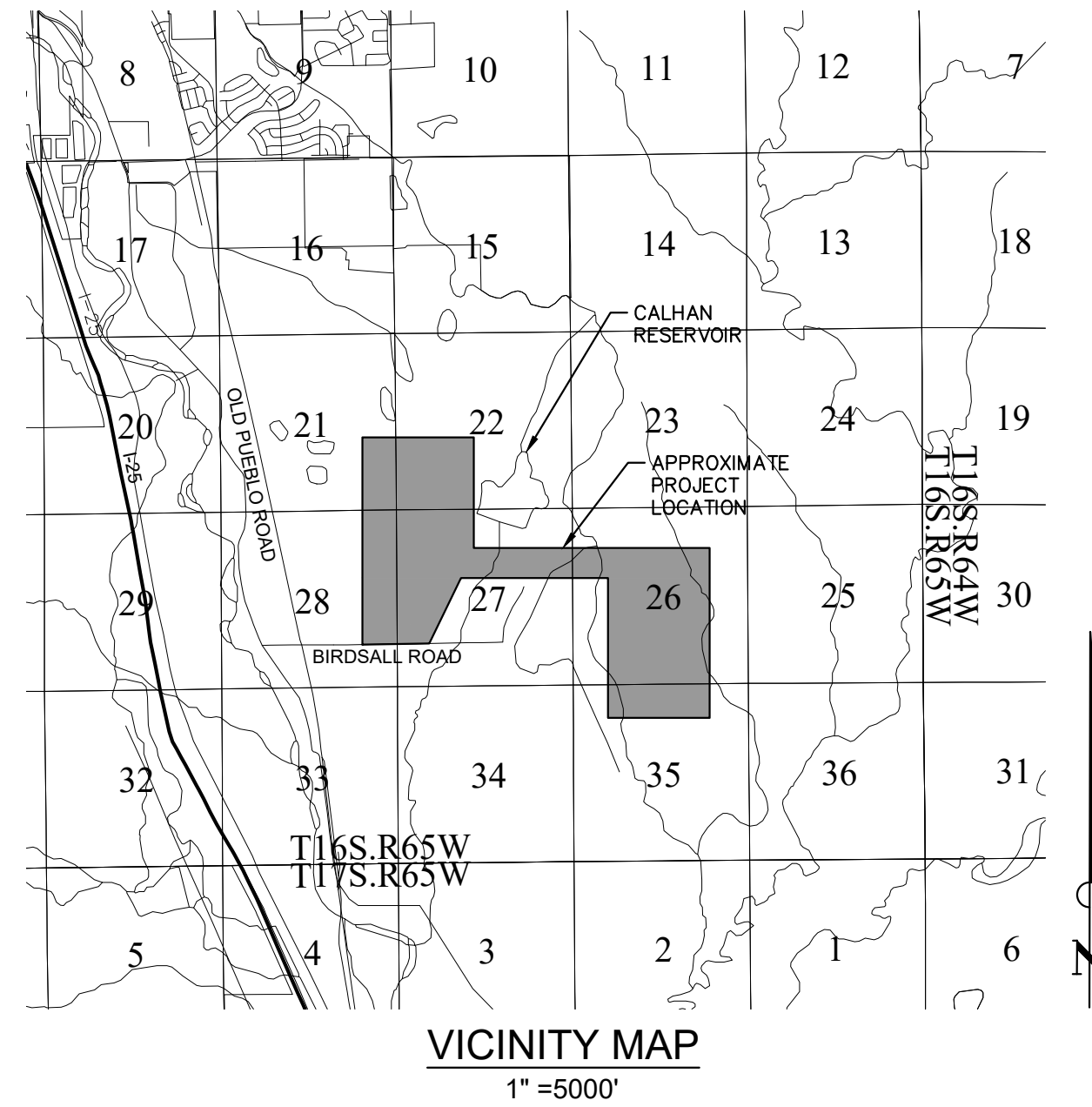


STANDARD NOTES FOR EL PASO COUNTY GRADING AND EROSION CONTROL PLANS:

- 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.
- 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.
- A SEPARATE STORMWATER MANAGEMENT PLAN (SWMP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. DURING CONSTRUCTION THE SWMP IS THE RESPONSIBILITY OF THE DESIGNATED STORMWATER MANAGER. SHALL BE LOCATED ON SITE AT ALL TIMES AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.
- 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.
- 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.
- 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.
- 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).
- 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.
- 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.
- 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.
- 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.
- EROSION CONTROL BLANKETING IS TO BE USED ON SLOPES STEEPER THAN 3:1.
- BUILDING, CONSTRUCTION, EXCAVATION, OR OTHER WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. BMPs MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.
- VEHICLE TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
- 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.
- 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.
- THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM THE WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS.
- NO 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.
- 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.
- NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE FLOW LINE OF THE CURB AND GUTTER OR IN THE DITCHLINE.
- 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.
- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
- PRIOR TO ACTUAL CONSTRUCTION THE PERMITEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
- A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
- 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.
- 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

**PALMER SOLAR
GEC PLAN**
 SITUATED IN A PORTION OF THE SECTIONS 21, 22, 25, 26,
 27, 28, 35, TOWNSHIP 16 SOUTH, RANGE 65 WEST OF
 THE 6TH PRINCIPAL MERIDIAN, COUNTY OF EL PASO,
 STATE OF COLORADO

Add note:
 1. Construction may not commence until a Construction Permit is obtained from Planning and Community Development (PCD) and a preconstruction conference is held with PCD Inspections.



SHEET INDEX

Sheet Number	Sheet Title
C2.0	GEC PLAN COVER SHEET
C2.1	GRADING AND EROSION OVERALL PLAN
C2.2	GRADING AND EROSION CONTROL PLAN
C2.3	GRADING AND EROSION CONTROL PLAN
C2.4	GRADING AND EROSION CONTROL PLAN
C2.5	GRADING AND EROSION CONTROL PLAN
C2.6	GRADING AND EROSION CONTROL PLAN
C2.7	GRADING AND EROSION CONTROL PLAN
C2.8	GRADING AND EROSION CONTROL PLAN
C2.9	GRADING AND EROSION CONTROL PLAN
C2.10	GRADING AND EROSION CONTROL PLAN
C2.11	GRADING AND EROSION CONTROL PLAN
C2.12	GRADING AND EROSION CONTROL PLAN
C2.13	GRADING AND EROSION CONTROL PLAN
C2.14	GRADING AND EROSION CONTROL PLAN
C2.15	GRADING AND EROSION CONTROL PLAN
C2.16	GRADING AND EROSION CONTROL PLAN
C2.17	GRADING AND EROSION CONTROL PLAN
C2.18	GRADING AND EROSION CONTROL PLAN
C2.19	GRADING AND EROSION CONTROL PLAN
C2.20	GESC DETAILS
C2.21	GESC DETAILS
C2.22	GESC DETAILS

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 PUBLIC WORKS:
 3275 AKERS DR.
 COLORADO SPRINGS, CO 80922
 PHONE: 719.385.5918

SURVEYOR:
 CLARK LAND SURVEYING, INC.
 177 S. TIFFANY DRIVE, UNIT 1
 PUEBLO WEST, CO 81007
 TEL: (719) 852-1270
 CONTACT: NATHANIEL MAESTAS, PLS

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

520-6460

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, 25, 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.

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 AREA OF SITE TO BE CLEARED, EXCAVATED OR GRADED: 525 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:
 PERMANENT SEDIMENT BASINS

OWNER'S SIGNATURE BLOCK

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

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, 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



NO.	REVISION	BY	DATE

Kimley»Horn
 2018 KIMLEY-HORN AND ASSOCIATES, INC.
 2 North Nevada Avenue Suite 300
 Colorado Springs, Colorado 80903 (719) 453-0182

DESIGNED BY: EUG
 DRAWN BY: KRK
 CHECKED BY: EUG
 DATE: 8/3/2018

PALMER SOLAR AND WILLIAMS CREEK SUB-STATION
 EL PASO COUNTY, COLORADO
 GRADING AND EROSION CONTROL PLAN
 GEC PLAN COVER SHEET

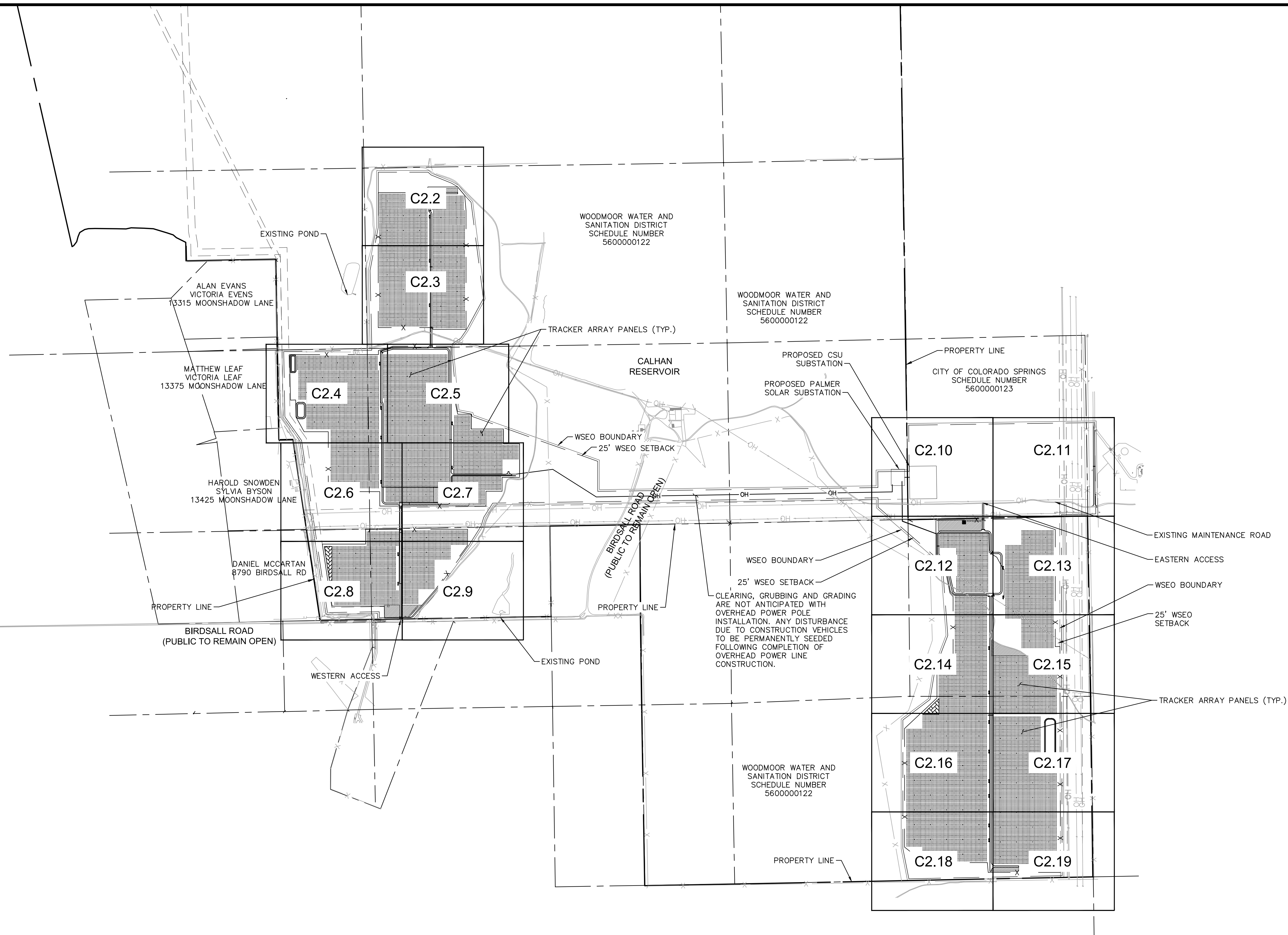
PRELIMINARY
 FOR REVIEW ONLY
 NOT FOR CONSTRUCTION

Kimley»Horn
 Kimley-Horn and Associates, Inc.

PROJECT NO.
 096495003

SHEET
C2.0

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NO.	REVISION	BY	DATE	APPR.

Kimley»Horn
 2018 KIMLEY-HORN AND ASSOCIATES, INC.
 2 North Nevada Avenue Suite 300
 Colorado Springs, Colorado 80903 (719) 453-0182

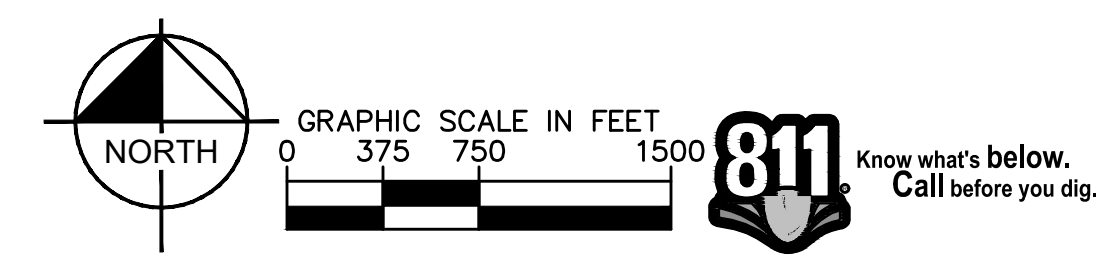
DESIGNED BY: EUG
 DRAWN BY: KRK
 CHECKED BY: EUG
 DATE: 8/3/2018

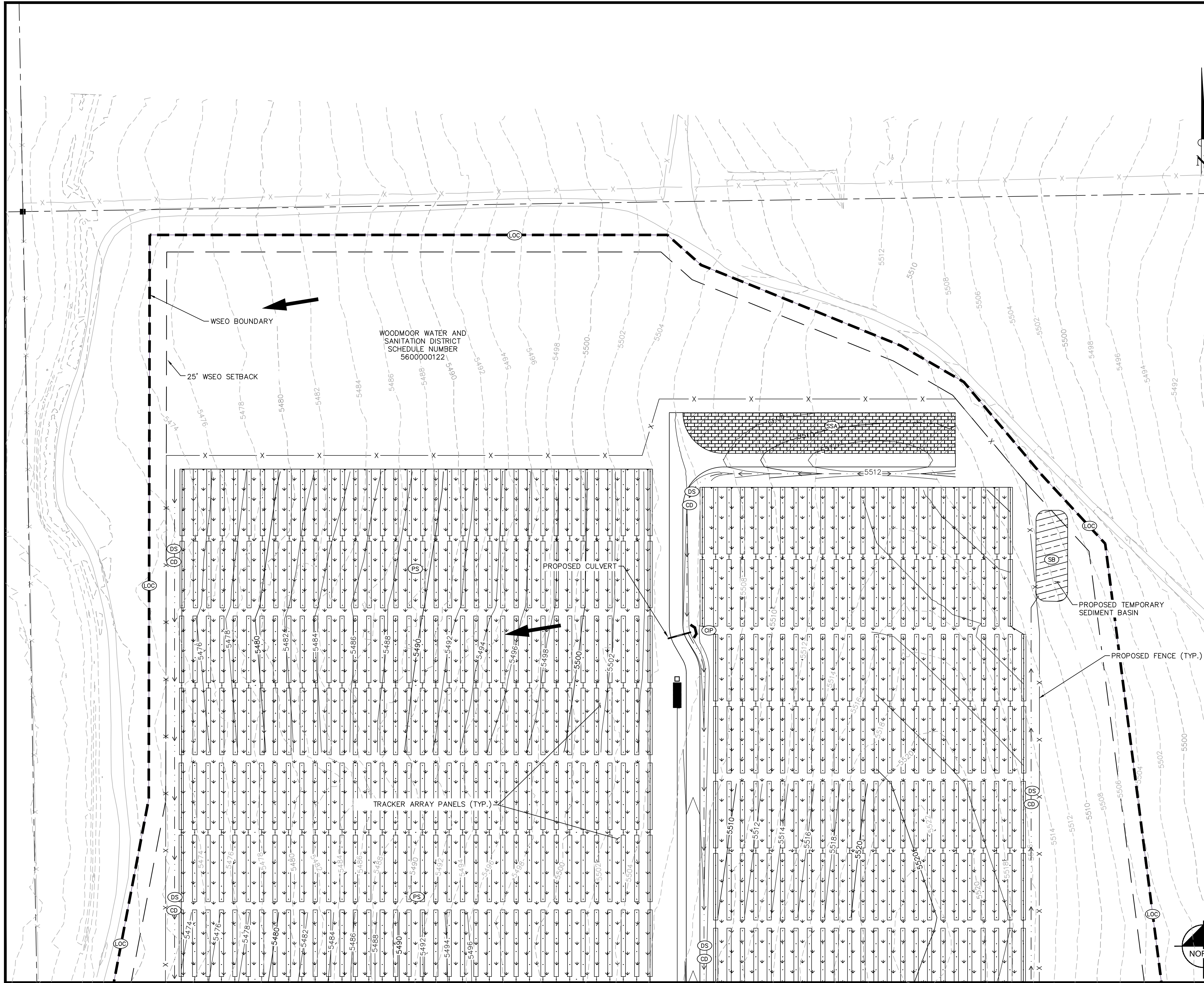
PALMER SOLAR AND WILLIAMS CREEK SUB-STATION
 EL PASO COUNTY, COLORADO
 GRADING AND EROSION CONTROL PLAN
GRADING AND EROSION OVERALL PLAN

PRELIMINARY
 FOR REVIEW ONLY
 NOT FOR
 CONSTRUCTION
Kimley»Horn
 Kimley-Horn and Associates, Inc.

PROJECT NO.
096495003

SHEET
C2.1





LEGEND

- PROPERTY LINE
- (OC) LIMITS OF CONSTRUCTION
- X --- PERMANENT FENCE
- (DS) DRAINAGE SWALE
- (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
- (PS) PERMANENT SEEDING
- (Flow Arrow) FLOW ARROW
- (5496) EXISTING MINOR CONTOUR
- (5496) EXISTING MAJOR CONTOUR
- (5496) PROPOSED MINOR CONTOUR
- (5496) PROPOSED MAJOR CONTOUR

LIMITS OF CONSTRUCTION

ONSITE IMPROVEMENTS	= ± 711 ACRES
OFFSITE IMPROVEMENTS	= ± 0 ACRES
TOTAL	= ± 711 ACRES

- NOTES**
- THE INTENT OF THIS PLAN IS TO IDENTIFY THE EROSION CONTROL PRACTICES RECOMMENDED. THE CONTRACTOR SHALL REFERENCE ADDITIONAL CONSTRUCTION PLANS FOR CONSTRUCTION OF PROPOSED IMPROVEMENTS.
 - 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.
 - PERMANENT STABILIZATION (PS) MAY BE USED WITHIN AREAS OF TEMPORARY STABILIZATION (TS) AT THE CONTRACTOR'S DISCRETION. STABILIZATION SHALL BE APPLIED IN ACCORDANCE WITH APPLICABLE TEMPORARY STABILIZATION SEQUENCING REQUIREMENTS.
 - CONTRACTOR SHALL UTILIZE ROLLED EROSION CONTROL PRODUCTS ON ALL SLOPES 3H:1V OR GREATER TO ACHIEVE REQUIRED STABILIZATION.
 - CONTRACTOR SHALL MAINTAIN ACCEPTABLE EROSION CONTROL PRACTICES WITHIN THE ANTICIPATED LIMITS OF CONSTRUCTION IDENTIFIED HEREIN. BEST MANAGEMENT PRACTICES AND STABILIZATION SHALL BE COMPLETED AS IDENTIFIED HEREIN IN ACCORDANCE WITH COUNTY AND STATE REQUIREMENT.
 - 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 DRAINAGE SWALES PER UDFCD DETAILS. SCL MAY BE USED IN PLACE OF RIP RAP.

GRAPHIC SCALE IN FEET
0 35 70 140

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

Kimley»Horn
2018 KIMLEY-HORN AND ASSOCIATES, INC.
2 North Nevada Avenue Suite 300
Colorado Springs, Colorado 80903 (719) 453-0182

DESIGNED BY: E.JG
DRAWN BY: KRK
CHECKED BY: E.JG
DATE: 8/3/2018

PALMER SOLAR AND WILLIAMS CREEK SUB-STATION
EL PASO COUNTY, COLORADO
GRADING AND EROSION CONTROL PLAN
GRADING AND EROSION CONTROL PLAN

PRELIMINARY
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NOT FOR CONSTRUCTION

Kimley»Horn
Kimley-Horn and Associates, Inc.

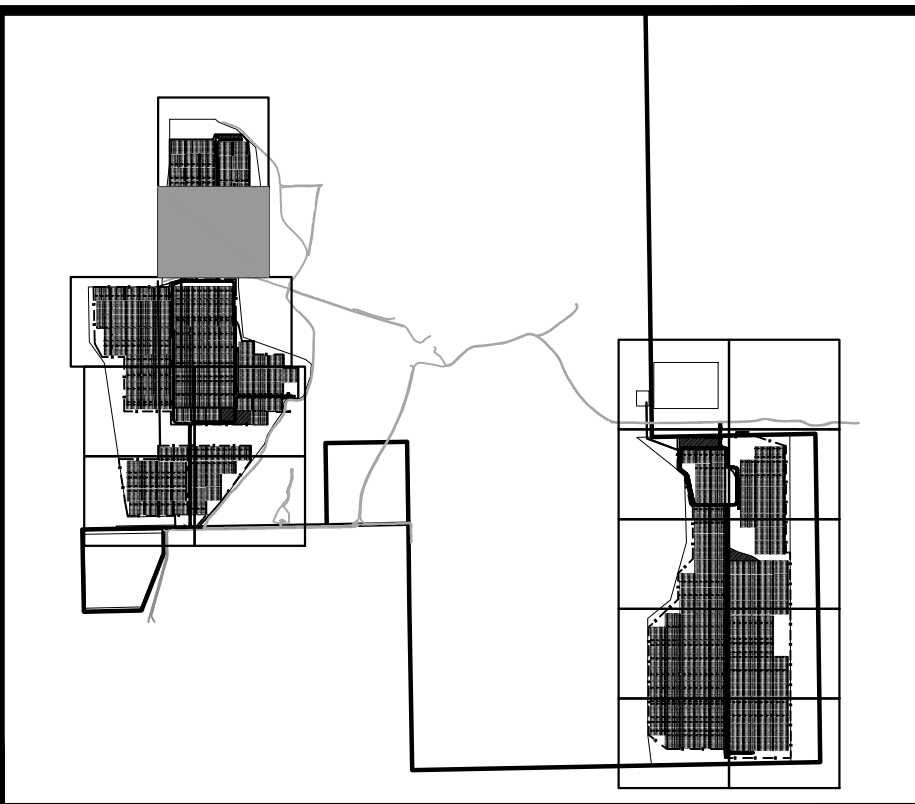
PROJECT NO. 096495003
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NO.	REVISION	BY	DATE	APPR.

