHALL BE EXCAVATED TO A DEPTH OF 4". STRAW BALES SHALL BE PLACED SO THAT BINDING TWINE IS ENCOMPASSING THE VERTICAL SIDES OF THE BALE(S). ALL EXCAVATED SOIL SHALL BE PLACED ON THE UPHILL SIDE OF THE STRAW BALE(S) AND COMPACTED.

7. TWO (2) WOODEN STAKES SHALL BE USED TO HOLD EACH BALE IN PLACE. WOODEN STAKES SHALL BE 2"x2"x24". WOODEN STAKES SHALL BE DRIVEN 6" INTO THE GROUND.

STRAW BALE 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. STRAW BALES SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, ROTTEN, OR DAMAGED BEYOND REPAIR.

5. SEDIMENT ACCUMULATED UPSTREAM OF STRAW BALE BARRIER SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY ½ OF THE HEIGHT OF THE STRAW BALE BARRIER.

6. STRAWB BALES ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

7. WHEN STRAW BALES ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

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

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COLORADO REGISTERED PROFESSIONAL ENGINEER 49487 3/8/19

DESIGNED	DRAWN	CHECKED
EJG	KRK	EJG

SCALE (H):
SCALE (V):

DATE: FEBRUARY 22, 2019

PROJECT NO. 096495003

DWG. NAME 096495003_EC_DT

SHEET NO. 225

GRADING AND EROSION CONTROL PLAN-PLAN SUBMITTAL

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CHANNEL OUTFALL DETAILS
SCALE: 1"= 5'

BERM CROSS SECTION (BIRDSALL ROAD SITE)
SCALE: 1"= 5'

BERM PLAN VIEW (BIRDSALL ROAD SITE)
SCALE: 1"= 60'

CHANNEL BERM CROSS SECTION (CHANNEL OUTFALL)
SCALE: 1"= 5'

CHANNEL CROSS SECTION
SCALE: 1"= 5'

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COLORADO REGISTERED PROFESSIONAL ENGINEER EDWARD JON GUNDY 49487 3/8/19

DESIGNED	DRAWN	CHECKED
EJG	KRK	EJG

SCALE (H):
SCALE (V):
DATE: FEBRUARY 22, 2019
PROJECT NO. 096495003
DWG. NAME 096495003_EC_DT
SHEET NO. 226

GRADING AND EROSION CONTROL PLAN–PLAN SUBMITTAL

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