

WILLOW SPRINGS RANCH

TOWN OF MONUMENT, COLORADO

EROSION CONTROL

AND STORMWATER QUALITY CONTROL PLAN

GRADING, EROSION AND STORMWATER QUALITY NOTES

1. ANY LAND DISTURBANCE BY ANY OWNER, DEVELOPER, BUILDER, CONTRACTOR, OR OTHER PERSON SHALL COMPLY WITH THE BASIC GRADING, EROSION AND STORMWATER QUALITY CONTROL REQUIREMENTS AND GENERAL PROHIBITIONS NOTED IN THE DRAINAGE CRITERIA MANUAL VOLUME 2.
2. NO CLEARING, GRADING, EXCAVATION, FILLING OR OTHER LAND DISTURBING ACTIVITIES SHALL BE PERMITTED UNTIL SIGN OFF AND ACCEPTANCE OF THE GRADING PLAN AND EROSION AND STORMWATER CONTROL PLAN IS RECEIVED FROM THE PLANNING DEPARTMENT.
3. THE INSTALLATION OF THE FIRST LEVEL OF TEMPORARY EROSION CONTROL FACILITIES AND BMP'S SHALL BE INSTALLED AND INSPECTED PRIOR TO ANY EARTH DISTURBANCE OPERATIONS TAKING PLACE. CALL TOWN STORMWATER INSPECTIONS, 499-3375 48 HOURS PRIOR TO CONSTRUCTION.
4. SEDIMENT (MUD AND DIRT) TRANSPORTED ONTO A PUBLIC ROAD, REGARDLESS OF THE SIZE OF THE SITE, SHALL BE CLEANED IMMEDIATELY.
5. CONCRETE WASH WATER SHALL NOT BE DISCHARGED TO OR ALLOWED TO RUNOFF TO STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.
6. SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN TWENTY-ONE (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 THIRTY (30) DAYS SHALL ALSO BE MULCHED WITHIN TWENTY-ONE (21) DAYS AFTER INTERIM GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN SIXTY (60) DAYS SHALL ALSO BE SEEDED. ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND BMP'S SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED.
7. THE GRADING AND EROSION CONTROL PLAN WILL BE SUBJECT TO RE-REVIEW AND RE-ACCEPTANCE BY THE PLANNING DEPARTMENT SHOULD ANY OF THE FOLLOWING OCCUR: GRADING DOES NOT COMMENCE WITHIN TWELVE (12) MONTHS OF THE TOWN'S ASSISTANT ENGINEER'S ACCEPTANCE OF THE PLAN, A CHANGE IN PROPERTY OWNERSHIP, PROPOSED DEVELOPMENT CHANGES, OR PROPOSED GRADING REVISIONS.
8. THE PLAN SHALL NOT SUBSTANTIALLY CHANGE THE DEPTH OF COVER, OR ACCESS EXISTING UTILITY LINES. ACCEPTANCE OF THIS PLAN DOES NOT CONSTITUTE APPROVAL TO GRADE IN ANY UTILITY EASEMENT OR RIGHT-OF-WAY. APPROVALS TO GRADE WITHIN UTILITY EASEMENTS MUST BE OBTAINED FROM THE APPROPRIATE UTILITY COMPANY. IT IS NOT PERMISSIBLE FOR ANY PERSON TO MODIFY THE GRADE OF THE EARTH ON ANY UTILITIES EASEMENT OR UTILITY RIGHT-OF-WAY WITHOUT WRITTEN APPROVAL. THE PLAN SHALL NOT INCREASE OR DIVERT WATER TOWARDS UTILITY FACILITIES. ANY CHANGES TO EXISTING UTILITY FACILITIES TO ACCOMMODATE THE PLAN MUST BE APPROVED BY THE AFFECTED UTILITY OWNER PRIOR TO IMPLEMENTING THE PLAN. THE COST TO RELOCATE OR PROTECT EXISTING UTILITIES OR TO PROVIDE INTERIM ACCESS IS AT THE APPLICANT'S EXPENSE.
9. SEE NOTES IN SECTION 3.2 OF THE DRAINAGE CRITERIA MANUAL VOL. 2.
10. ALL UTILITY INSTALLATIONS WITHIN THE LIMITS OF DISTURBANCE SHOWN ON THIS PLAN ARE COVERED UNDER THIS PLAN. LOCATIONS OF UTILITIES WITHIN THE LIMITS OF DISTURBANCE MAY BE MODIFIED AFTER PLAN APPROVAL AS A FIELD CHANGE. UTILITY INSTALLATIONS RELATED TO THE PRIVATE DEVELOPMENT THAT EXTEND BEYOND THE LIMITS OF DISTURBANCE SHOWN ON THIS PLAN ARE CONSIDERED TO BE PART OF THE LARGER DEVELOPMENT, AND THEREFORE REQUIRE A PLAN MODIFICATION OR SEPARATE PLAN FOR THE ADDITIONAL DISTURBANCE AREA.

TIMING

ANTICIPATED STARTING AND COMPLETION TIME PERIOD OF SITE GRADING
START: SPRING OF 2020
FINISH: SUMMER 2020

EXPECTED DATE ON WHICH THE FINAL STABILIZATION WILL BE COMPLETED:

AREAS

TOTAL AREA OF THE SITE TO BE CLEARED, EXCAVATED OR GRADED:
APPROXIMATELY 112 ACRES.