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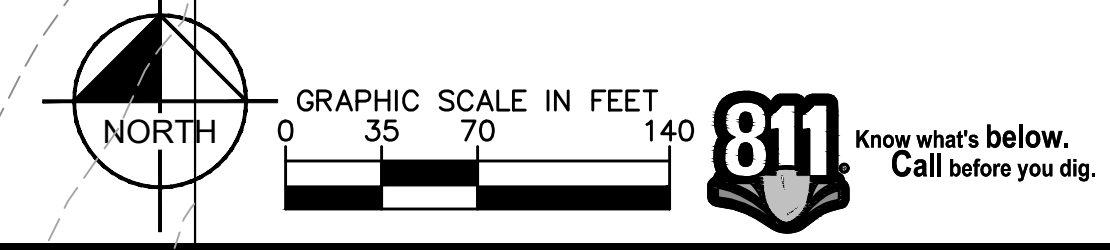
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LEGEND	
---	PROPERTY LINE
---	LIMITS OF CONSTRUCTION
X-X	PERMANENT FENCE
- - - - -	DRAINAGE SWALE
□	CHECK DAM
▒	STABILIZED STAGING AREA
▒	CONCRETE WASHOUT
▒	VEHICLE TRACKING CONTROL
▒	CULVERT INLET PROTECTION
▒	SOIL STOCKPILE
▒	TEMPORARY SEDIMENT BASIN
→	FLOW ARROW
▒	PERMANENT SEEDING
- - - - -	EXISTING MINOR CONTOUR
- - - - -	EXISTING MAJOR CONTOUR
- - - - -	PROPOSED MINOR CONTOUR
- - - - -	PROPOSED MAJOR CONTOUR

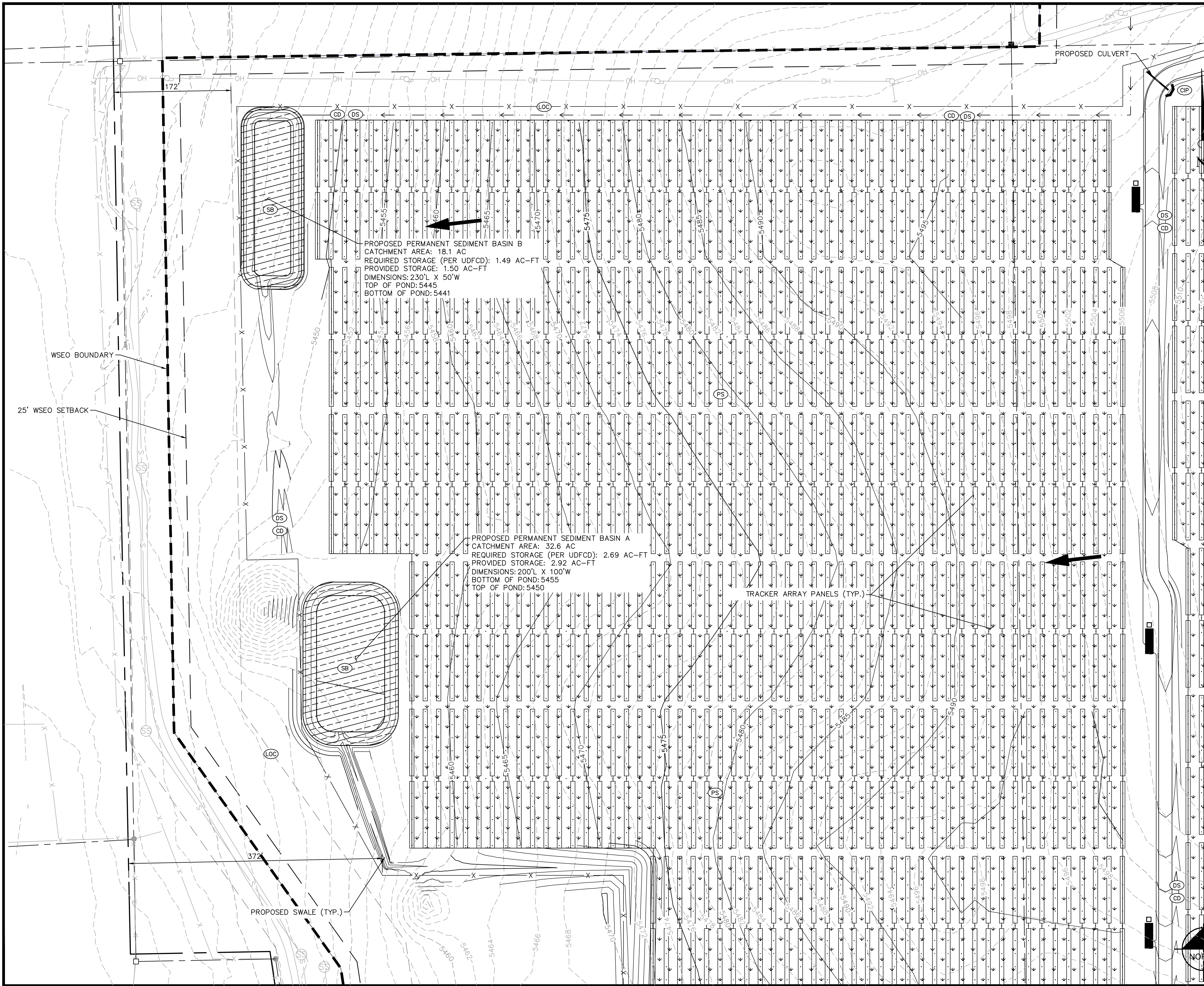
ONSITE IMPROVEMENTS	= ±711 ACRES
OFFSITE IMPROVEMENTS	= ±0 ACRES
TOTAL	= ±711 ACRES

- NOTES**
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 - CHECK DAMS TO BE SPACED ALONG DRAINAGE SWALES PER UDFCD DETAILS. SCL MAY BE USED IN PLACE OF RIP RAP.



REVISION	BY	DATE	APPR.
Kimley»Horn			
2018 KIMLEY-HORN AND ASSOCIATES, INC. 2 North Nevada Avenue Suite 300 Colorado Springs, Colorado 80903 (719) 453-0182			
DESIGNED BY: EJJ DRAWN BY: KRK CHECKED BY: EJJ DATE: 8/3/2018			
PALMER SOLAR AND WILLIAMS CREEK SUB-STATION EL PASO COUNTY, COLORADO GRADING AND EROSION CONTROL PLAN GRADING AND EROSION CONTROL PLAN			
PRELIMINARY FOR REVIEW ONLY NOT FOR CONSTRUCTION			
Kimley»Horn Kimley-Horn and Associates, Inc.			
PROJECT NO. 096495003			
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PROPOSED PERMANENT SEDIMENT BASIN B
 CATCHMENT AREA: 18.1 AC
 REQUIRED STORAGE (PER UDFCD): 1.49 AC-FT
 PROVIDED STORAGE: 1.50 AC-FT
 DIMENSIONS: 230'L X 50'W
 TOP OF POND: 5445
 BOTTOM OF POND: 5441

PROPOSED PERMANENT SEDIMENT BASIN A
 CATCHMENT AREA: 32.6 AC
 REQUIRED STORAGE (PER UDFCD): 2.69 AC-FT
 PROVIDED STORAGE: 2.92 AC-FT
 DIMENSIONS: 200'L X 100'W
 TOP OF POND: 5455
 BOTTOM OF POND: 5450

TRACKER ARRAY PANELS (TYP.)

KEY MAP
NOT TO SCALE

LEGEND

- PROPERTY LINE
- X --- LIMITS OF CONSTRUCTION
- DS --- PERMANENT FENCE
- DS --- DRAINAGE SWALE
- 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
- PS --- PERMANENT SEEDING
- > FLOW ARROW
- 5496 --- EXISTING MINOR CONTOUR
- 5496 --- EXISTING MAJOR CONTOUR
- 5496 --- PROPOSED MINOR CONTOUR
- 5496 --- PROPOSED MAJOR CONTOUR

LIMITS OF CONSTRUCTION

ONSITE IMPROVEMENTS = ±711 ACRES
 OFFSITE IMPROVEMENTS = ±0 ACRES
 TOTAL = ±711 ACRES

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GRAPHIC SCALE IN FEET
0 35 70 140

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

NORTH

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Kimley»Horn
 2018 KIMLEY-HORN AND ASSOCIATES, INC.
 2 North Nevada Avenue Suite 300
 Colorado Springs, Colorado 80903 (719) 453-0182

DESIGNED BY: EJJ
 DRAWN BY: KRK
 CHECKED BY: EJJ
 DATE: 8/3/2018

PALMER SOLAR AND WILLIAMS CREEK SUB-STATION
EL PASO COUNTY, COLORADO
GRADING AND EROSION CONTROL PLAN
GRADING AND EROSION CONTROL PLAN

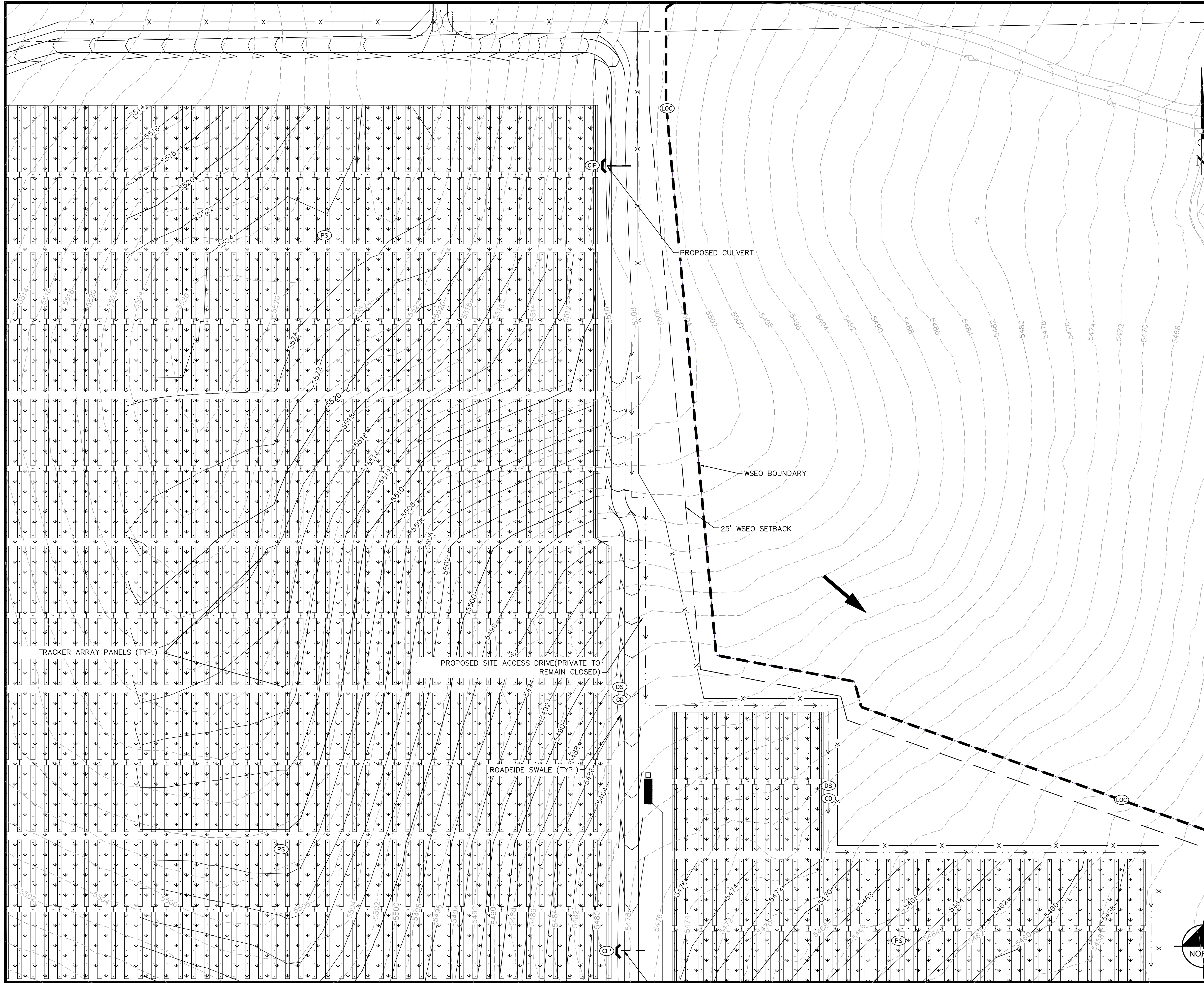
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 Kimley-Horn and Associates, Inc.

PROJECT NO.
096495003

SHEET
C2.4

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KEY MAP
NOT TO SCALE

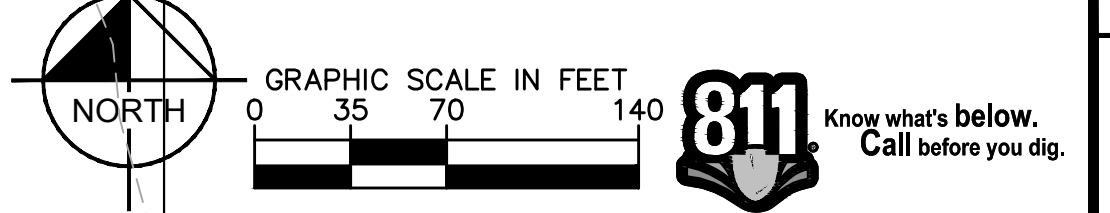
LEGEND

---	PROPERTY LINE
---X---	PERMANENT FENCE
→	DRAINAGE SWALE
⊕	CHECK DAM
▒	STABILIZED STAGING AREA
⊠	CONCRETE WASHOUT
⊞	VEHICLE TRACKING CONTROL
⊞	CULVERT INLET PROTECTION
⊞	SOIL STOCKPILE
⊞	TEMPORARY SEDIMENT BASIN
→	FLOW ARROW
⊞	PERMANENT SEEDING
- - - 5496 - - -	EXISTING MINOR CONTOUR
- - - 5496 - - -	EXISTING MAJOR CONTOUR
- - - 5496 - - -	PROPOSED MINOR CONTOUR
- - - 5496 - - -	PROPOSED MAJOR CONTOUR

LIMITS OF CONSTRUCTION

ONSITE IMPROVEMENTS	= ±711 ACRES
OFFSITE IMPROVEMENTS	= ±0 ACRES
TOTAL	= ±711 ACRES

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DESIGNED BY: E.J.G.
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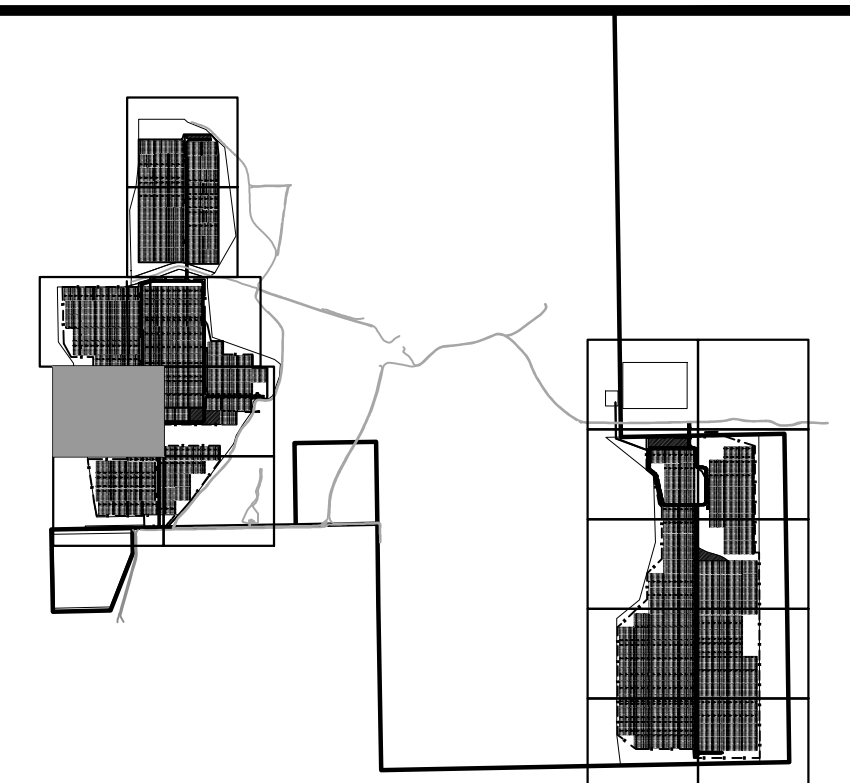
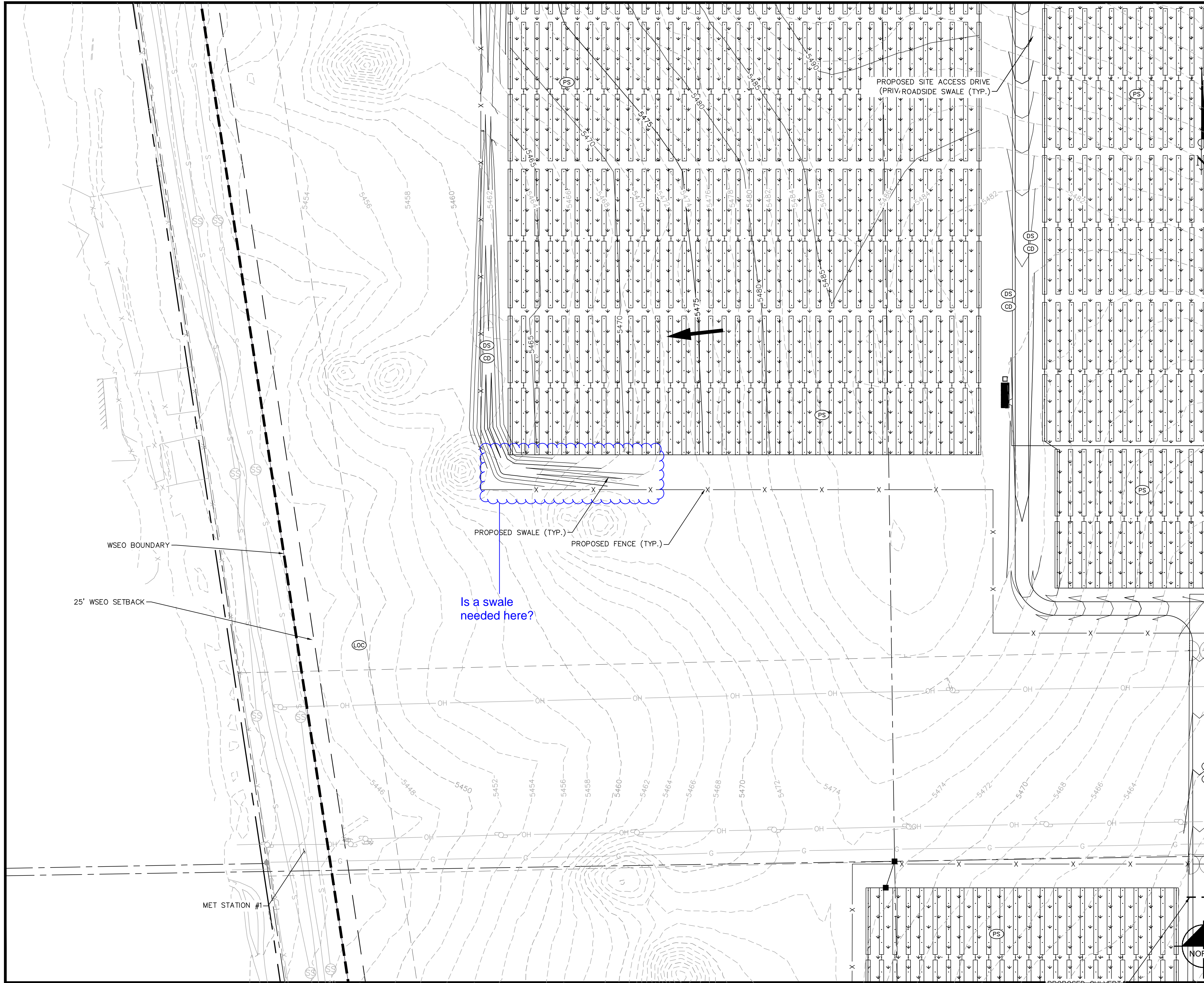
PALMER SOLAR AND WILLIAMS CREEK SUB-STATION
EL PASO COUNTY, COLORADO
GRADING AND EROSION CONTROL PLAN
GRADING AND EROSION CONTROL PLAN

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PROJECT NO. 096495003
SHEET C2.5

NO.	REVISION	BY	DATE	APPR.

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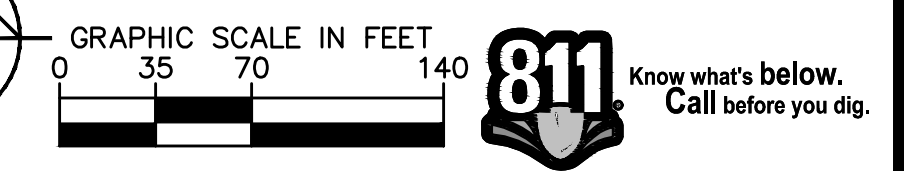
LEGEND

	PROPERTY LINE
	LIMITS OF CONSTRUCTION
	PERMANENT FENCE
	DRAINAGE SWALE
	CHECK DAM
	STABILIZED STAGING AREA
	CONCRETE WASHOUT
	VEHICLE TRACKING CONTROL
	CULVERT INLET PROTECTION
	SOIL STOCKPILE
	TEMPORARY SEDIMENT BASIN
	FLOW ARROW
	PERMANENT SEEDING
	EXISTING MINOR CONTOUR
	EXISTING MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
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**PALMER SOLAR AND WILLIAMS CREEK SUB-STATION
 EL PASO COUNTY, COLORADO
 GRADING AND EROSION CONTROL PLAN
 GRADING AND EROSION CONTROL PLAN**

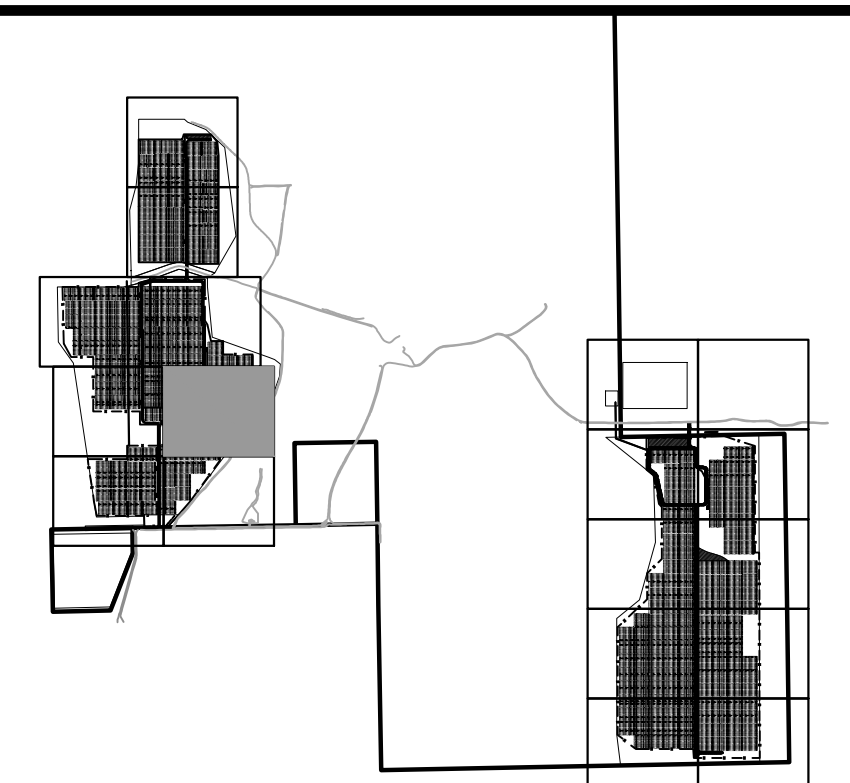
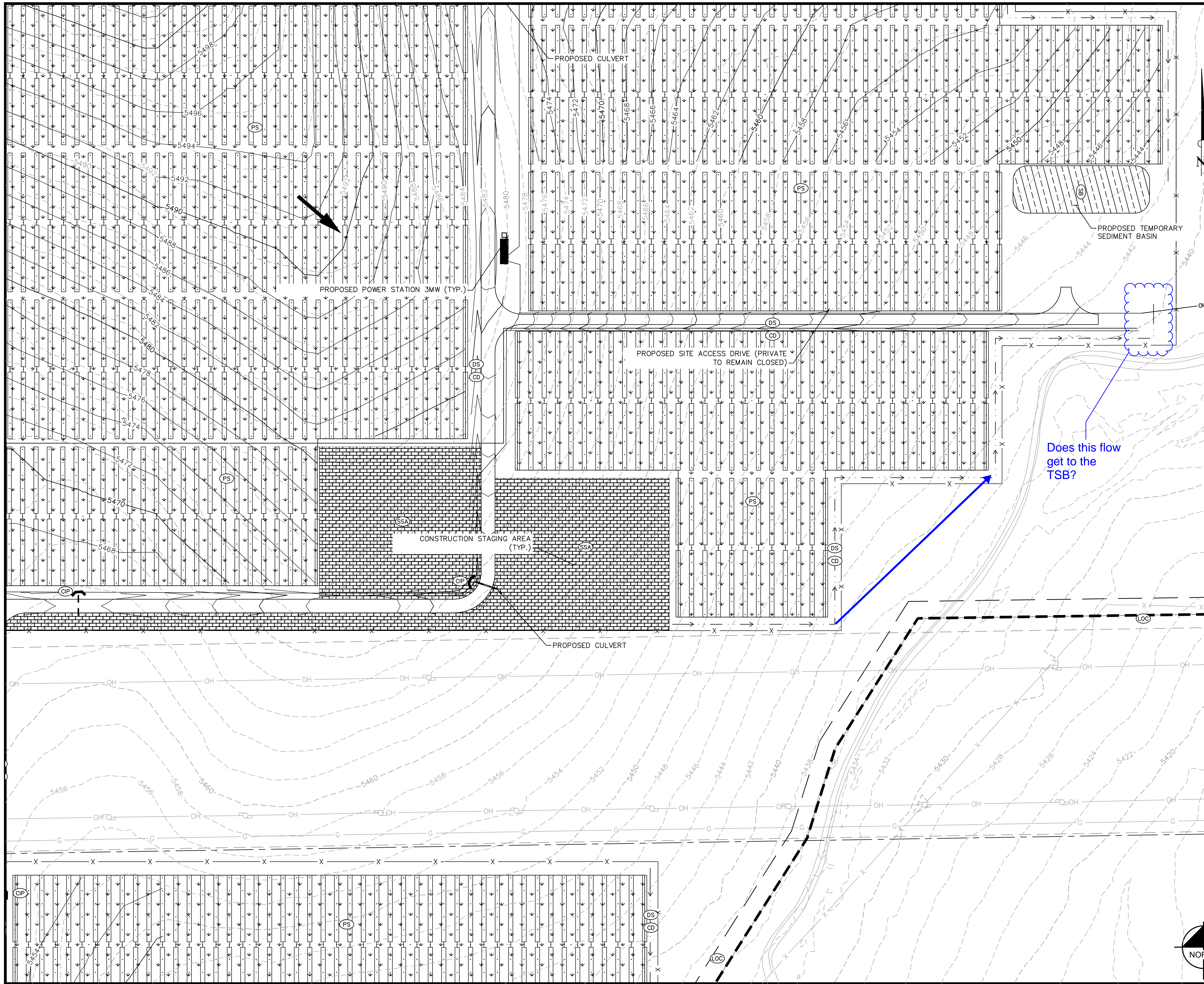
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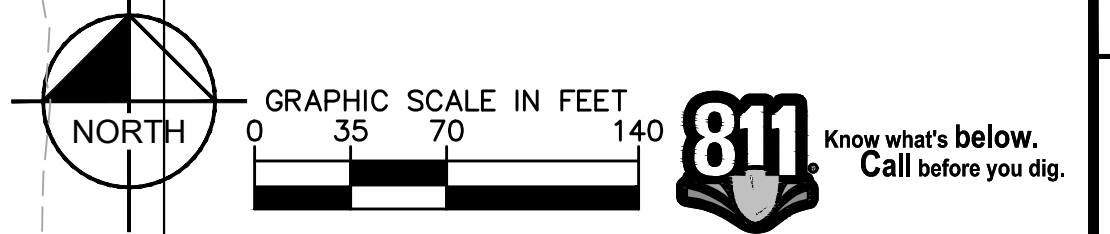
LEGEND

---	PROPERTY LINE
---X---	PERMANENT FENCE
---	DRAINAGE SWALE
---	CHECK DAM
---	STABILIZED STAGING AREA
---	CONCRETE WASHOUT
---	VEHICLE TRACKING CONTROL
---	CULVERT INLET PROTECTION
---	SOIL STOCKPILE
---	TEMPORARY SEDIMENT BASIN
---	FLOW ARROW
---	PERMANENT SEEDING
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---	EXISTING MAJOR CONTOUR
---	PROPOSED MINOR CONTOUR
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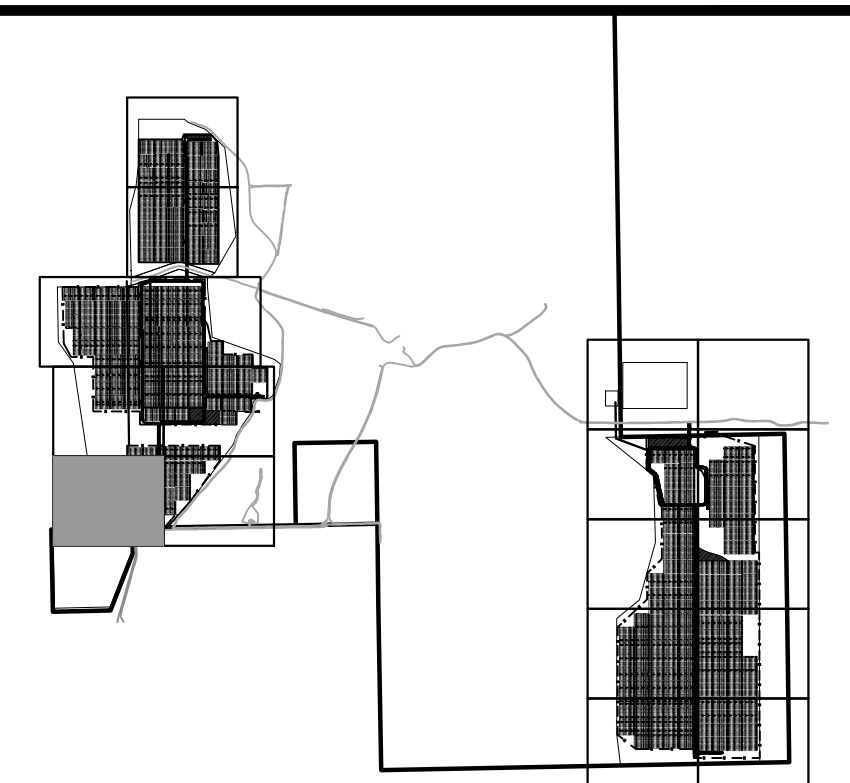
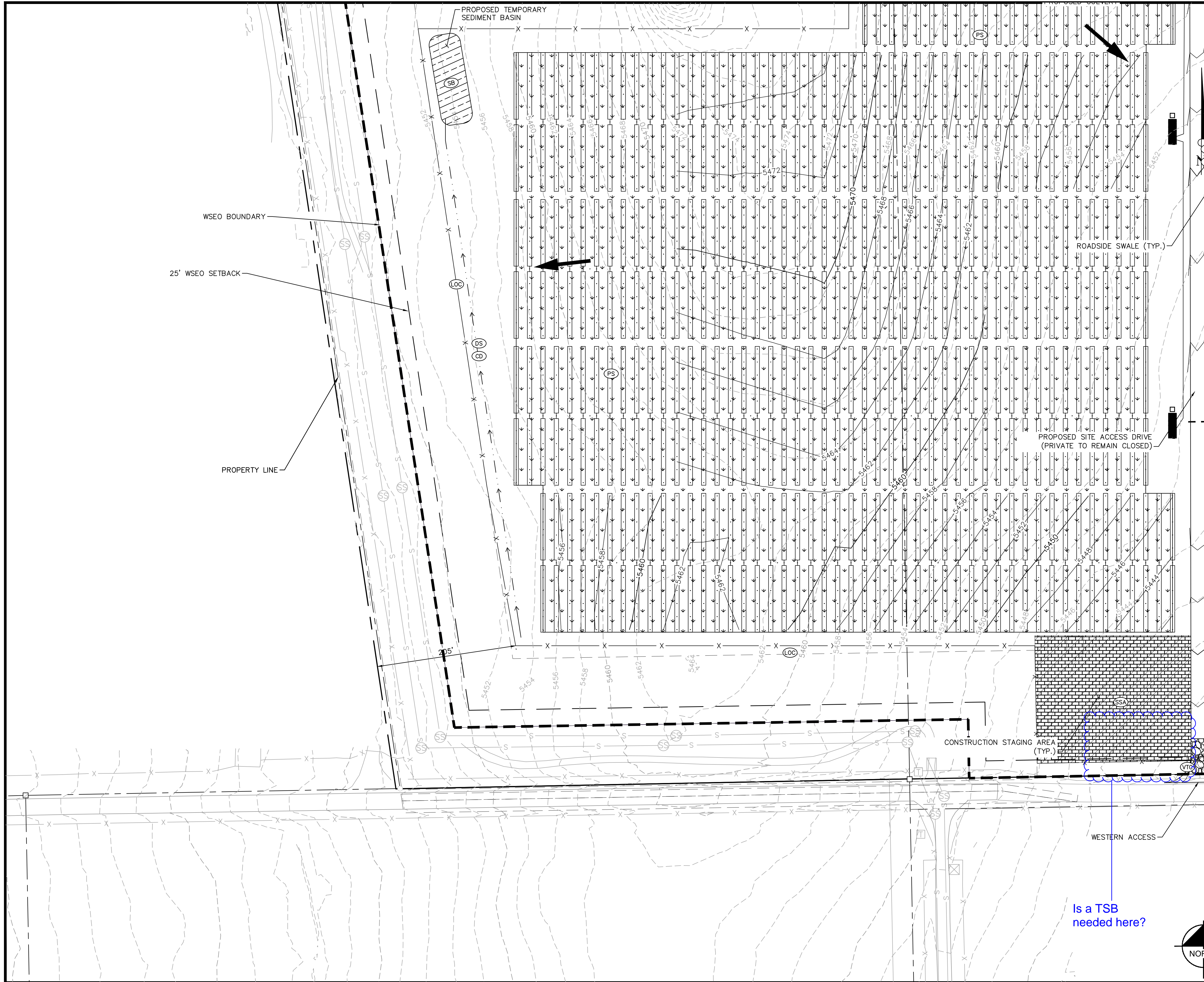
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KEY MAP
NOT TO SCALE

LEGEND

---	PROPERTY LINE	⊙	LIMITS OF CONSTRUCTION
-X-	PERMANENT FENCE	⊙	PERMANENT SEEDING
->-	DRAINAGE SWALE	⊙	TEMPORARY SEDIMENT BASIN
⊙	CHECK DAM	⊙	EXISTING MINOR CONTOUR
⊙	STABILIZED STAGING AREA	⊙	EXISTING MAJOR CONTOUR
⊙	CONCRETE WASHOUT	⊙	PROPOSED MINOR CONTOUR
⊙	VEHICLE TRACKING CONTROL	⊙	PROPOSED MAJOR CONTOUR
⊙	CULVERT INLET PROTECTION	⊙	
⊙	SOIL STOCKPILE	⊙	
⊙	TEMPORARY SEDIMENT BASIN	⊙	
→	FLOW ARROW		

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Is a TSB needed here?

GRAPHIC SCALE IN FEET
0 35 70 140

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2 North Nevada Avenue Suite 300 (719) 453-0182
Colorado Springs, Colorado 80903

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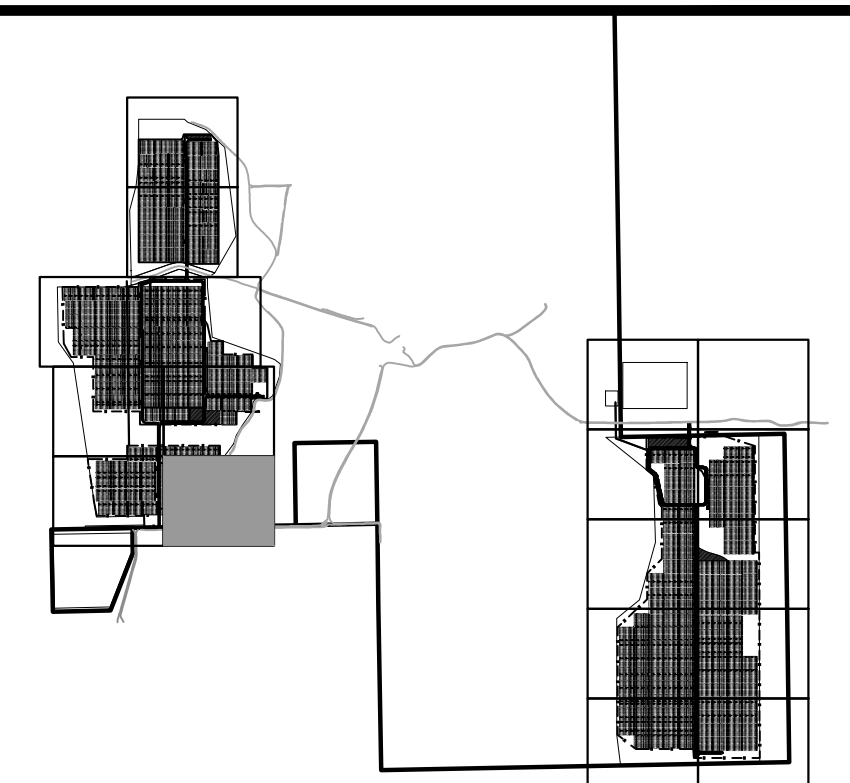
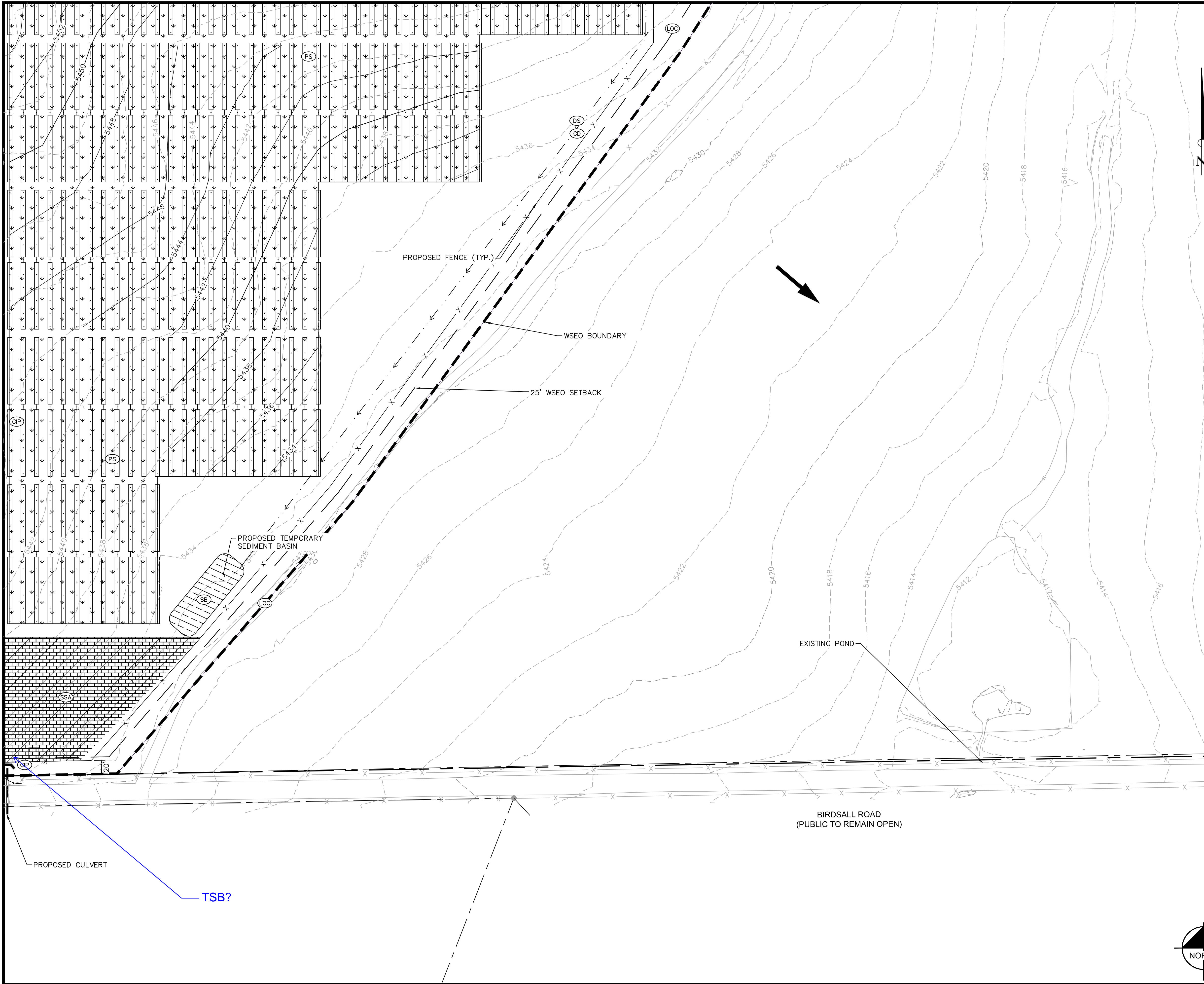
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GRADING AND EROSION CONTROL PLAN
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KEY MAP
NOT TO SCALE