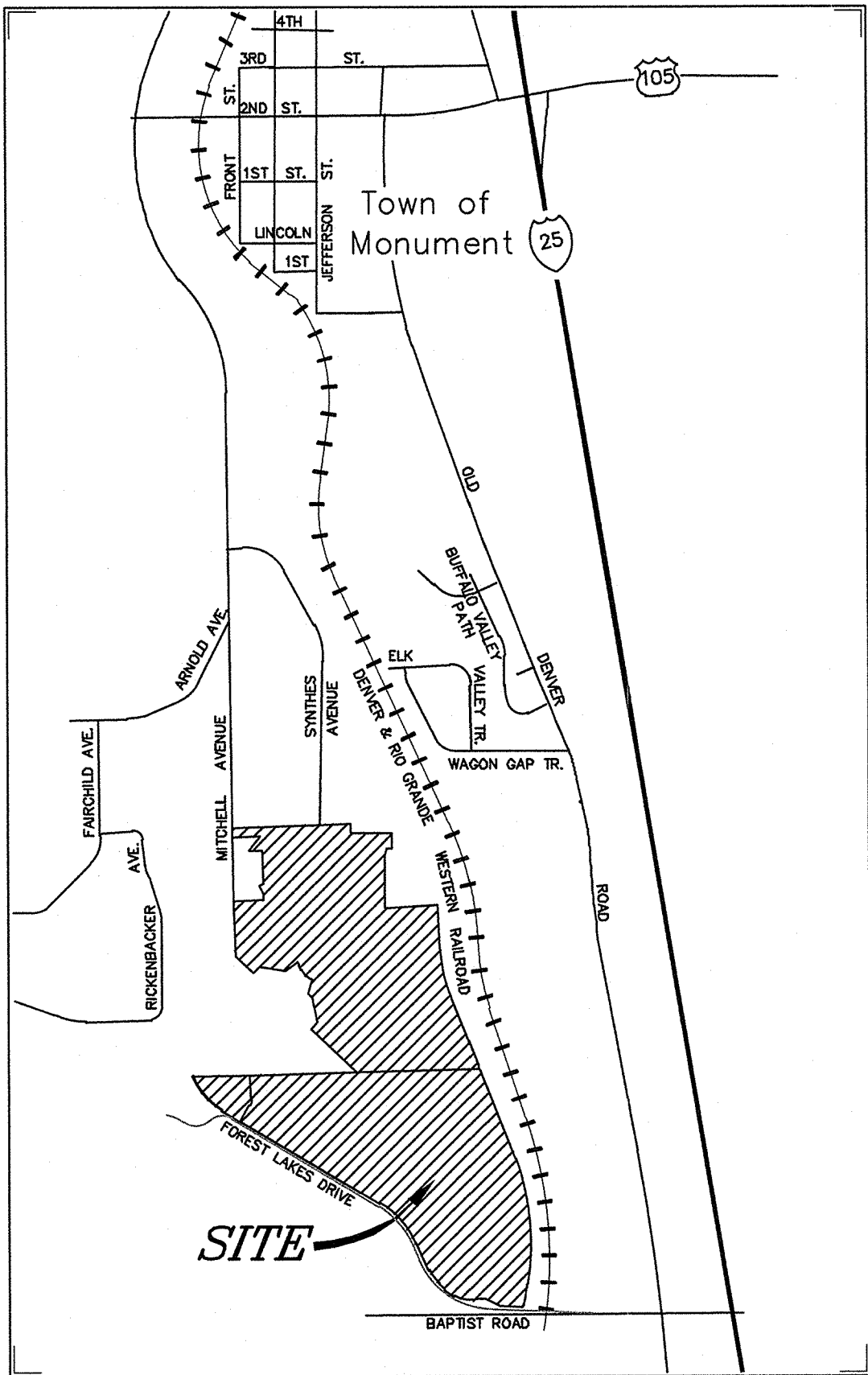
RECEIVING WATERS

NAME OF RECEIVING WATERS: TEACHOUT CREEK, MONUMENT CREEK.

Soil Type	Hydrologic Soil Group	Percent of site
Tomah-Crowfoot loamy sands	B	36.8%
Pring coarse sandy loam	B	31.1%
Jarre-Teolote complex	B	6.8%
Alamosa loam	D	1.9%
Ustic Torrifluents	B	1.8%
Tomah-Crowfoot complex	B	1.5%

ESTIMATED COST OF TEMPORARY AND PERMANENT BMP'S INCLUDING INSTALLATION AND MAINTENANCE UNTIL FINAL STABILIZATION IS:

NO.	ITEM	UNIT	AVERAGE UNIT PRICE	QUANTITY	TOTAL
1	SILT FENCING	LF	\$2.50	21,975	\$54,937.50
2	INLET PROTECTION	EA	\$150.00	30	\$4,500.00
3	OUTLET PROTECTION	EA	\$150.00	9	\$1,350.00
4	CHECK DAM	EA	\$40.00	0	\$0.00
5	ROCK SOCK	EA	\$110.00	2	\$220.00
6	EROSION CONTROL BLANKET	SF	\$0.25	0	\$0.00
7	CONCRETE WASHOUT	EA	\$760.00	1	\$760.00
8	VEHICLE TRACKING CONTROL	EA	\$1,325.00	3	\$3,975.00
9	SEEDING/MULCH - Disturbed Area	AC	\$1,200.00	112	\$134,400.00
	SUBTOTAL				\$200,142.50
	MAINTENANCE OF BMPs		40%		\$80,057.00
	BMP TOTAL				\$280,199.50



Vicinity Map

Not to Scale

SHEET INDEX

EC-1	COVER SHEET
EC01	KEY MAP AND PHASE LINES
EC02	EROSION CONTROL PLAN
EC03	EROSION CONTROL PLAN
EC04	EROSION CONTROL PLAN
EC05	EROSION CONTROL PLAN
EC06	EROSION CONTROL PLAN
EC07	EROSION CONTROL PLAN
EC08	EROSION CONTROL PLAN
EC09	EROSION CONTROL PLAN
EC10	EROSION CONTROL PLAN
EC11	EROSION CONTROL PLAN
EC12	EROSION CONTROL DETAILS
EC13	EROSION CONTROL DETAILS
EC14	EROSION CONTROL DETAILS

FLOODPLAIN STATEMENT

THE PROPERTY IS INDICATED AS BEING LOCATED IN ZONE "AE" ON THE NFIP FLOOD INSURANCE RATE MAP FOR UNINCORPORATED EL PASO COUNTY, COLORADO, PANEL NUMBER'S 08041C0278G AND 08041C0278G, BOTH DATED DECEMBER 07, 2018 AND ON THE LETTER OF MAP REVISION TO PANEL NUMBER'S 08041C0278G AND 08041C0278G, CASE NUMBER 16-08-1035R HAVING AN EFFECTIVE DATE OF APRIL 18, 2019. ZONE "AE" IS DESCRIBED AS THOSE AREAS FOR WHICH BASE FLOOD ELEVATIONS HAVE BEEN DETERMINED.

BENCHMARK:

PROJECT BENCHMARK:

A #5 REBAR WITH A 2" ALUMINUM CAP STAMPED "D.B. & CO." / "CONTROL POINT". POINT IS LOCATED 610 FEET +/- EAST OF THE EAST EDGE OF ASPHALT OF MITCHELL ROAD, 390 FEET +/- SOUTHWESTERLY OF THE CENTER OF THE CUL-DE-SAC AT THE SOUTH END OF SYNTHES ROAD AND 25 FEET SOUTH OF A SPLIT RAIL FENCE AT THE SOUTHERLY BOUNDARY OF THE SYNTHES USA PROPERTY.

ELEVATION = 6880.06. VERTICAL DATUM -- NAVD88.

ENGINEER'S STATEMENT

THIS EROSION CONTROL/GRADING PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. IF SUCH WORK IS PERFORMED IN ACCORDANCE WITH THE GRADING AND EROSION CONTROL PLAN, THE WORK WILL NOT BECOME A HAZARD TO LIFE AND LIMB, ENDANGER PROPERTY, OR ADVERSELY AFFECT THE SAFETY, USE, OR STABILITY OF A PUBLIC WAY, DRAINAGE CHANNEL, OR OTHER PROPERTY.

REGISTERED ENGINEER'S SIGNATURE: [Signature]
NAME OF REGISTERED ENGINEER: TIM D. McCONNELL, P.E. LICENSE NUMBER & SEAL
COMPANY: DREXEL, BARRELL & CO. PHONE: 719-260-0887
ADDRESS: 3 S. 7TH ST. COLORADO SPRINGS, CO 80905 FAX: 719-260-8352
EMAIL: TMCCONNELL@DREXELBARRELL.COM

DEVELOPER'S/OWNER'S STATEMENT

THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE EROSION AND STORMWATER QUALITY CONTROL PLAN INCLUDING TEMPORARY BMP INSPECTION REQUIREMENTS AND FINAL STABILIZATION REQUIREMENTS. I ACKNOWLEDGE THE RESPONSIBILITY TO DETERMINE WHETHER THE CONSTRUCTION ACTIVITIES ON THESE PLANS REQUIRE COLORADO DISCHARGE PERMIT SYSTEM (CDPS) PERMITTING FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY.

DEVELOPER/OWNER SIGNATURE: [Signature]
NAME OF DEVELOPER/OWNER: DANIEL BROWN DATE: 4-22-20
DBA: POLO BROWN COMPANY PHONE: (303) 999-5533
TITLE: MANAGING MEMBER EMAIL: polobrown1@aol.com
ADDRESS: 514 PIKE AVENUE
CANON CITY, CO 81212

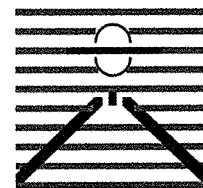
TOWN OF MONUMENT GRADING AND EROSION CONTROL REVIEW

THIS GRADING PLAN IS FILED IN ACCORDANCE WITH TOWN OF MONUMENT GRADING AND EROSION CONTROL STANDARDS.