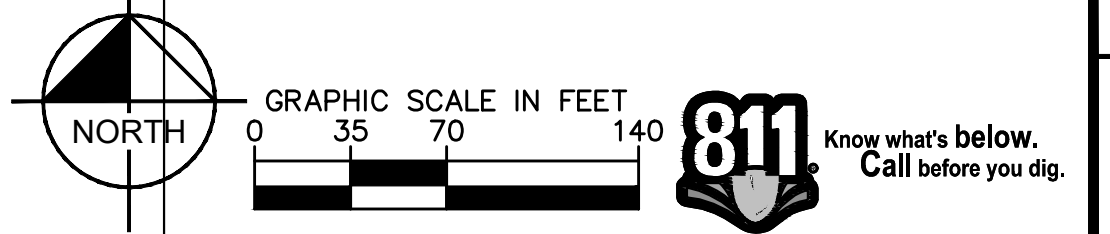
LEGEND

	PROPERTY LINE
	LIMITS OF CONSTRUCTION
	PERMANENT FENCE
	DRAINAGE SWALE
	CHECK DAM
	STABILIZED STAGING AREA
	CONCRETE WASHOUT
	VEHICLE TRACKING CONTROL
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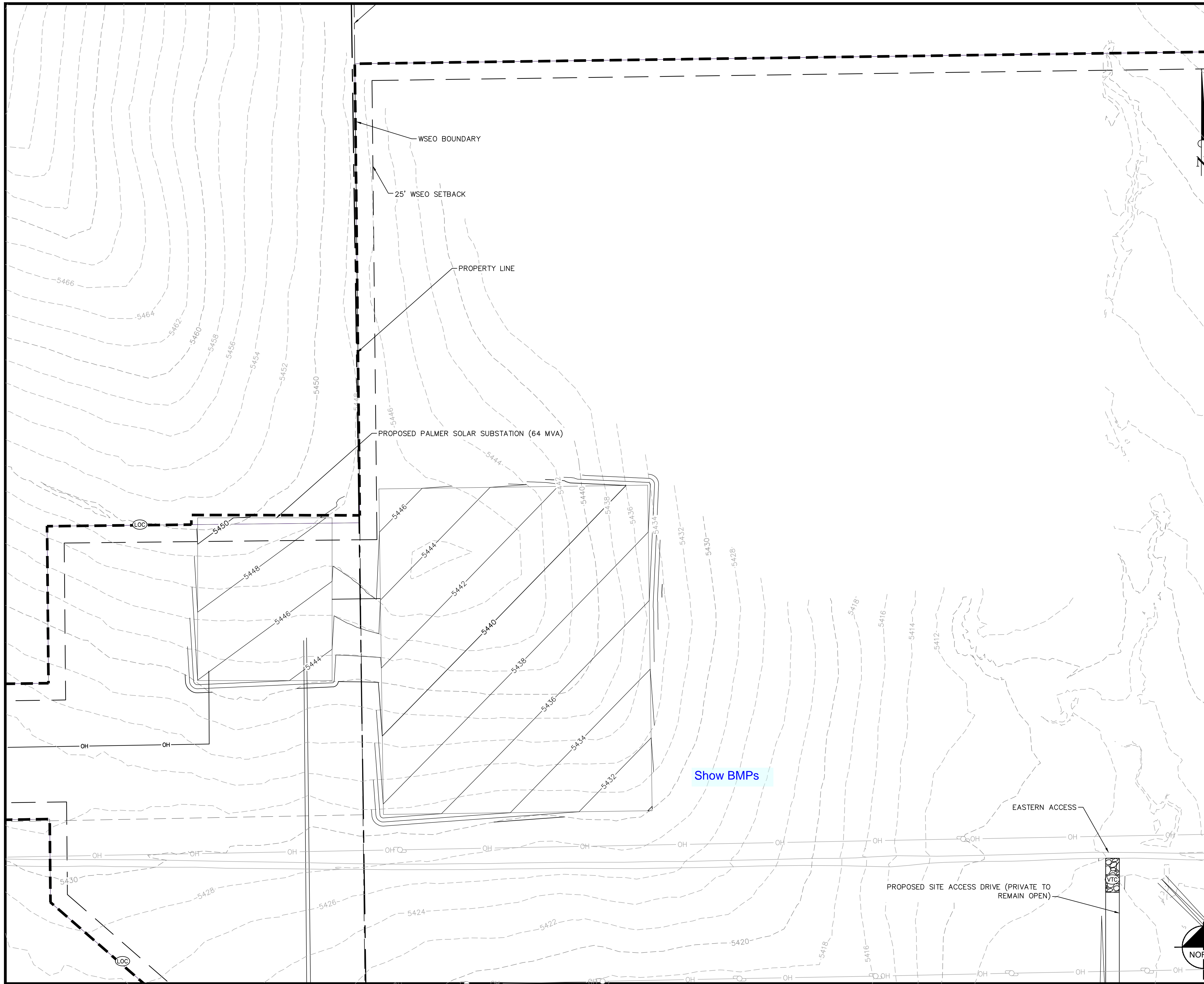
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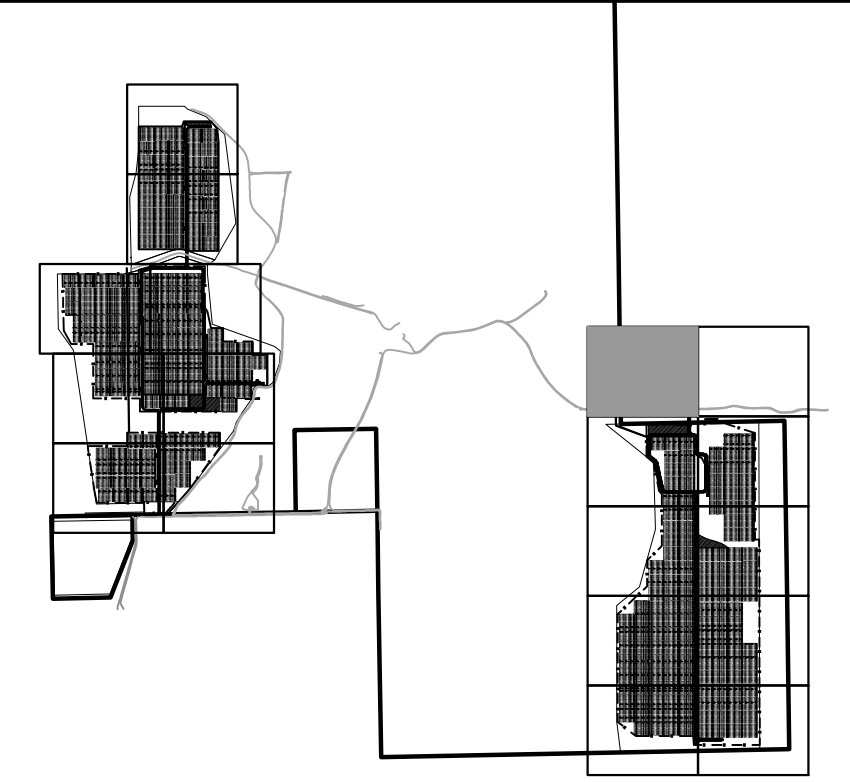
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Show BMPs



KEY MAP
NOT TO SCALE

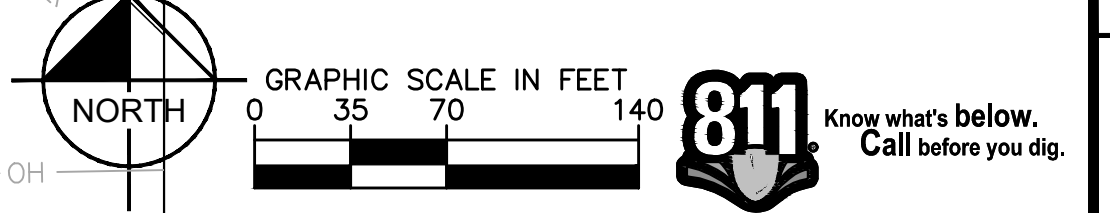
LEGEND

	PROPERTY LINE
	LIMITS OF CONSTRUCTION
	PERMANENT FENCE
	DRAINAGE SWALE
	CHECK DAM
	STABILIZED STAGING AREA
	CONCRETE WASHOUT
	VEHICLE TRACKING CONTROL
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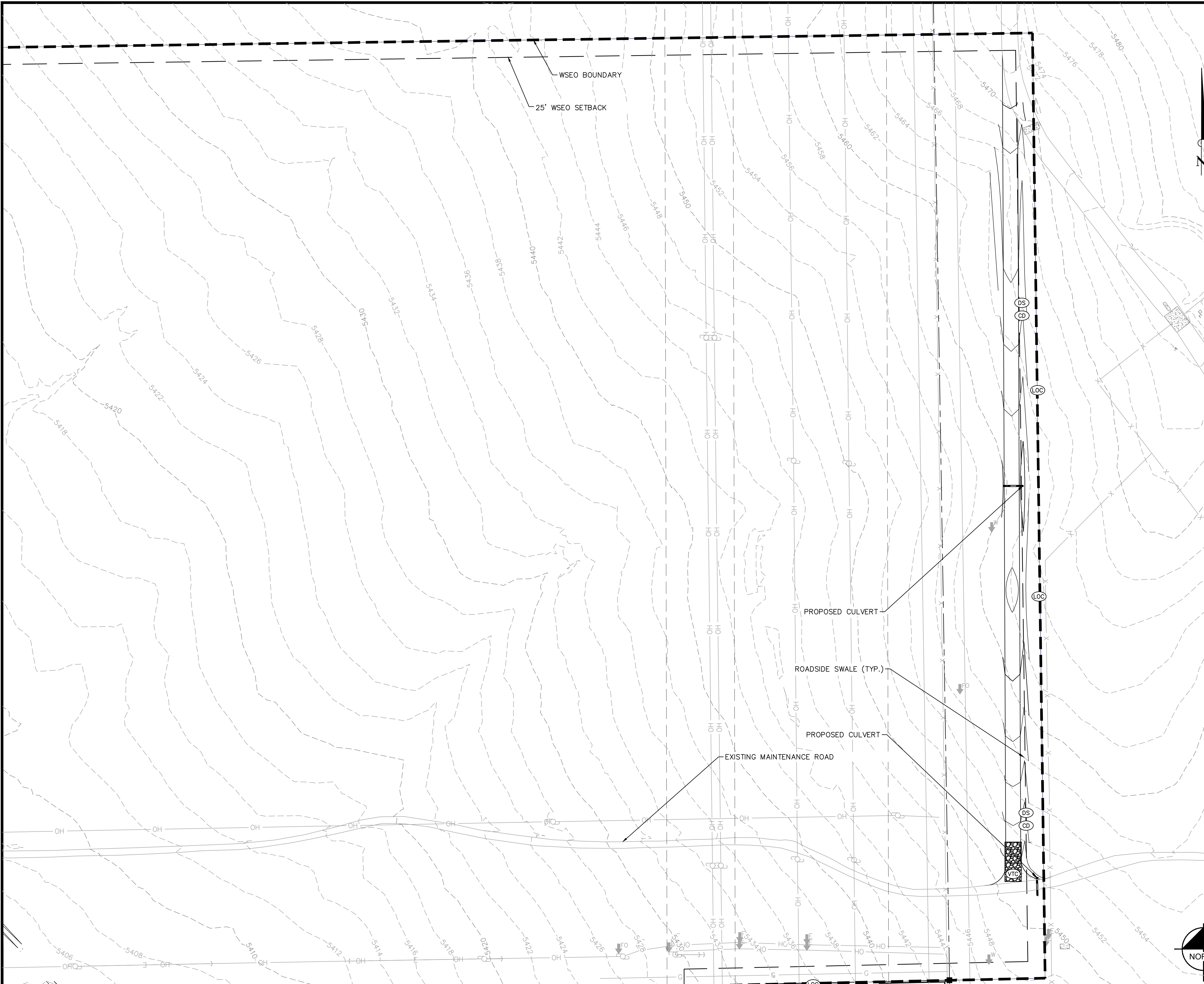
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Kimley»Horn
Kimley-Horn and Associates, Inc.
PROJECT NO.
096495003
SHEET
C2.10

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KEY MAP
NOT TO SCALE

LEGEND

	PROPERTY LINE
	LIMITS OF CONSTRUCTION
	PERMANENT FENCE
	DRAINAGE SWALE
	CHECK DAM
	STABILIZED STAGING AREA
	CONCRETE WASHOUT
	VEHICLE TRACKING CONTROL
	CULVERT INLET PROTECTION
	SOIL STOCKPILE
	TEMPORARY SEDIMENT BASIN
	FLOW ARROW
	PERMANENT SEEDING
	EXISTING MINOR CONTOUR
	EXISTING MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	PROPOSED MAJOR CONTOUR

LIMITS OF CONSTRUCTION

ONSITE IMPROVEMENTS	= ±711 ACRES
OFFSITE IMPROVEMENTS	= ±0 ACRES
TOTAL	= ±711 ACRES

- NOTES**
1. THE INTENT OF THIS PLAN IS TO IDENTIFY THE EROSION CONTROL PRACTICES RECOMMENDED. THE CONTRACTOR SHALL REFERENCE ADDITIONAL CONSTRUCTION PLANS FOR CONSTRUCTION OF PROPOSED IMPROVEMENTS.
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 7. CHECK DAMS TO BE SPACED ALONG DRAINAGE SWALES PER UDFCD DETAILS. SCL MAY BE USED IN PLACE OF RIP RAP.

GRAPHIC SCALE IN FEET
0 35 70 140

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

NO.	BY	DATE	APPR.

Kimley»Horn
2018 KIMLEY-HORN AND ASSOCIATES, INC.
2 North Nevada Avenue Suite 300
Colorado Springs, Colorado 80903 (719) 453-0182

DESIGNED BY: EJJ
DRAWN BY: KRK
CHECKED BY: EJJ
DATE: 8/3/2018

**PALMER SOLAR AND WILLIAMS CREEK SUB-STATION
EL PASO COUNTY, COLORADO
GRADING AND EROSION CONTROL PLAN
GRADING AND EROSION CONTROL PLAN**

PRELIMINARY
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

Kimley»Horn
Kimley-Horn and Associates, Inc.

PROJECT NO.
096495003

SHEET
C2.11

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LEGEND

- PROPERTY LINE
- LIMITS OF CONSTRUCTION
- PERMANENT FENCE
- DRAINAGE SWALE
- CHECK DAM
- STABILIZED STAGING AREA
- CONCRETE WASHOUT
- VEHICLE TRACKING CONTROL
- CULVERT INLET PROTECTION
- SOIL STOCKPILE
- TEMPORARY SEDIMENT BASIN
- FLOW ARROW
- PERMANENT SEEDING

- - - 5496 - - - EXISTING MINOR CONTOUR
 - - - 5496 - - - EXISTING MAJOR CONTOUR
 - - - 5496 - - - PROPOSED MINOR CONTOUR
 - - - 5496 - - - PROPOSED MAJOR CONTOUR

LIMITS OF CONSTRUCTION

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OFFSITE IMPROVEMENTS	= ±0 ACRES
TOTAL	= ±711 ACRES

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GRAPHIC SCALE IN FEET
 0 35 70 140

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NORTH

NO.	REVISION	BY	DATE	APPRO.

Kimley-Horn

2018 KIMLEY-HORN AND ASSOCIATES, INC.
 2 North Nevada Avenue Suite 300
 Colorado Springs, Colorado 80903 (719) 453-0182

DESIGNED BY: EJM
 DRAWN BY: KRK
 CHECKED BY: EJM
 DATE: 8/3/2018

**PALMER SOLAR AND WILLIAMS CREEK SUB-STATION
 EL PASO COUNTY, COLORADO
 GRADING AND EROSION CONTROL PLAN
 GRADING AND EROSION CONTROL PLAN**

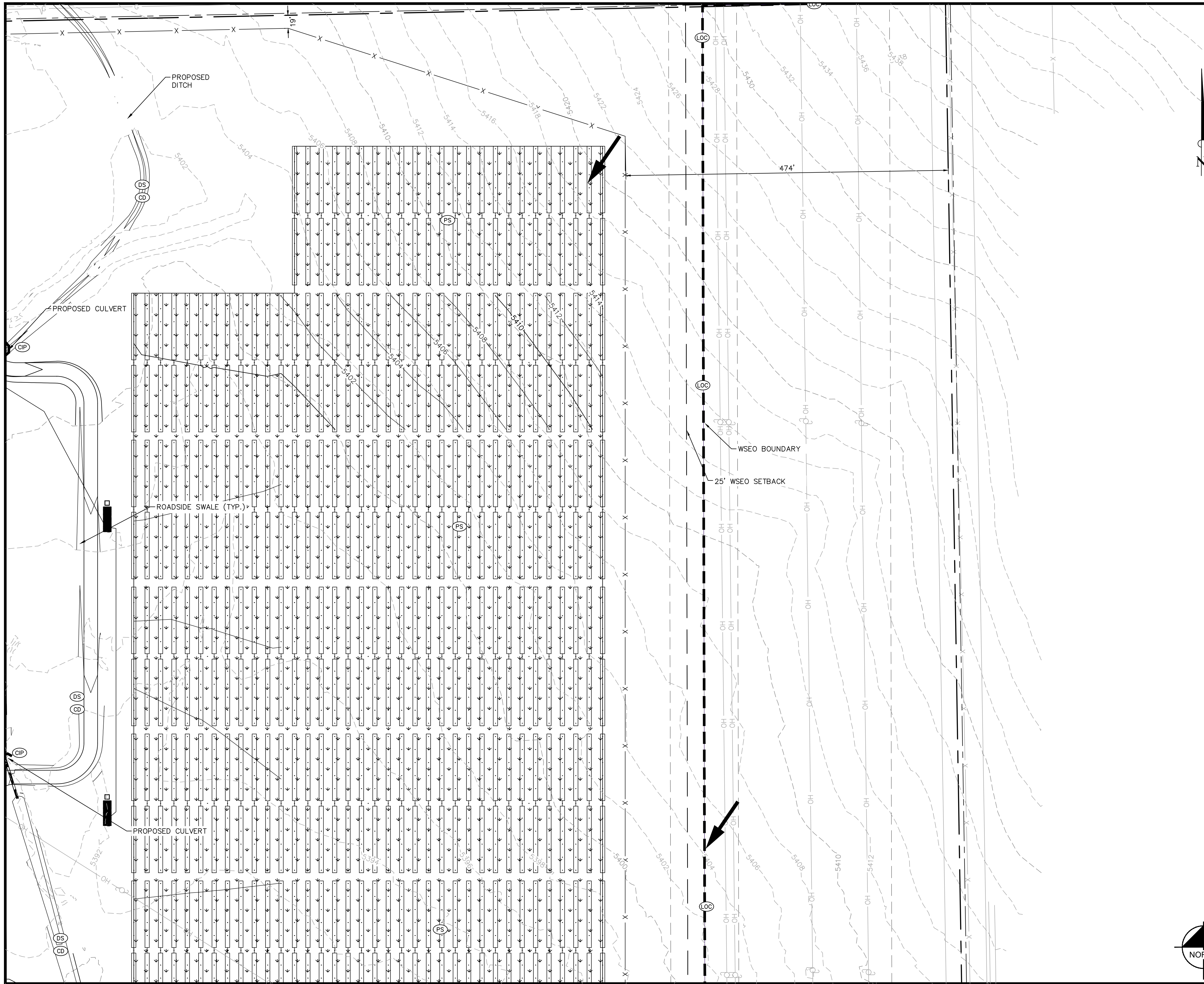
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Kimley-Horn
 Kimley-Horn and Associates, Inc.