[Signature] DATE: 4-28-2020
FOR THE CITY ENGINEER

NOTES: _____

PREPARED BY:



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Engineers & Surveyors
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CLIENT:



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CONSTRUCTION DOCUMENTS FOR:
WILLOW SPRINGS RANCH
BAPTIST ROAD & FOREST LAKES DRIVE
MONUMENT, COLORADO

ISSUE	DATE
INITIAL ISSUE	3-12-2020
LATEST ISSUE	4-20-2020
DESIGNED BY:	KGV
DRAWN BY:	GES
CHECKED BY:	TDM
FILE NAME:	20876-05CV01



DRAWING SCALE:

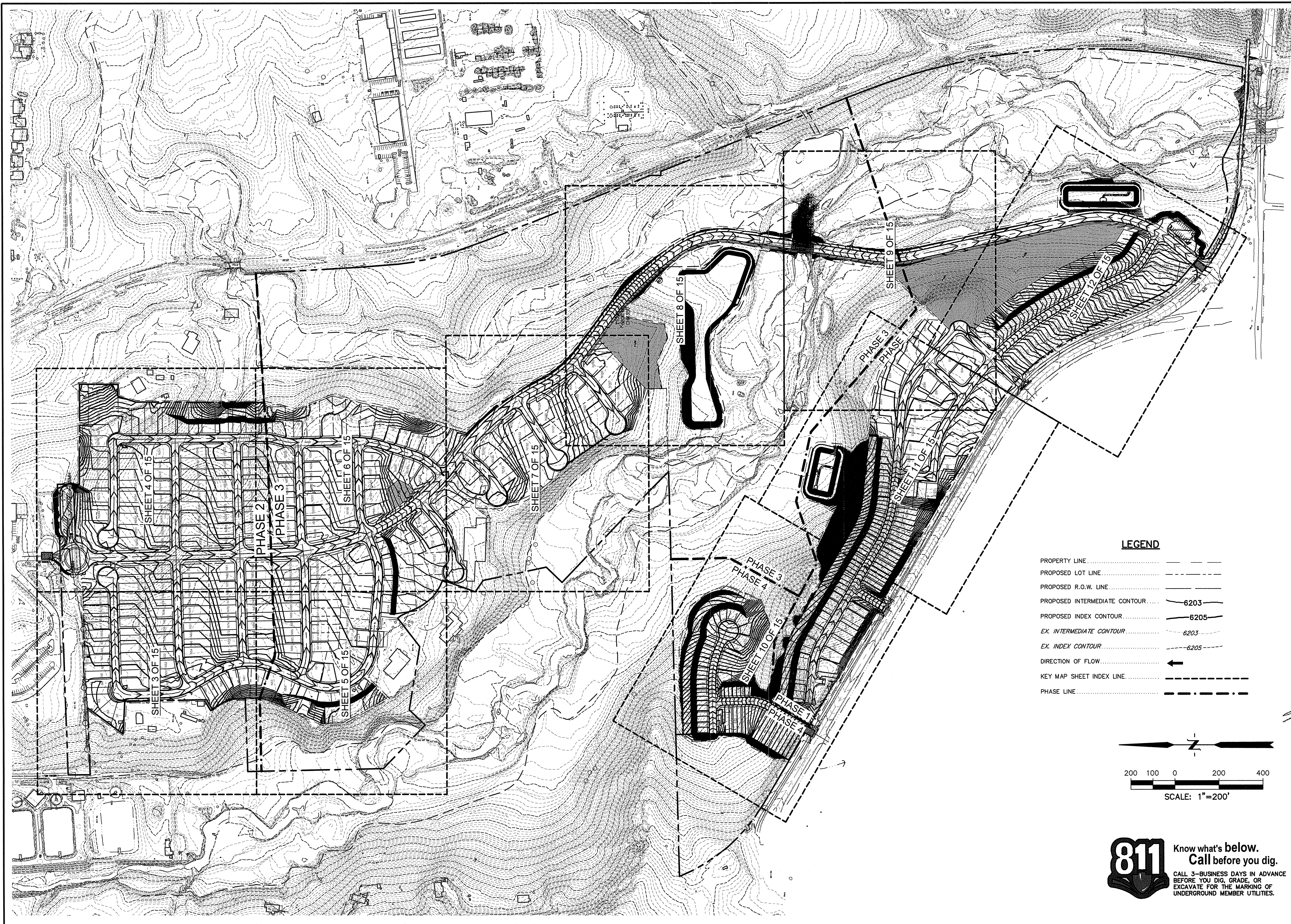
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VERTICAL: N/A

**EROSION
CONTROL
COVER SHEET**

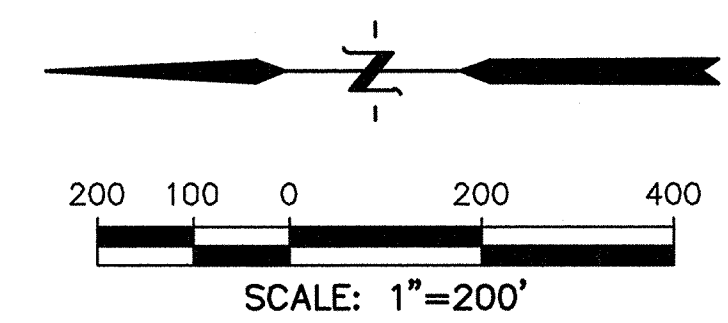
PROJECT NO. 20876-05CSCV
DRAWING NO.

EC-1

SHEET: 1 OF 15

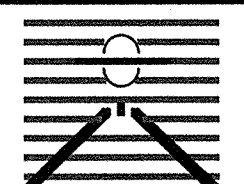


- LEGEND**
- PROPERTY LINE - - - - -
 - PROPOSED LOT LINE - - - - -
 - PROPOSED R.O.W. LINE - - - - -
 - PROPOSED INTERMEDIATE CONTOUR 6203
 - PROPOSED INDEX CONTOUR 6205
 - EX. INTERMEDIATE CONTOUR 6203
 - EX. INDEX CONTOUR 6205
 - DIRECTION OF FLOW ←
 - KEY MAP SHEET INDEX LINE - - - - -
 - PHASE LINE - . - . - . -

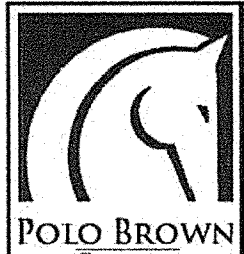


811 Know what's below.
Call before you dig.
CALL 3-BUSINESS DAYS IN ADVANCE
BEFORE YOU DIG, GRADE, OR
EXCAVATE FOR THE MARKING OF
UNDERGROUND MEMBER UTILITIES.

PREPARED BY:


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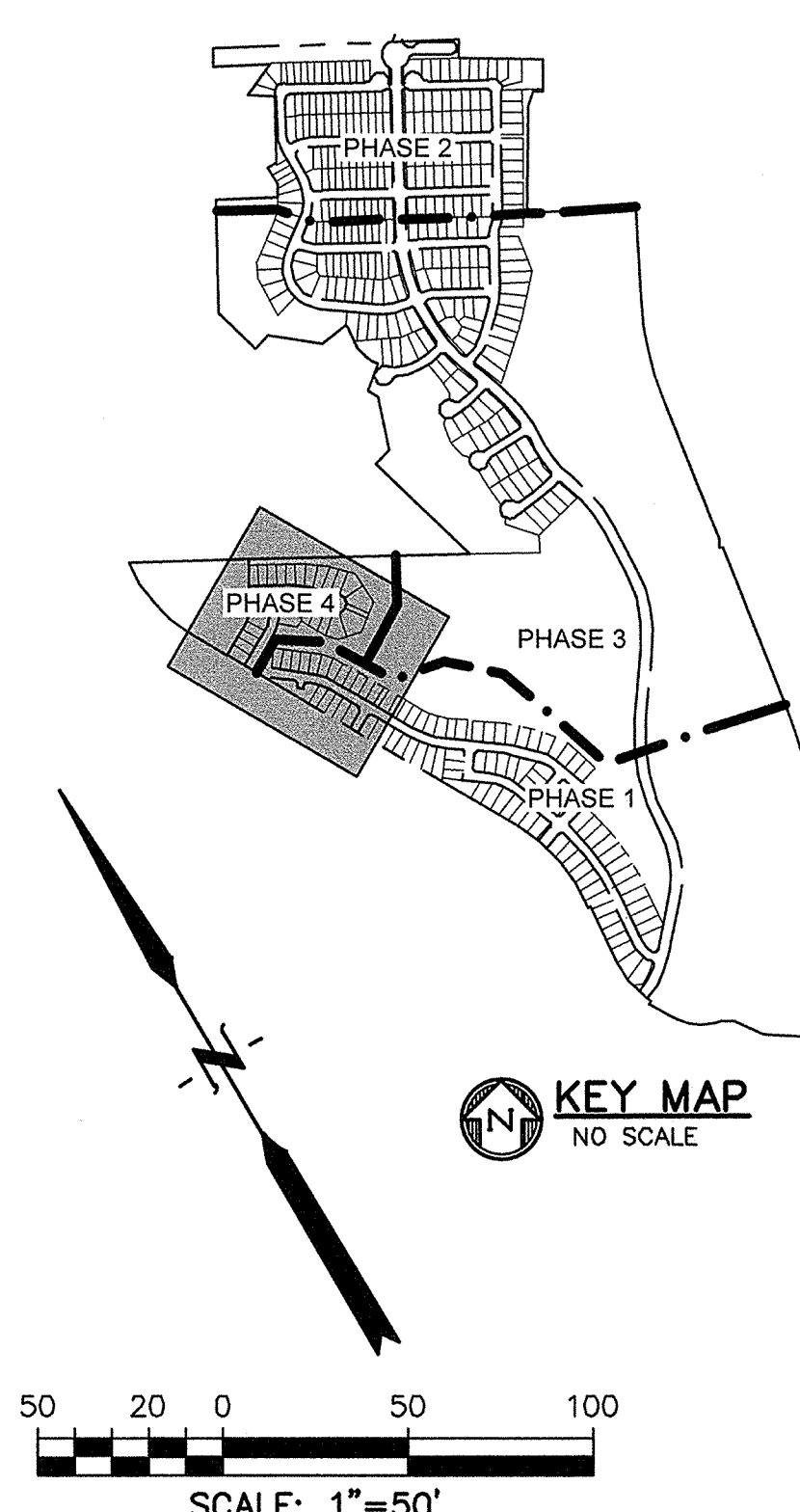
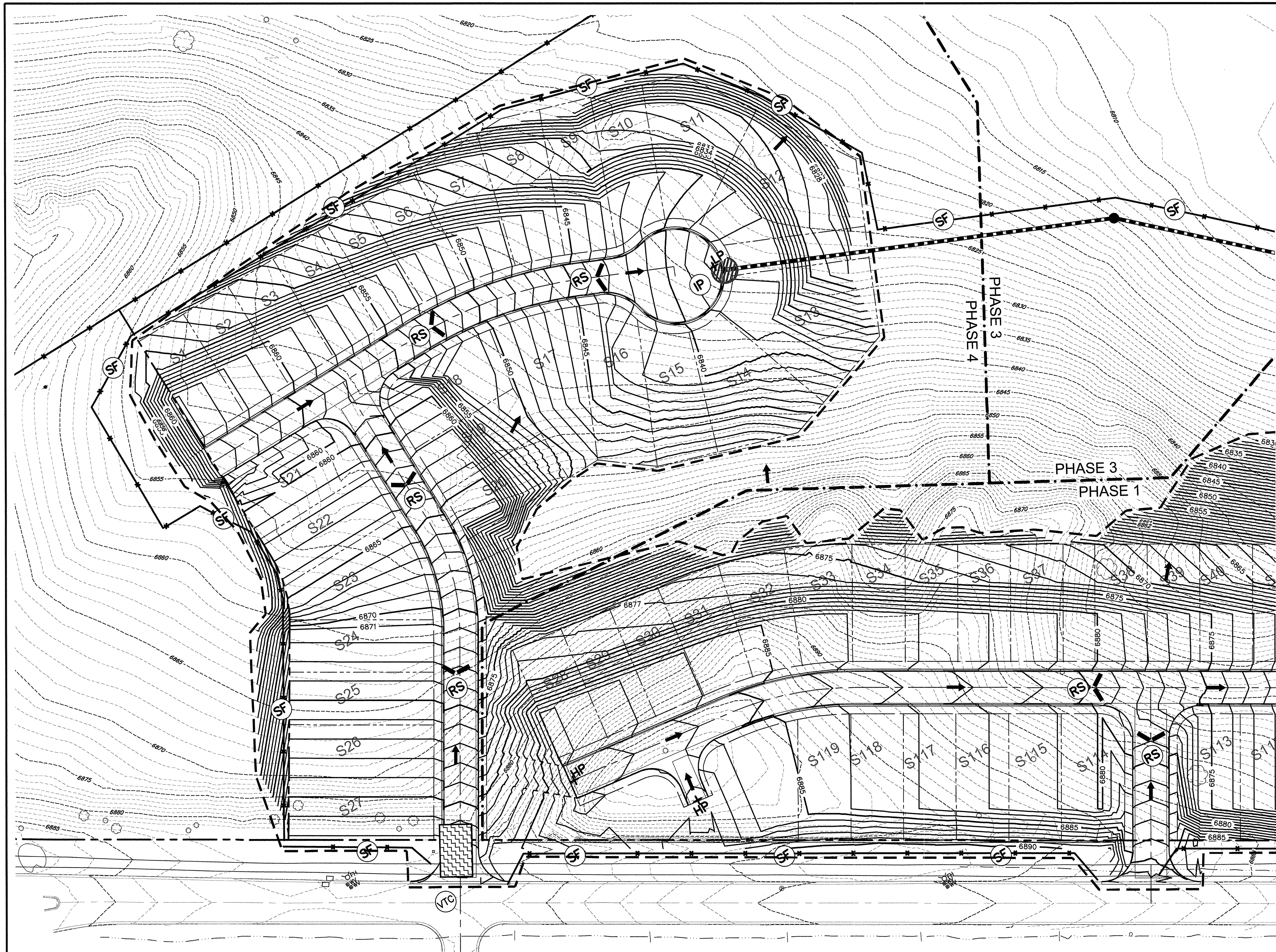
DRAWING SCALE:
HORIZONTAL: 1" = 50'
VERTICAL: N/A