PROJECT NO.
096495003

SHEET
C2.12

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KEY MAP
NOT TO SCALE

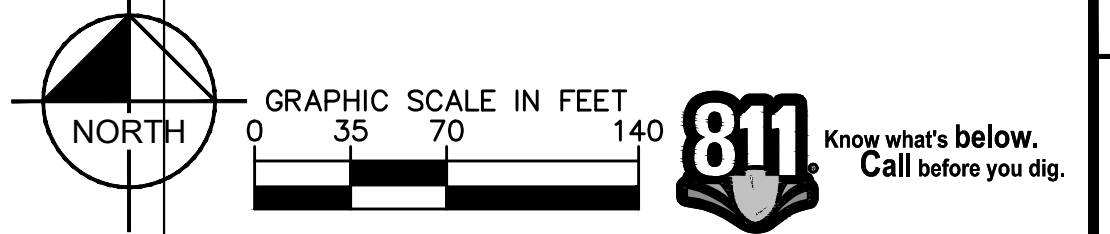
LEGEND

- PROPERTY LINE
- (OC)--- LIMITS OF CONSTRUCTION
- x-x- PERMANENT FENCE
- >->- DRAINAGE SWALE
- (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
- ← FLOW ARROW
- (PS) PERMANENT SEEDING
- - - - 5496 - - - - EXISTING MINOR CONTOUR
- - - - 5496 - - - - EXISTING MAJOR CONTOUR
- - - - 5496 - - - - PROPOSED MINOR CONTOUR
- - - - 5496 - - - - PROPOSED MAJOR CONTOUR

LIMITS OF CONSTRUCTION

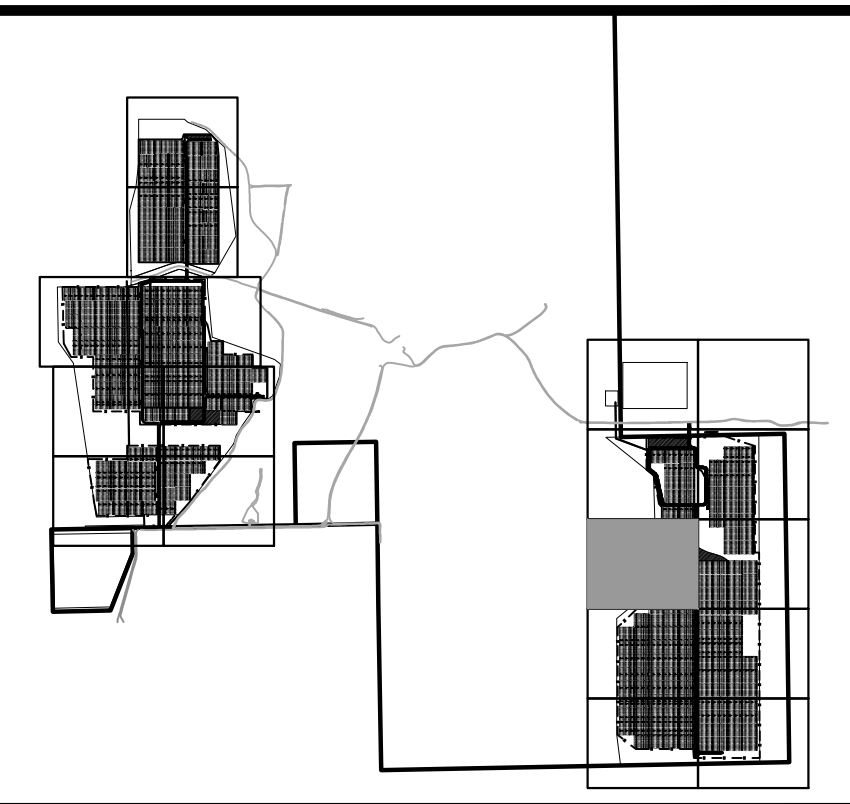
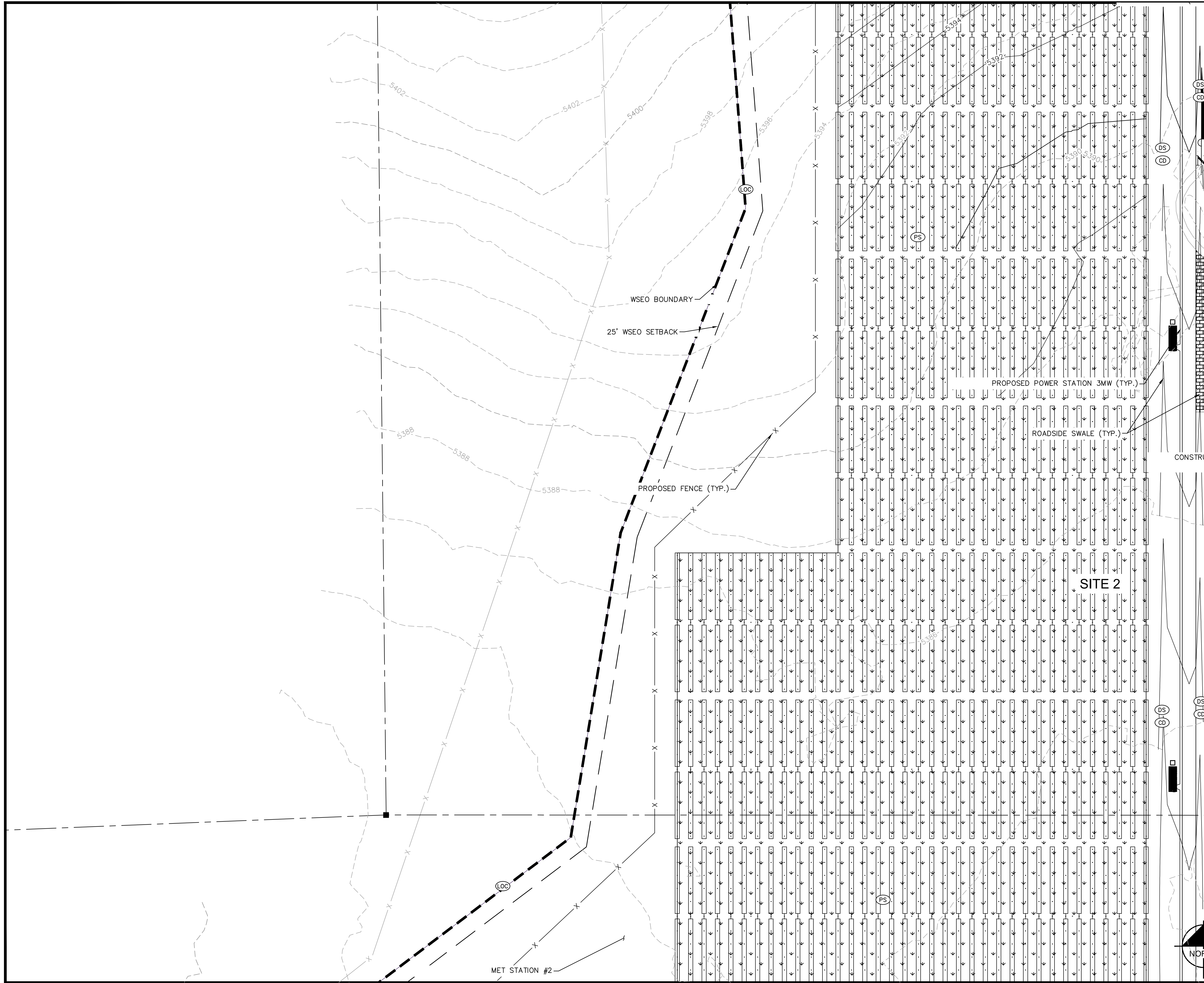
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<p>Kimley»Horn</p> <p>2018 KIMLEY-HORN AND ASSOCIATES, INC. 2 North Nevada Avenue Suite 300 Colorado Springs, Colorado 80903 (719) 453-0182</p>	<p>DESIGNED BY: E.J.G. DRAWN BY: K.R.K. CHECKED BY: E.J.G. DATE: 8/3/2018</p>
<p>PALMER SOLAR AND WILLIAMS CREEK SUB-STATION EL PASO COUNTY, COLORADO GRADING AND EROSION CONTROL PLAN GRADING AND EROSION CONTROL PLAN</p>	<p>REVISION BY DATE APPR.</p>
<p>PRELIMINARY FOR REVIEW ONLY NOT FOR CONSTRUCTION</p>	
<p>Kimley»Horn Kimley-Horn and Associates, Inc.</p>	
<p>PROJECT NO. 096495003</p>	
<p>SHEET</p>	
<p>C2.13</p>	

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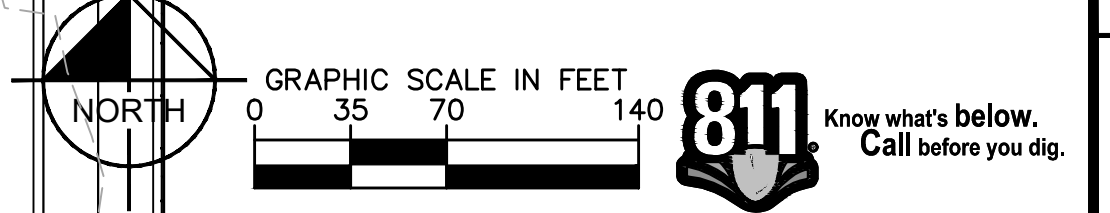
LEGEND

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	LIMITS OF CONSTRUCTION
	PERMANENT FENCE
	DRAINAGE SWALE
	CHECK DAM
	STABILIZED STAGING AREA
	CONCRETE WASHOUT
	VEHICLE TRACKING CONTROL
	CULVERT INLET PROTECTION
	SOIL STOCKPILE
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LIMITS OF CONSTRUCTION

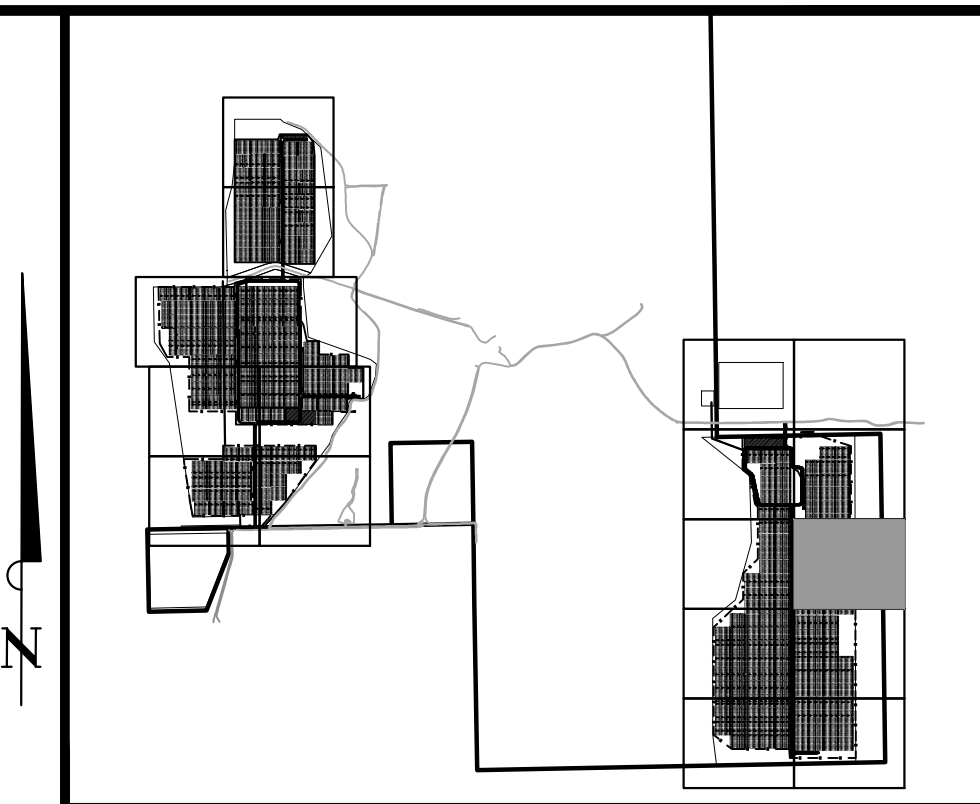
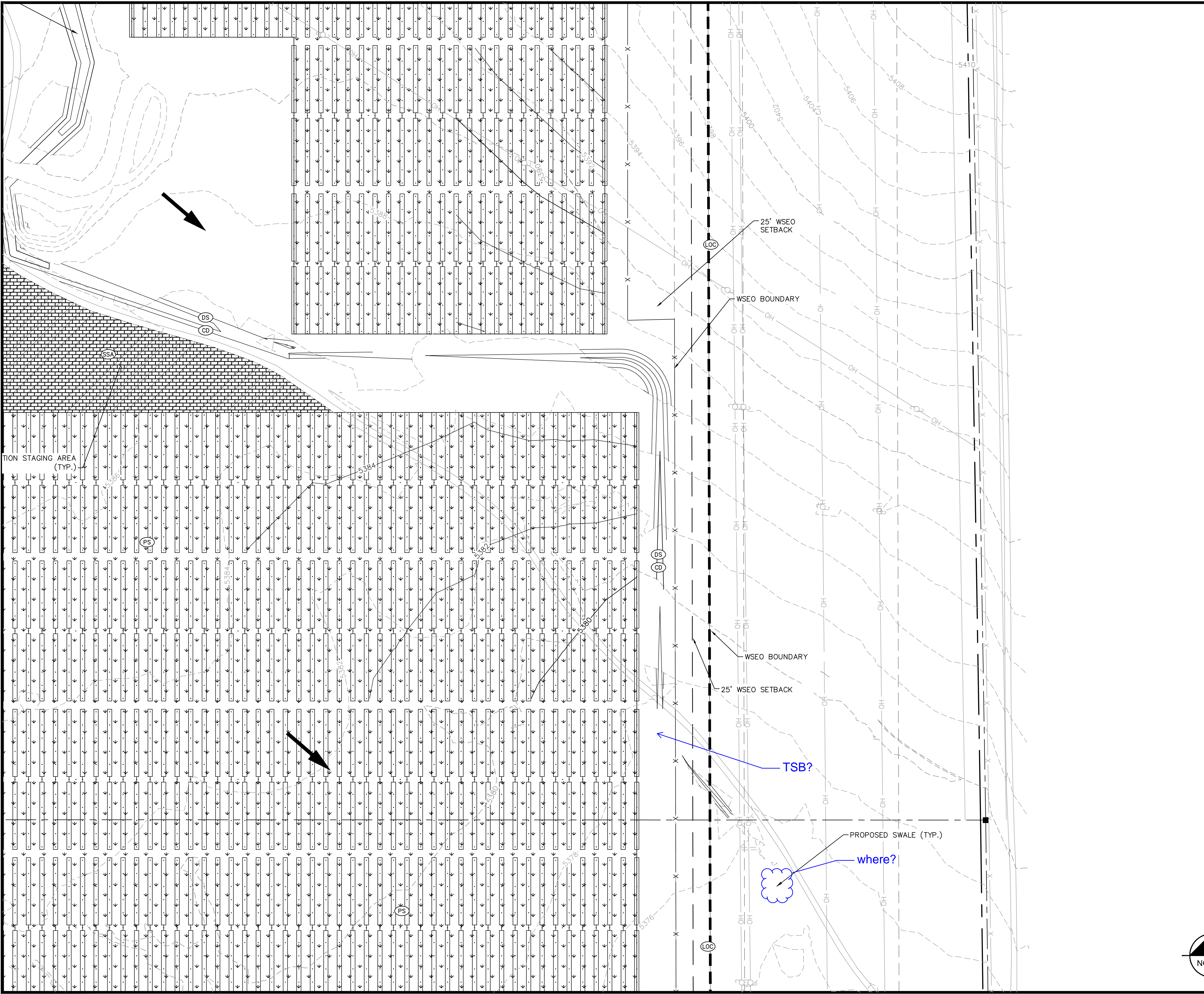
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<p>PALMER SOLAR AND WILLIAMS CREEK SUB-STATION EL PASO COUNTY, COLORADO GRADING AND EROSION CONTROL PLAN GRADING AND EROSION CONTROL PLAN</p>	
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<p>PROJECT NO. 096495003</p>	
<p>SHEET C2.14</p>	
<p>NO. _____</p> <p>REVISION _____</p> <p>BY _____</p> <p>DATE _____</p> <p>APPR. _____</p>	

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LEGEND

- PROPERTY LINE
- (C)--- LIMITS OF CONSTRUCTION
- X --- PERMANENT FENCE
- (DS)--- DRAINAGE SWALE
- (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
- (PS)--- PERMANENT SEEDING
- (5496)--- EXISTING MINOR CONTOUR
- (5496)--- EXISTING MAJOR CONTOUR
- (5496)--- PROPOSED MINOR CONTOUR
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KEY MAP
NOT TO SCALE

LEGEND

LIMITS OF CONSTRUCTION

NOTES

GRAPHIC SCALE IN FEET
0 35 70 140

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

PRELIMINARY
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Kimley-Horn
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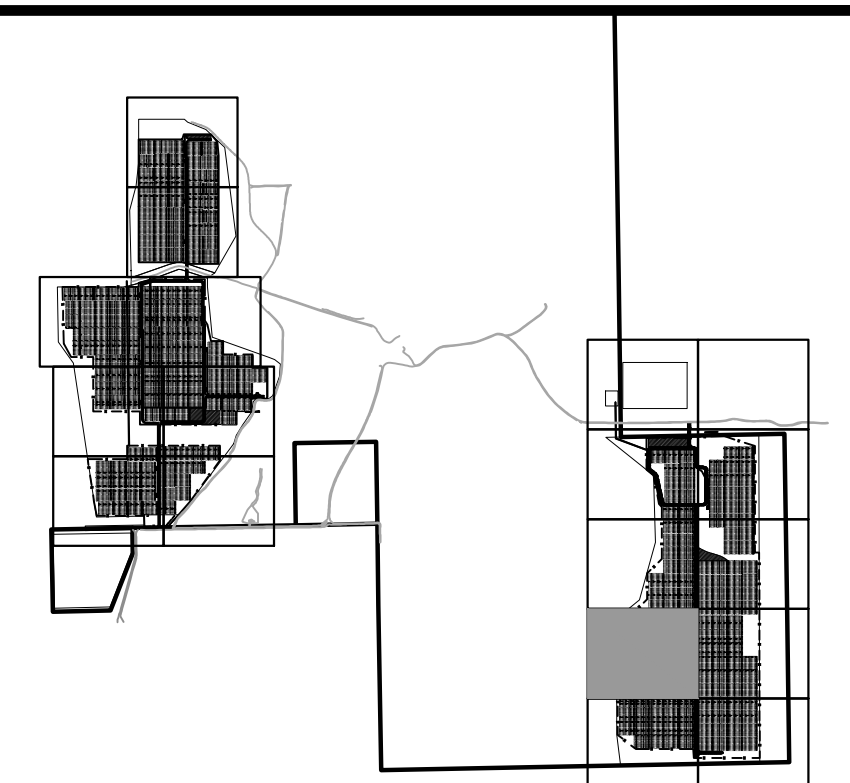
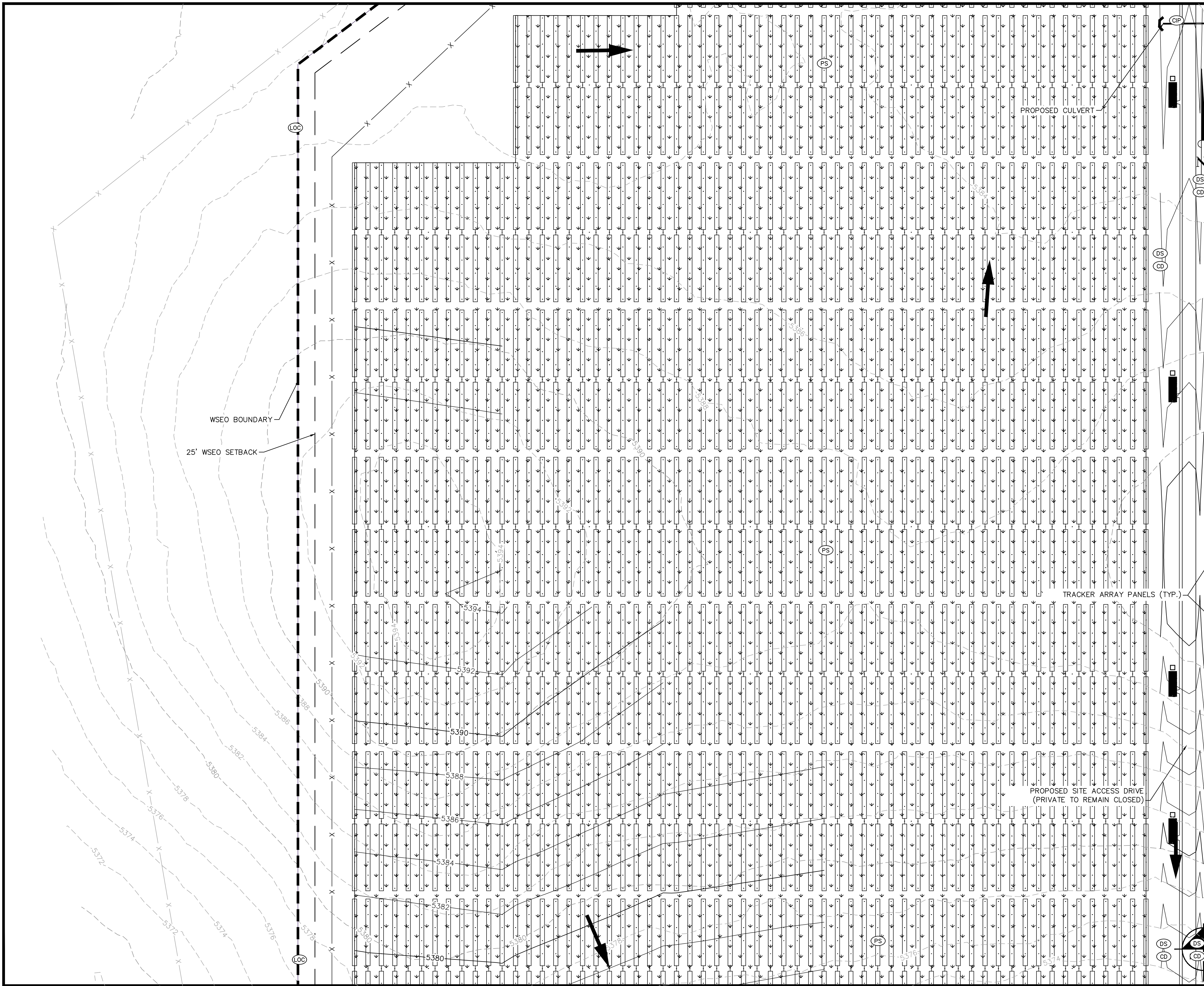
PROJECT NO. 096495003
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Kimley-Horn
2018 KIMLEY-HORN AND ASSOCIATES, INC.
2 North Nevada Avenue Suite 300
Colorado Springs, Colorado 80903 (719) 453-0182

DESIGNED BY: E.J.G.
DRAWN BY: K.R.K.
CHECKED BY: E.J.G.
DATE: 8/3/2018

PALMER SOLAR AND WILLIAMS CREEK SUB-STATION
EL PASO COUNTY, COLORADO
GRADING AND EROSION CONTROL PLAN
GRADING AND EROSION CONTROL PLAN