**OVERALL
KEY MAP &
PHASE LINES**

PROJECT NO. 20876-05CSGV
DRAWING NO.

EC01

SHEET: 2 OF 15



LEGEND	
PROPERTY LINE	---
PROPOSED LOT LINE	---
PROPOSED R.O.W. LINE	---
PROPOSED INTERMEDIATE CONTOUR	---6203---
PROPOSED INDEX CONTOUR	---6205---
EX. INTERMEDIATE CONTOUR	---6203---
EX. INDEX CONTOUR	---6205---
DIRECTION OF FLOW	→
PROPOSED STORM SEWER	---S--- (with arrow)
PROPOSED STORM DRAIN MANHOLE	●
PROPOSED INLET	■
HIGH POINT	HP
LOW POINT	LP
CATCH BASIN INLET PROTECTION (SEE DETAIL SHEET X)	CB
ROCK CHECK DAM (SEE DETAIL SHEET X)	CD
EROSION CONTROL BLANKET (SEE DETAIL SHEET X)	ECB
INLET PROTECTION (SEE DETAIL SHEET X)	IP
OUTLET PROTECTION (SEE DETAIL SHEET X)	OP
SEDIMENTATION BASIN (SEE DETAIL SHEET X)	SB
SILT FENCE (SEE DETAIL SHEET X)	SF
STRAW BALE CHECK DAM (SEE DETAIL SHEET X)	STB
VEHICLE TRACKING CONTROL (SEE DETAIL SHEET X)	VTC
CONCRETE WASHOUT (SEE DETAIL SHEET X)	CW
ROCK SOCKS (SEE DETAIL SHEET X)	RS
LIMIT OF DISTURBANCE	---
CUT/FILL LINE	---

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PREPARED BY:

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MONUMENT, COLORADO

ISSUE	DATE
INITIAL ISSUE	3-12-2020
LATEST ISSUE	4-20-2020

DESIGNED BY:	TDM
DRAWN BY:	GES
CHECKED BY:	TDM
FILE NAME:	20876-05EC01

COLORADO REGISTERED PROFESSIONAL ENGINEER
TIM D. MCCONNELL
33797
4-20-20

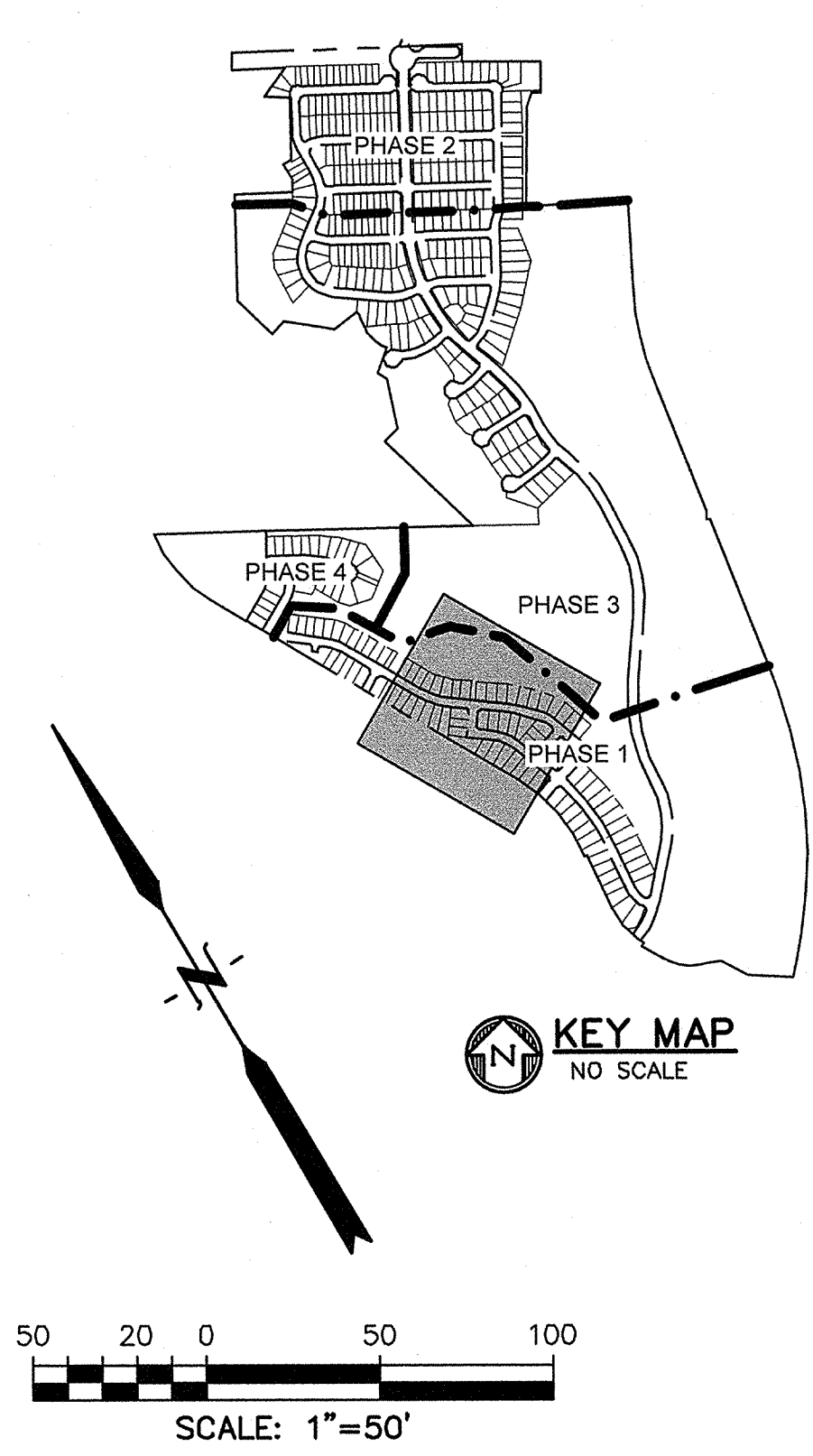
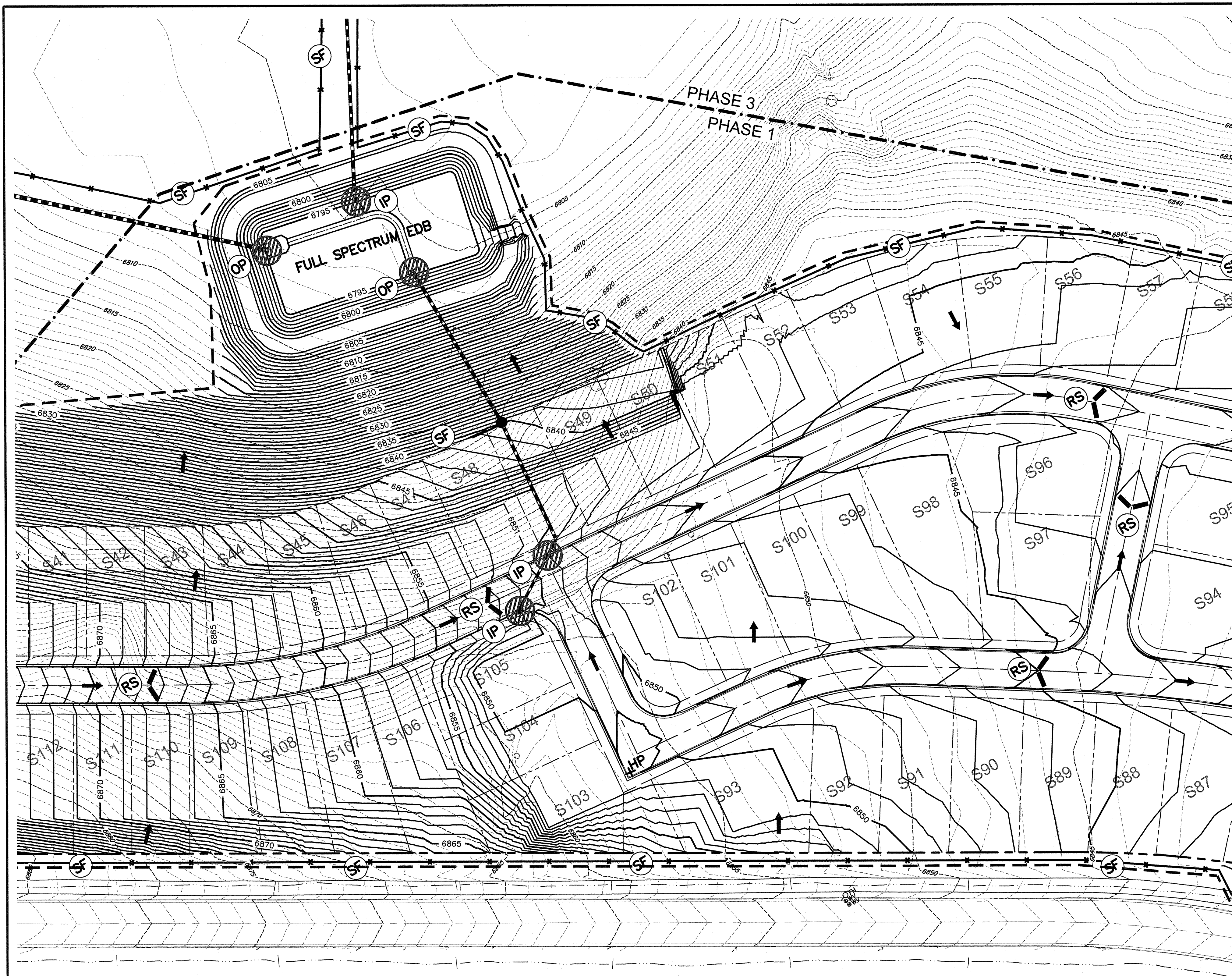
DRAWING SCALE:
HORIZONTAL: 1" = 50'
VERTICAL: N/A