NO.	REVISION	BY	DATE



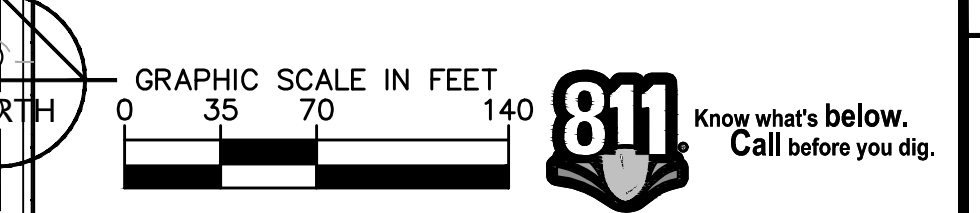
LEGEND

	PROPERTY LINE
	LIMITS OF CONSTRUCTION
	PERMANENT FENCE
	DRAINAGE SWALE
	CHECK DAM
	STABILIZED STAGING AREA
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DESIGNED BY: E.J.G.
 DRAWN BY: KRK
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PALMER SOLAR AND WILLIAMS CREEK SUB-STATION
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 GRADING AND EROSION CONTROL PLAN
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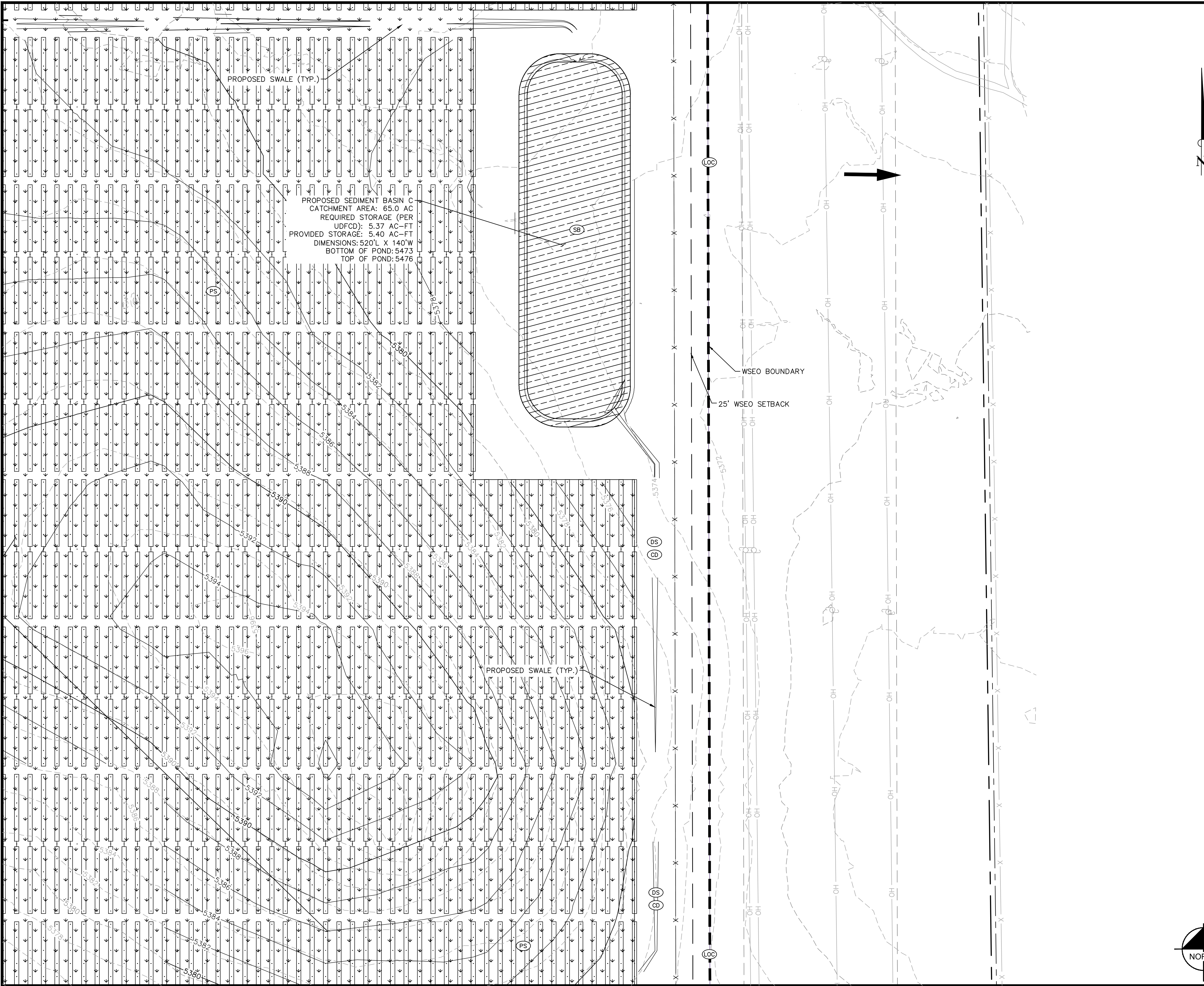
PRELIMINARY
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NO.	REVISION	BY	DATE	APPR.

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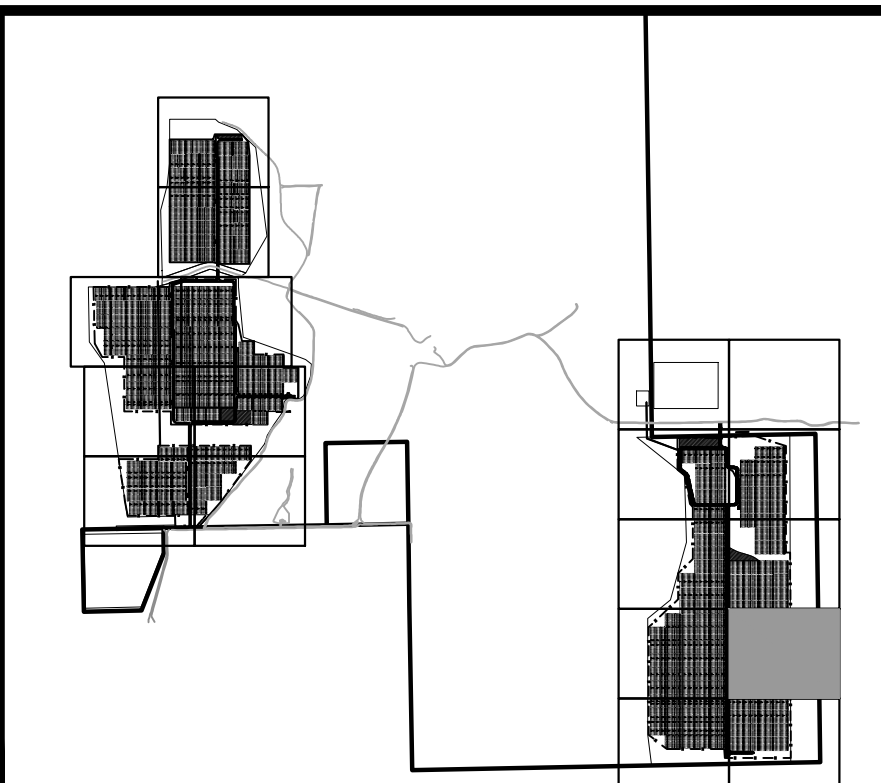


PROPOSED SEDIMENT BASIN C
 CATCHMENT AREA: 65.0 AC
 REQUIRED STORAGE (PER
 UDFCD): 5.37 AC-FT
 PROVIDED STORAGE: 5.40 AC-FT
 DIMENSIONS: 520'L X 140'W
 BOTTOM OF POND: 5473
 TOP OF POND: 5476

PROPOSED SWALE (TYP.)

PROPOSED SWALE (TYP.)

WSEO BOUNDARY
 25' WSEO SETBACK



KEY MAP
NOT TO SCALE

LEGEND

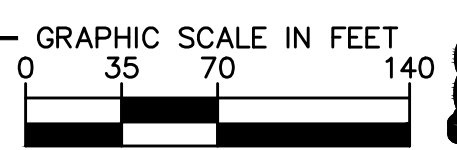
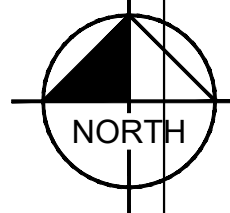
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---(OC)---	LIMITS OF CONSTRUCTION
---	PERMANENT FENCE
---	DRAINAGE SWALE
---	CHECK DAM
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5. CONTRACTOR SHALL MAINTAIN ACCEPTABLE EROSION CONTROL PRACTICES WITHIN THE ANTICIPATED LIMITS OF CONSTRUCTION IDENTIFIED HEREIN. BEST MANAGEMENT PRACTICES AND STABILIZATION SHALL BE COMPLETED AS IDENTIFIED HEREIN IN ACCORDANCE WITH COUNTY AND STATE REQUIREMENT.
6. 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.
7. CHECK DAMS TO BE SPACED ALONG DRAINAGE SWALES PER UDFCD DETAILS. SCL MAY BE USED IN PLACE OF RIP RAP.



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 Colorado Springs, Colorado 80903 (719) 453-0182

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 DRAWN BY: KRK
 CHECKED BY: E.JG
 DATE: 8/3/2018

PALMER SOLAR AND WILLIAMS CREEK SUB-STATION
 EL PASO COUNTY, COLORADO
 GRADING AND EROSION CONTROL PLAN
GRADING AND EROSION CONTROL PLAN

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PROJECT NO.
096495003

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NO.	REVISION	BY	DATE	APPR.

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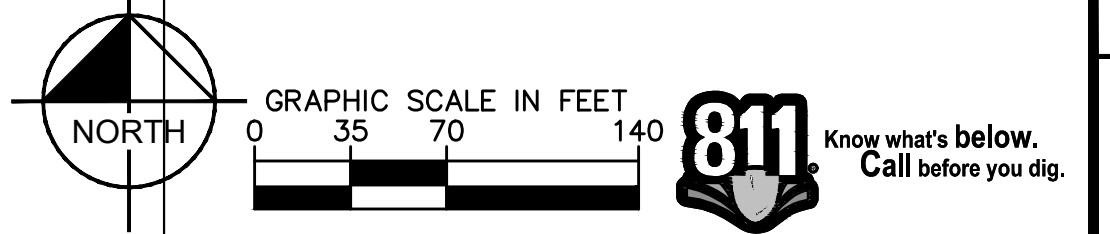
LEGEND

---	PROPERTY LINE
---	OC LIMITS OF CONSTRUCTION
X	PERMANENT FENCE
→	DS DRAINAGE SWALE
⊥	CD CHECK DAM
[Brick Pattern]	SSA STABILIZED STAGING AREA
[Concrete Washout Pattern]	CWA CONCRETE WASHOUT
[Gravel Pattern]	VTC VEHICLE TRACKING CONTROL
[Culvert Inlet Protection]	CIP CULVERT INLET PROTECTION
[Soil Stockpile]	SP SOIL STOCKPILE
[Sediment Basin]	SB TEMPORARY SEDIMENT BASIN
→	FLOW ARROW
↓	PS PERMANENT SEEDING
- - - - -	EXISTING MINOR CONTOUR
- - - - -	EXISTING MAJOR CONTOUR
- - - - -	PROPOSED MINOR CONTOUR
- - - - -	PROPOSED MAJOR CONTOUR

LIMITS OF CONSTRUCTION

ONSITE IMPROVEMENTS	= ±711 ACRES
OFFSITE IMPROVEMENTS	= ±0 ACRES
TOTAL	= ±711 ACRES

- NOTES**
1. THE INTENT OF THIS PLAN IS TO IDENTIFY THE EROSION CONTROL PRACTICES RECOMMENDED. THE CONTRACTOR SHALL REFERENCE ADDITIONAL CONSTRUCTION PLANS FOR CONSTRUCTION OF PROPOSED IMPROVEMENTS.
 2. TEMPORARY STABILIZATION (TS) SHALL BE IMPLEMENTED WITHIN THE DISTURBED PORTIONS OF THE PROJECT SITE NO LATER THAN 14 DAYS FOLLOWING THE CEASE OF CONSTRUCTION ACTIVITIES WITHIN THE DISTURBED AREAS.
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**PALMER SOLAR AND WILLIAMS CREEK SUB-STATION
 EL PASO COUNTY, COLORADO
 GRADING AND EROSION CONTROL PLAN
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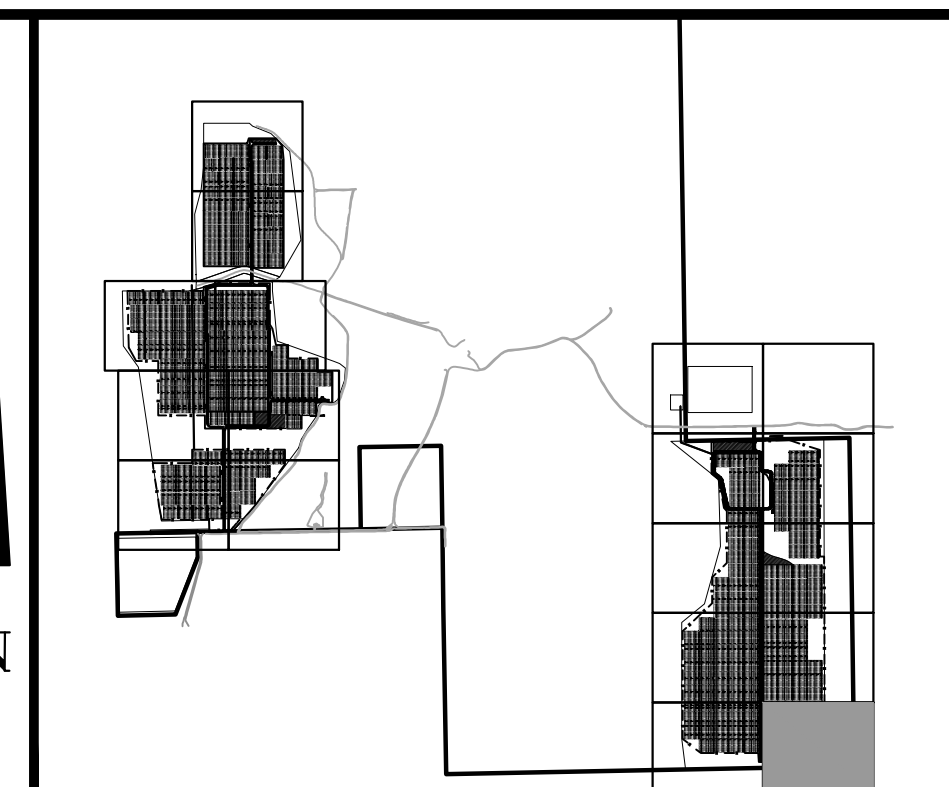
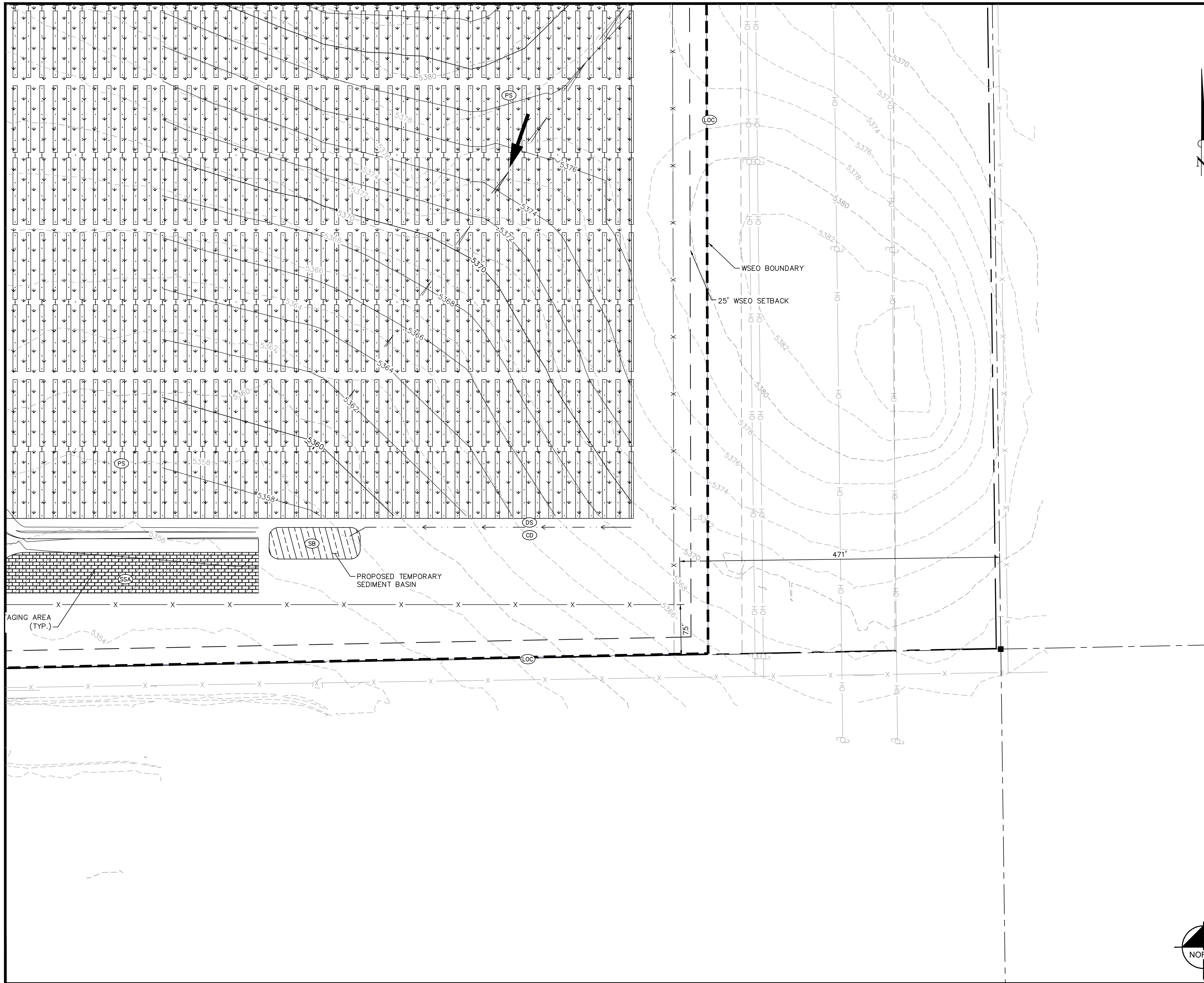
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KEY MAP
NOT TO SCALE

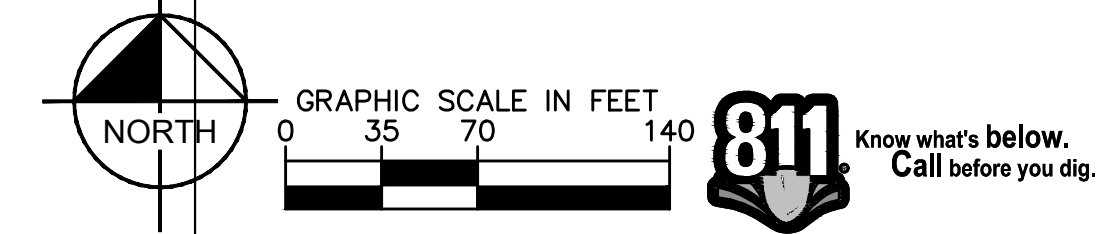
LEGEND

- PROPERTY LINE
- (OC)--- LIMITS OF CONSTRUCTION
- x-x- PERMANENT FENCE
- >->- DRAINAGE SWALE
- (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
- ← FLOW ARROW
- (PS) PERMANENT SEEDING
- - - - 5496 - - - - EXISTING MINOR CONTOUR
- - - - 5496 - - - - EXISTING MAJOR CONTOUR
- - - - 5496 - - - - PROPOSED MINOR CONTOUR
- - - - 5496 - - - - PROPOSED MAJOR CONTOUR

LIMITS OF CONSTRUCTION

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OFFSITE IMPROVEMENTS	= ±0 ACRES
TOTAL	= ±711 ACRES

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**PALMER SOLAR AND WILLIAMS CREEK SUB-STATION
EL PASO COUNTY, COLORADO
GRADING AND EROSION CONTROL PLAN
GRADING AND EROSION CONTROL PLAN**

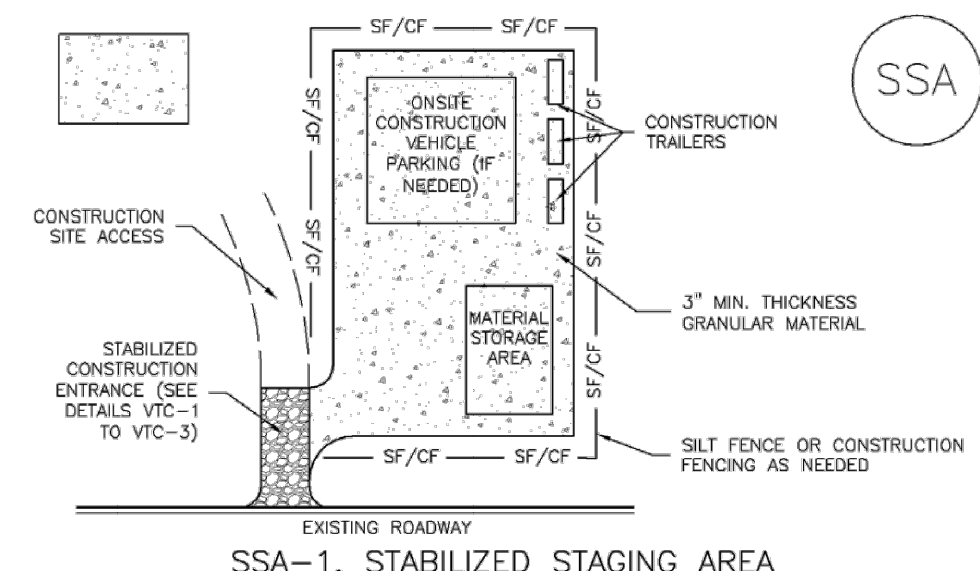
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Stabilized Staging Area (SSA) SM-6



SSA-1. STABILIZED STAGING AREA

STABILIZED STAGING AREA INSTALLATION NOTES

- SEE PLAN VIEW FOR LOCATION OF STAGING AREA(S). CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.
- STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.
- STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.
- THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.
- UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.
- ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

STABILIZED STAGING AREA MAINTENANCE NOTES

- 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.
- 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.
- 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.

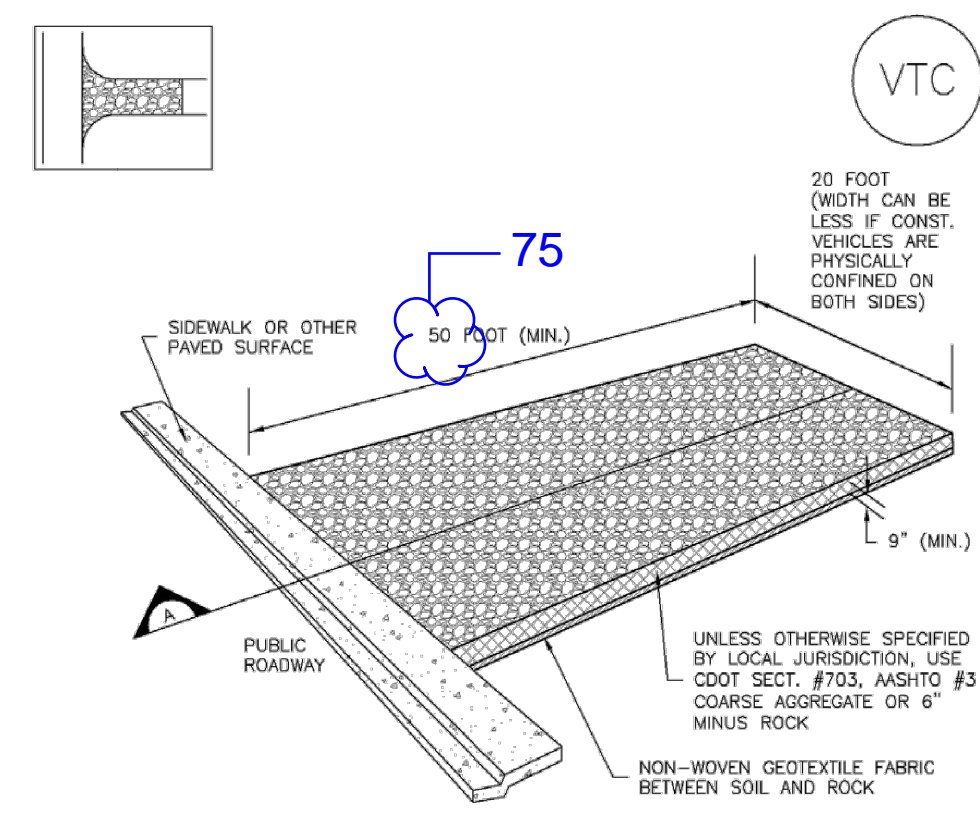
6. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDING AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

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.

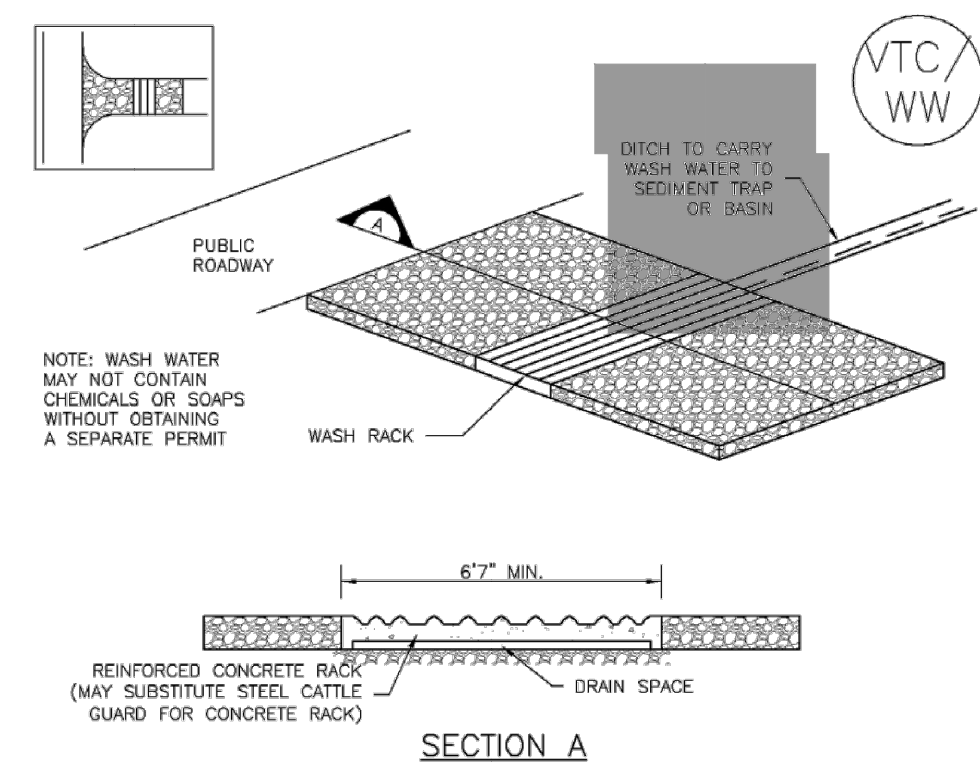
DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD

Vehicle Tracking Control (VTC) SM-4



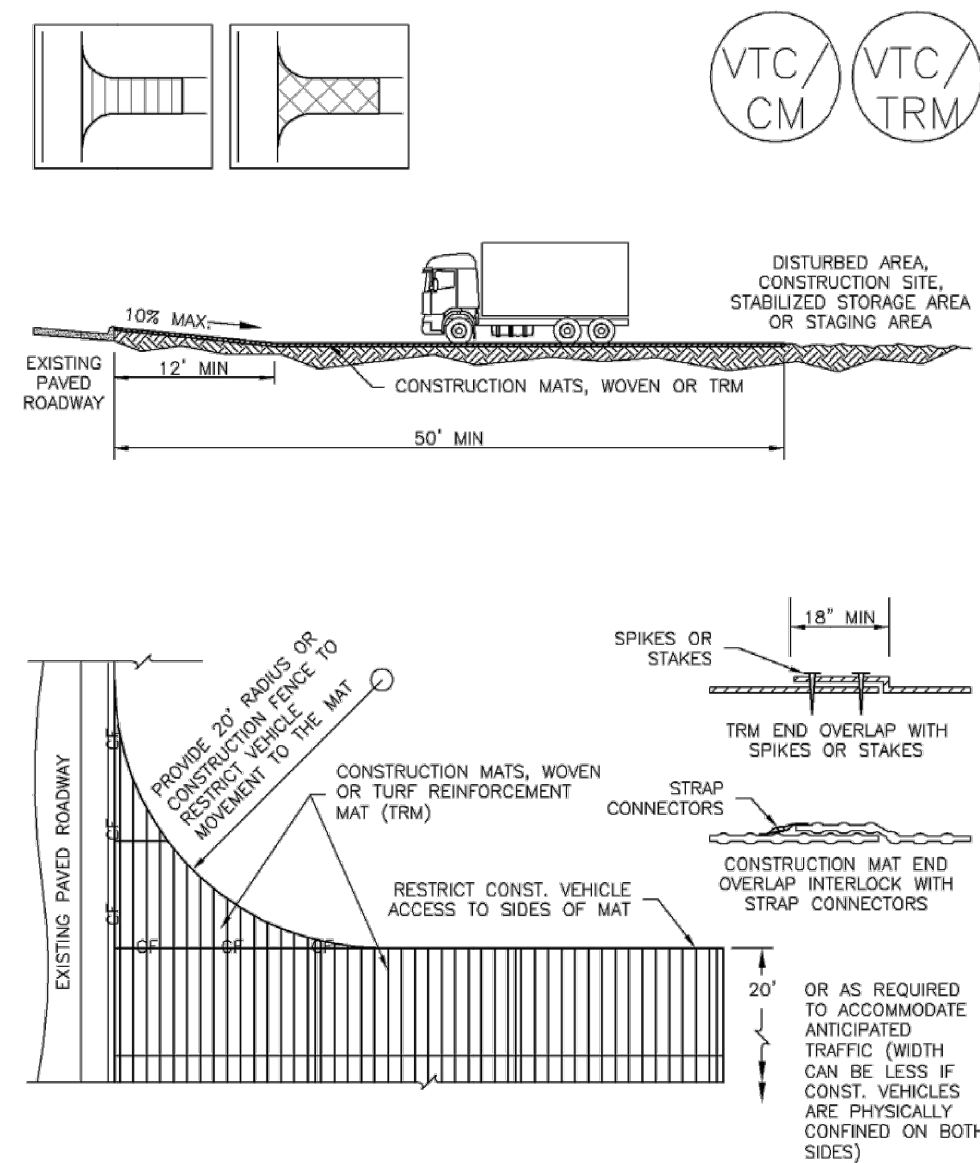
VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

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)

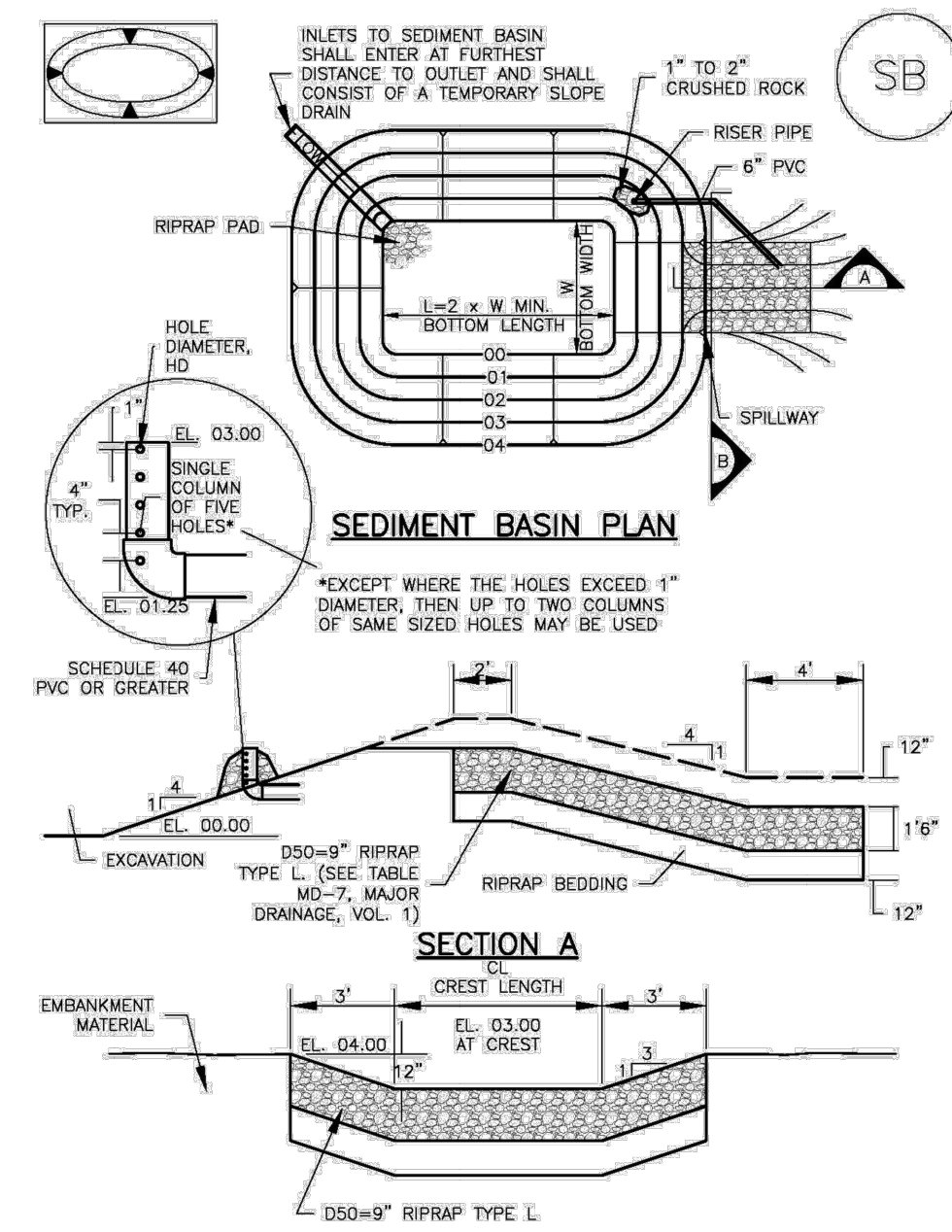
STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

- SEE PLAN VIEW FOR LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S). TYPE OF CONSTRUCTION ENTRANCE(S)/EXIT(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM).
- 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.
- A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS.
- STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.
- 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

- 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.
 - 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.
 - ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.
 - 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



SEDIMENT BASIN PLAN

SECTION A

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	3/8
2	21	3	1/2
3	28	5	5/8
4	33 1/2	6	3/4
5	38 1/2	8	7/8
6	43	9	1
7	47 1/2	11	1 1/8
8	51	12	1 1/4
9	55	13	1 1/2
10	58 1/2	15	1 5/8
11	61	16	1 3/4
12	64	18	1 7/8
13	67 1/2	19	2
14	70 1/2	21	2 1/8
15	73 1/2	22	2 1/4

SEDIMENT BASIN INSTALLATION NOTES

- 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.
- FOR STANDARD BASIN, BOTTOM DIMENSION MAY BE MODIFIED AS LONG AS BOTTOM AREA IS NOT REDUCED.
- SEDIMENT BASINS SHALL BE INSTALLED PRIOR TO ANY OTHER LAND-DISTURBING ACTIVITY THAT RELIES ON BASINS AS A STORMWATER CONTROL.
- 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.
- EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D698.
- PIPE SCH 40 OR GREATER SHALL BE USED.
- 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.

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BY: DATE: APPR:

REVISION

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DESIGNED BY: EUG
DRAWN BY: KRK
CHECKED BY: EUG
DATE: 8/3/2018

PALMER SOLAR
EL PASO COUNTY, COLORADO
GRADING AND EROSION CONTROL PLAN
GESC DETAILS

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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.

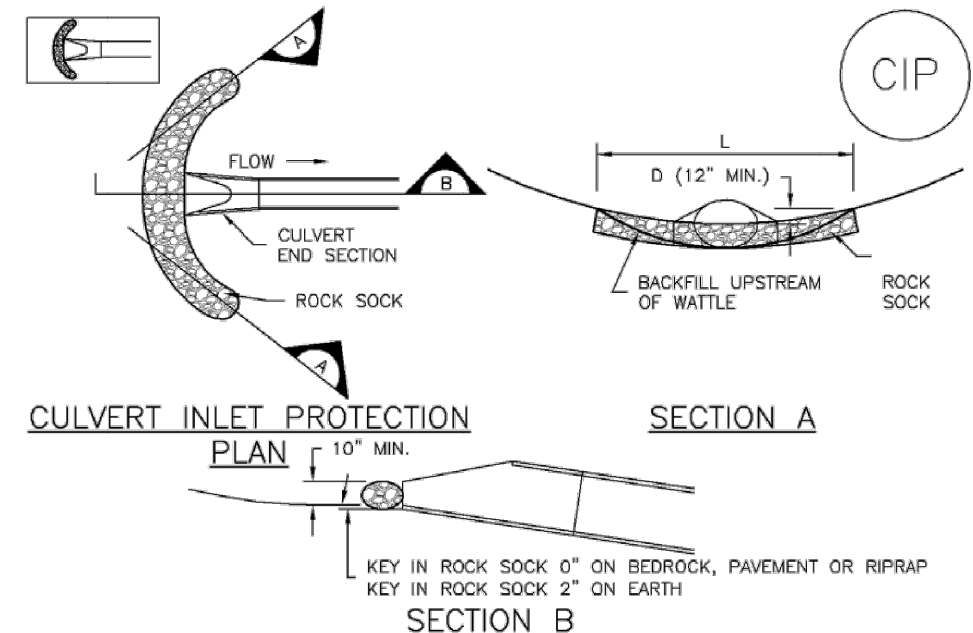
(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO)

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.

August 2013 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 SB-7

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 UPSTREAM OF THE CULVERT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS 1/2 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.

August 2013 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 IP-7

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 PHASE 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

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3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. SEDIMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED AS NECESSARY TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN STORAGE VOLUME REACHES 50% OF CAPACITY. A DEPTH OF 6" WHEN SILT FENCE IS USED, OR 1/4 OF THE HEIGHT FOR 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.

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

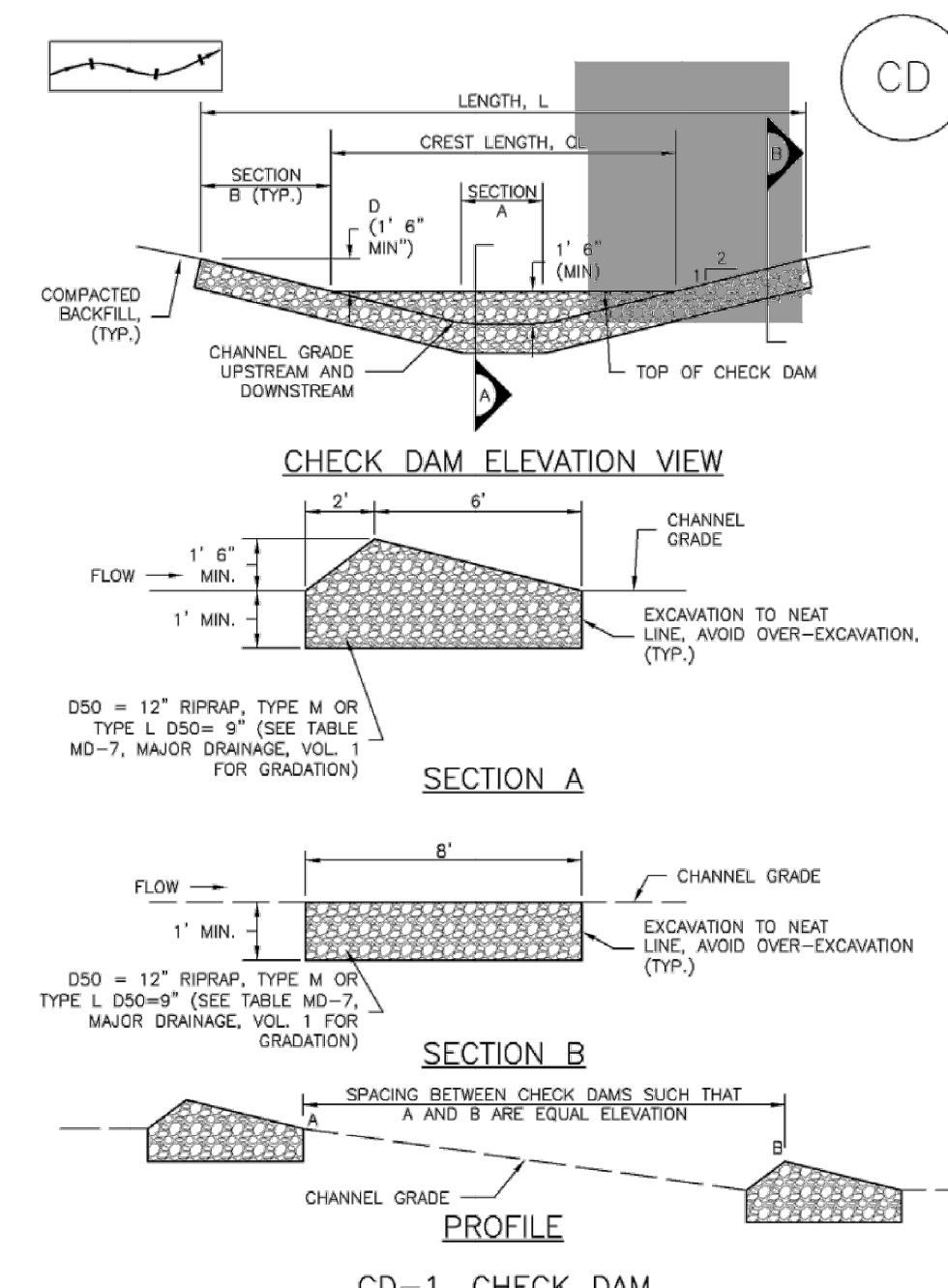
NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF INLET PROTECTION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY PROPRIETARY INLET PROTECTION METHODS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY INLET PROTECTION; HOWEVER, IN THE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

IP-8 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 August 2013

Check Dams (CD)

EC-12



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

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 1/2 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 COVERED WITH GEOTEXTILE OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

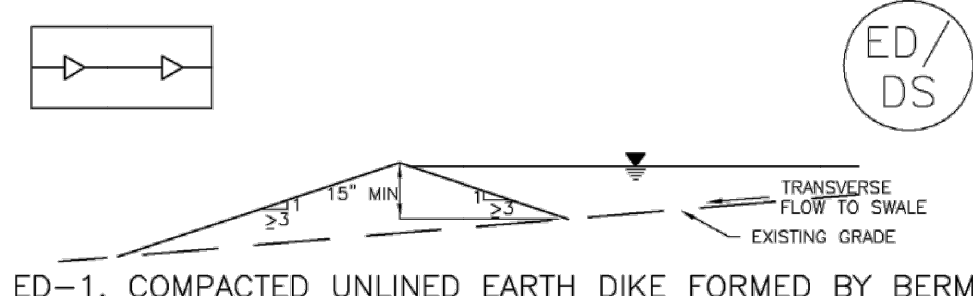
(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

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.

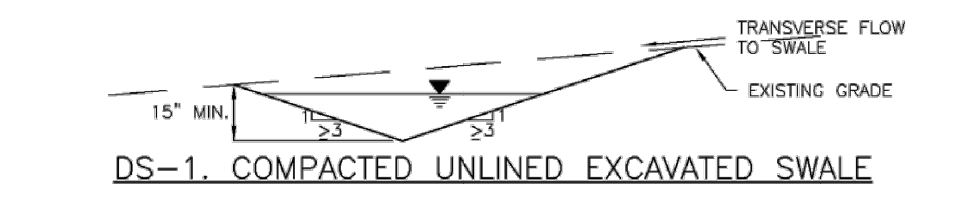
CD-4 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

Earth Dikes and Drainage Swales (ED/DS)

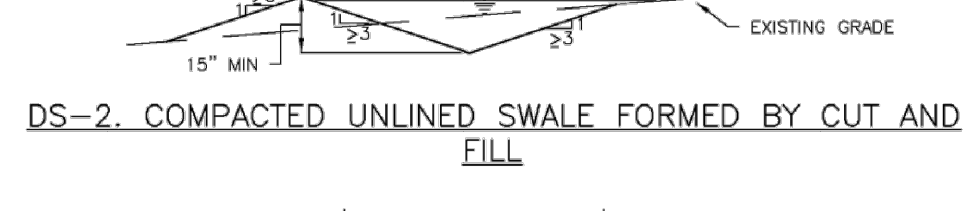
EC-10



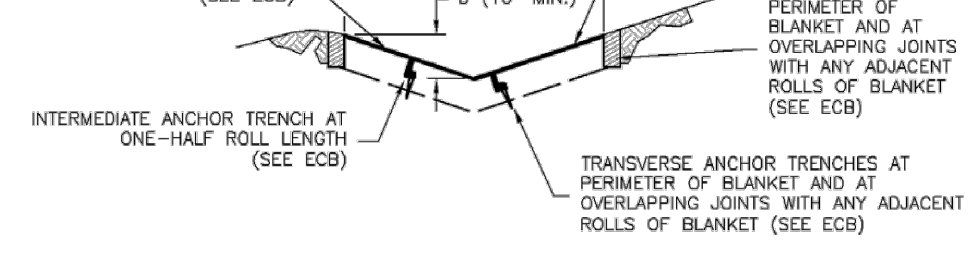
ED-1. COMPACTED UNLINED EARTH DIKE FORMED BY BERM



DS-1. COMPACTED UNLINED EXCAVATED SWALE



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

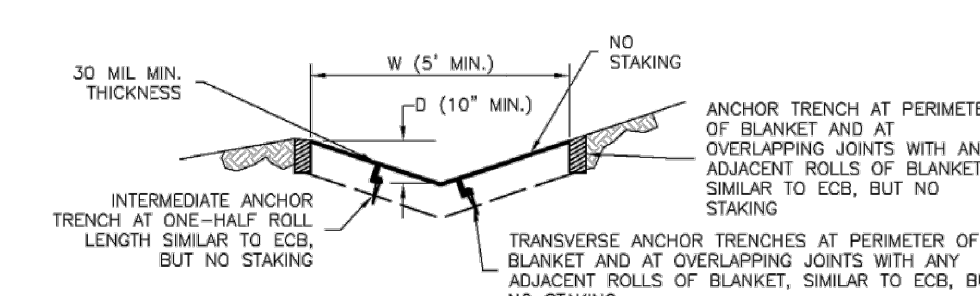


DS-3. ECB LINED SWALE (CUT AND FILL OR BERM)

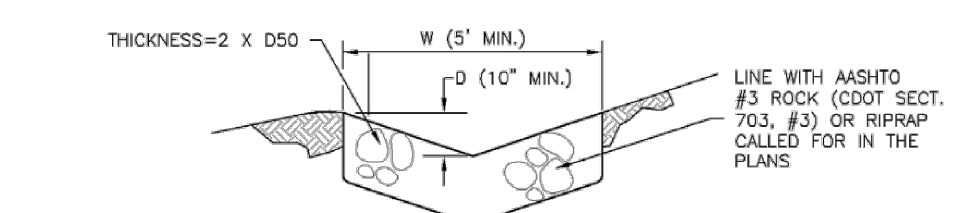
November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 ED/DS-3

EC-10

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: -LOCATION OF DIVERSION SWALE. -TYPE OF SWALE (UNLINED, COMPACTED AND/OR LINED). -LENGTH OF EACH SWALE. -DEPTH, D, AND WIDTH, W DIMENSIONS. -FOR ECB/IRW LINED DITCH, SEE ECB DETAIL. -FOR RIPRAP LINED DITCH, SEE 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/IRW 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.

ED/DS-4 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

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.

(DETAILS 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.

November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 ED/DS-5

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Table with columns: NO., REVISION, BY, DATE, APPR.

Kimley Horn logo and address: 2018 KIMLEY-HORN AND ASSOCIATES, INC. 2 North Nevada Avenue Suite 300 Colorado Springs, Colorado 80903 (719) 453-0182

DESIGNED BY: EUG DRAWN BY: KRK CHECKED BY: EUG DATE: 8/3/2018

PALMER SOLAR EL PASO COUNTY, COLORADO GRADING AND EROSION CONTROL PLAN GESC DETAILS

PRELIMINARY FOR REVIEW ONLY NOT FOR CONSTRUCTION Kimley Horn logo

PROJECT NO. 096495003 SHEET C2.21

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* (Common name)	Growth Season	Pounds of Pure Live Seed (PLS)/acre ^a	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. 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 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 Name	Botanical Name	Growth Season*	Growth Form	Seeds/Pound	Pounds of PLS/acre
Alkali Soil Seed Mix					
Alkali sacaton	<i>Sporobolus airoides</i>	Cool	Bunch	1,750,000	0.25
Basin wildrye	<i>Elymus cinereus</i>	Cool	Bunch	165,000	2.5
Sodar streambank wheatgrass	<i>Agropyron riparium 'Sodar'</i>	Cool	Sod	170,000	2.5
Jose tall wheatgrass	<i>Agropyron elongatum 'Jose'</i>	Cool	Bunch	79,000	7.0
Arriba western wheatgrass	<i>Agropyron smithii 'Arriba'</i>	Cool	Sod	110,000	5.5
Total					17.75
Fertile Loamy Soil Seed Mix					
Ephraim crested wheatgrass	<i>Agropyron cristatum 'Ephraim'</i>	Cool	Sod	175,000	2.0
Dural hard fescue	<i>Festuca ovina 'durhuscula'</i>	Cool	Bunch	565,000	1.0
Lincoln smooth brome	<i>Bromus inermis leys 'Lincoln'</i>	Cool	Sod	130,000	3.0
Sodar streambank wheatgrass	<i>Agropyron riparium 'Sodar'</i>	Cool	Sod	170,000	2.5
Arriba western wheatgrass	<i>Agropyron smithii 'Arriba'</i>	Cool	Sod	110,000	7.0
Total					15.5
High Water Table Soil Seed Mix					
Meadow foxtail	<i>Alopecurus pratensis</i>	Cool	Sod	900,000	0.5
Redtop	<i>Agrostis alba</i>	Warm	Open sod	5,000,000	0.25
Reed canarygrass	<i>Phalaris arundinacea</i>	Cool	Sod	68,000	0.5
Lincoln smooth brome	<i>Bromus inermis leys 'Lincoln'</i>	Cool	Sod	130,000	3.0
Pathfinder switchgrass	<i>Panicum virgatum 'Pathfinder'</i>	Warm	Sod	389,000	1.0
Alkar tall wheatgrass	<i>Agropyron elongatum 'Alkar'</i>	Cool	Bunch	79,000	5.5
Total					10.75
Transition Turf Seed Mix*					
Ruebens Canadian bluegrass	<i>Poa compressa 'Ruebens'</i>	Cool	Sod	2,500,000	0.5
Dural hard fescue	<i>Festuca ovina 'durhuscula'</i>	Cool	Bunch	565,000	1.0
Citation perennial ryegrass	<i>Lolium perenne 'Citation'</i>	Cool	Sod	247,000	3.0
Lincoln smooth brome	<i>Bromus inermis leys 'Lincoln'</i>	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*	Growth Form	Seeds/Pound	Pounds of PLS/acre
Sandy Soil Seed Mix					
Blue grama	<i>Bouteloua gracilis</i>	Warm	Sod-forming bunchgrass	825,000	0.5
Camper little bluestem	<i>Schizachyrium scoparium 'Camper'</i>	Warm	Bunch	240,000	1.0
Prairie sandreed	<i>Calamovilfa longifolia</i>	Warm	Open sod	274,000	1.0
Sand dropseed	<i>Sporobolus cryptandrus</i>	Cool	Bunch	5,298,000	0.25
Vaughn sideoats grama	<i>Bouteloua curtipendula 'Vaughn'</i>	Warm	Sod	191,000	2.0
Arriba western wheatgrass	<i>Agropyron smithii 'Arriba'</i>	Cool	Sod	110,000	5.5
Total					10.25
Heavy Clay, Rocky Foothill Seed Mix					
Ephraim crested wheatgrass [†]	<i>Agropyron cristatum 'Ephraim'</i>	Cool	Sod	175,000	1.5
Oahe intermediate wheatgrass	<i>Agropyron intermedium 'Oahe'</i>	Cool	Sod	115,000	5.5
Vaughn sideoats grama [†]	<i>Bouteloua curtipendula 'Vaughn'</i>	Warm	Sod	191,000	2.0
Lincoln smooth brome	<i>Bromus inermis leys 'Lincoln'</i>	Cool	Sod	130,000	3.0
Arriba western wheatgrass	<i>Agropyron smithii 'Arriba'</i>	Cool	Sod	110,000	5.5
Total					17.5

* 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.

[†] 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.

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

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

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

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.

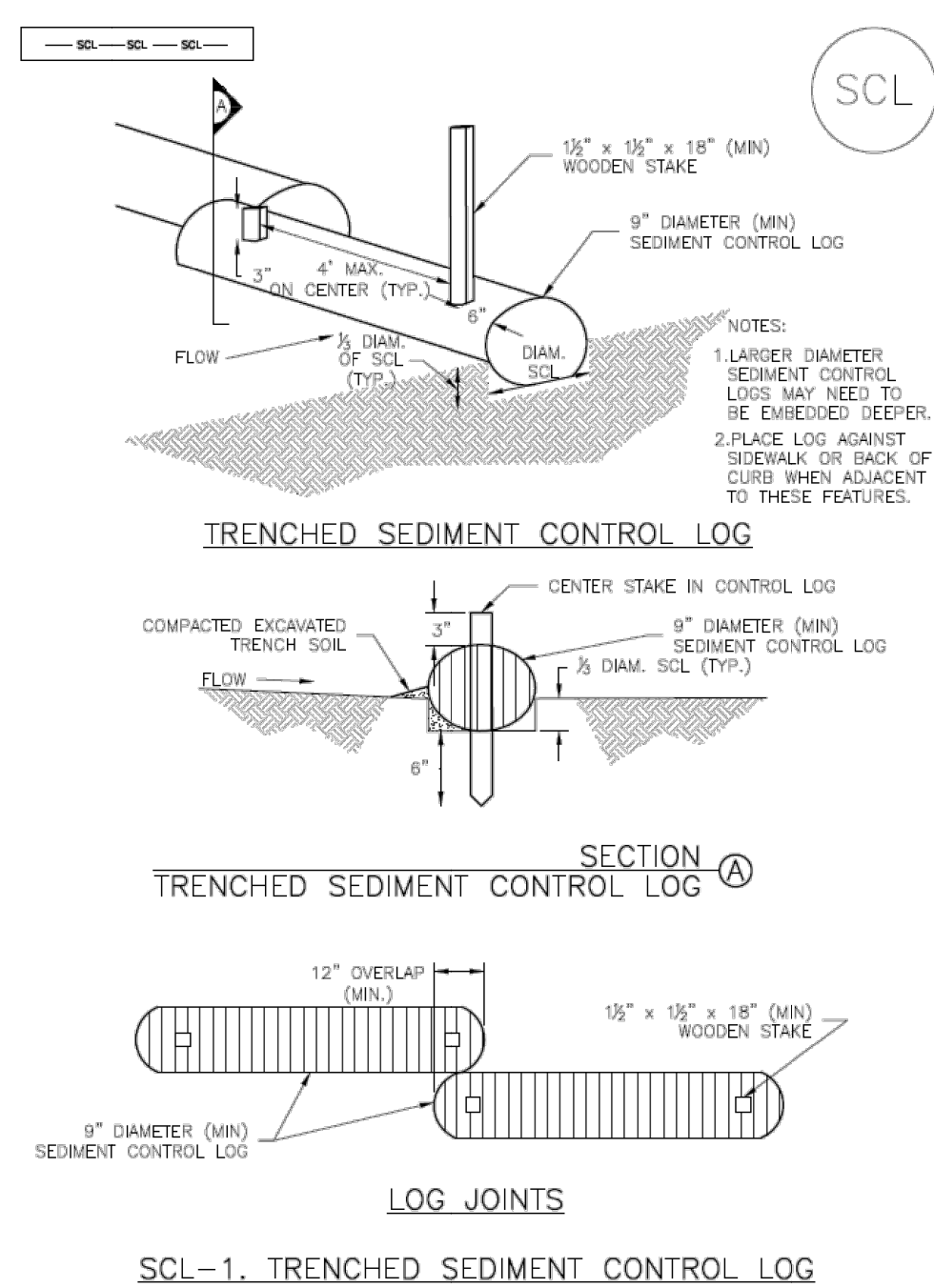
Maintenance and Removal
Monitor and observe seeded areas to identify areas of poor growth or areas that fail to germinate. Reseed and mulch these areas, as needed.

A 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.

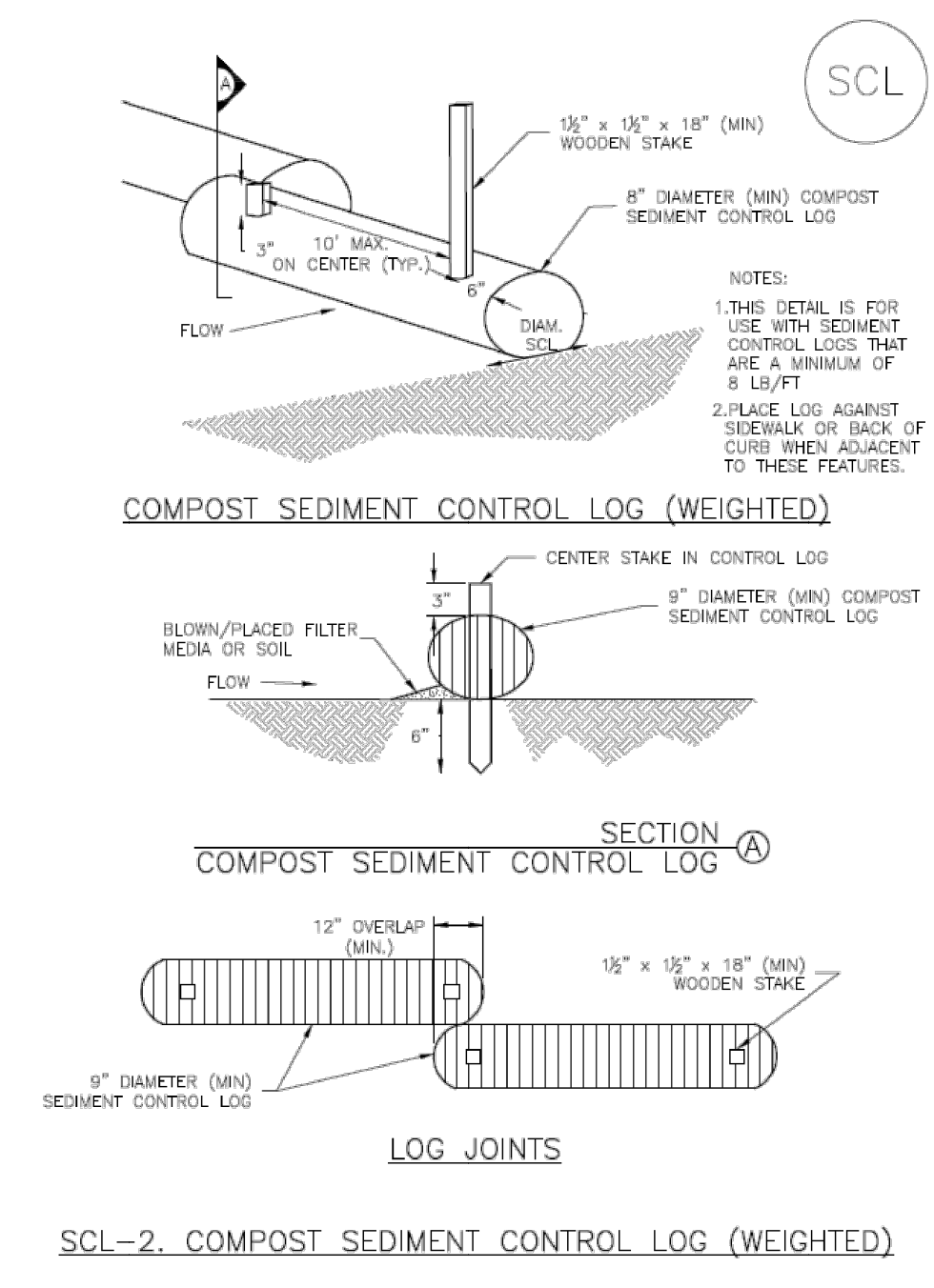
Seeded areas may require irrigation, particularly during extended dry periods. Targeted weed control may also be necessary.

Protect seeded areas from construction equipment and vehicle access.

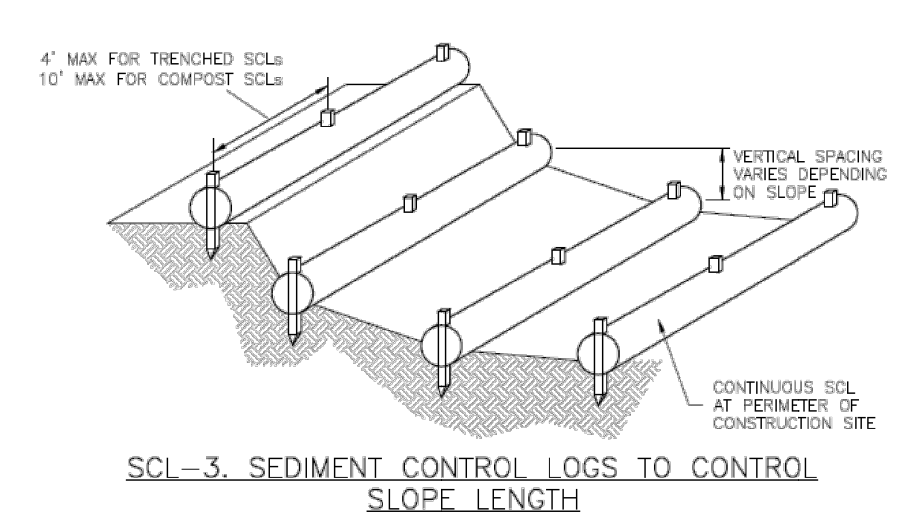
Sediment Control Log (SCL) SC-2



SC-2 Sediment Control Log (SCL)



Sediment Control Log (SCL) SC-2



SC-2 Sediment Control Log (SCL)

SEDIMENT CONTROL LOG INSTALLATION NOTES

- 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 UPRADIANT 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.
- IT IS RECOMMENDED THAT SEDIMENT CONTROL LOGS BE TRENCHED INTO THE GROUND TO A DEPTH OF APPROXIMATELY 1/3 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.
- 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.
- 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

- 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.
- 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.
- 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.
- 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 SEEDING. 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 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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Kimley»Horn
 2018 KIMLEY-HORN AND ASSOCIATES, INC.
 2 North Nevada Avenue Suite 300
 Colorado Springs, Colorado 80903 (719) 453-0182

DESIGNED BY: EUG
 DRAWN BY: KRK
 CHECKED BY: EUG
 DATE: 8/3/2018

PALMER SOLAR
 EL PASO COUNTY, COLORADO
 GRADING AND EROSION CONTROL PLAN
 GESC DETAILS

PRELIMINARY
 FOR REVIEW ONLY
 NOT FOR
 CONSTRUCTION
Kimley»Horn
 Kimley-Horn and Associates, Inc.

PROJECT NO.
 096495003
 SHEET
C2.22

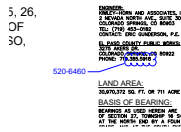
Markup Summary

dsdrice (13)



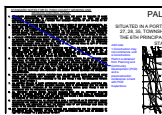
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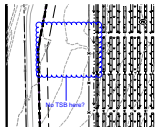
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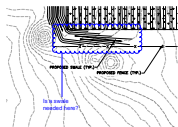
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Add note: 1. Construction may not commence until a Construction Permit is obtained from Planning and Community Development (PCD) and a preconstruction conference is held with PCD Inspections.



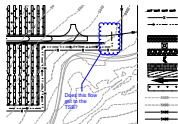
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No TSB here?



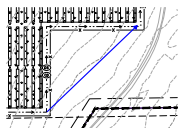
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Color: ■

Is a swale needed here?



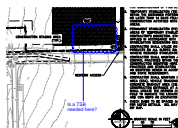
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Page Label: [1] GEC PLAN COVER SHEET
Author: dsdrice
Date: 9/18/2018 4:48:48 PM
Color: ■

Does this flow get to the TSB?



Subject: Arrow
Page Label: [1] GEC PLAN COVER SHEET
Author: dsdrice
Date: 9/18/2018 4:49:46 PM
Color: ■

downhill?



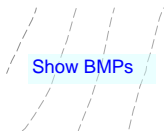
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Author: dsdrice
Date: 9/18/2018 4:50:58 PM
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Is a TSB needed here?



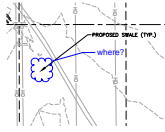
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TSB?



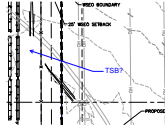
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Author: dsdrice
Date: 9/18/2018 4:53:35 PM
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Show BMPs



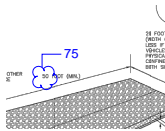
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Page Label: [1] GEC PLAN COVER SHEET
Author: dsdrice
Date: 9/18/2018 8:12:36 PM
Color: ■

where?



Subject: Callout
Page Label: [1] GEC PLAN COVER SHEET
Author: dsdrice
Date: 9/18/2018 8:12:47 PM
Color: ■

TSB?



Subject: Cloud+
Page Label: [1] GEC PLAN COVER SHEET
Author: dsdrice
Date: 9/18/2018 8:15:47 PM
Color: ■

75