GRADING & EROSION CONTROL PLAN

PROJECT NO. 20876-05CSCV
DRAWING NO.

EC09

SHEET: 10 OF 15



LEGEND	
PROPERTY LINE	---
PROPOSED LOT LINE	---
PROPOSED R.O.W. LINE	---
PROPOSED INTERMEDIATE CONTOUR	6203
PROPOSED INDEX CONTOUR	6205
EX. INTERMEDIATE CONTOUR	6203
EX. INDEX CONTOUR	6205
DIRECTION OF FLOW	→
PROPOSED STORM SEWER	STORM SEWER
PROPOSED STORM DRAIN MANHOLE	●
PROPOSED INLET	■
HIGH POINT	HP
LOW POINT	LP
CATCH BASIN INLET PROTECTION	CB
(SEE DETAIL SHEET X)	
ROCK CHECK DAM	CD
(SEE DETAIL SHEET X)	
EROSION CONTROL BLANKET	ECB
(SEE DETAIL SHEET X)	
INLET PROTECTION	IP
(SEE DETAIL SHEET X)	
OUTLET PROTECTION	OP
(SEE DETAIL SHEET X)	
SEDIMENTATION BASIN	SB
(SEE DETAIL SHEET X)	
SILT FENCE	SF
(SEE DETAIL SHEET X)	
STRAW BALE CHECK DAM	STB
(SEE DETAIL SHEET X)	
VEHICLE TRACKING CONTROL	VTC
(SEE DETAIL SHEET X)	
CONCRETE WASHOUT	CW
(SEE DETAIL SHEET X)	
ROCK SOCKS	RS
(SEE DETAIL SHEET X)	
LIMIT OF DISTURBANCE	---
CUT/FILL LINE	---

PREPARED BY:

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COLORADO REGISTERED PROFESSIONAL ENGINEER
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P.E. 63737
4-20-20

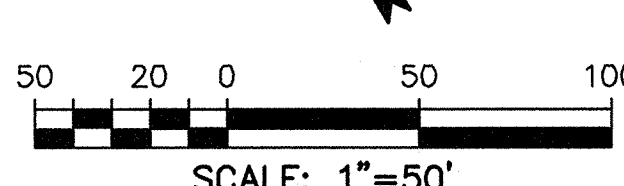
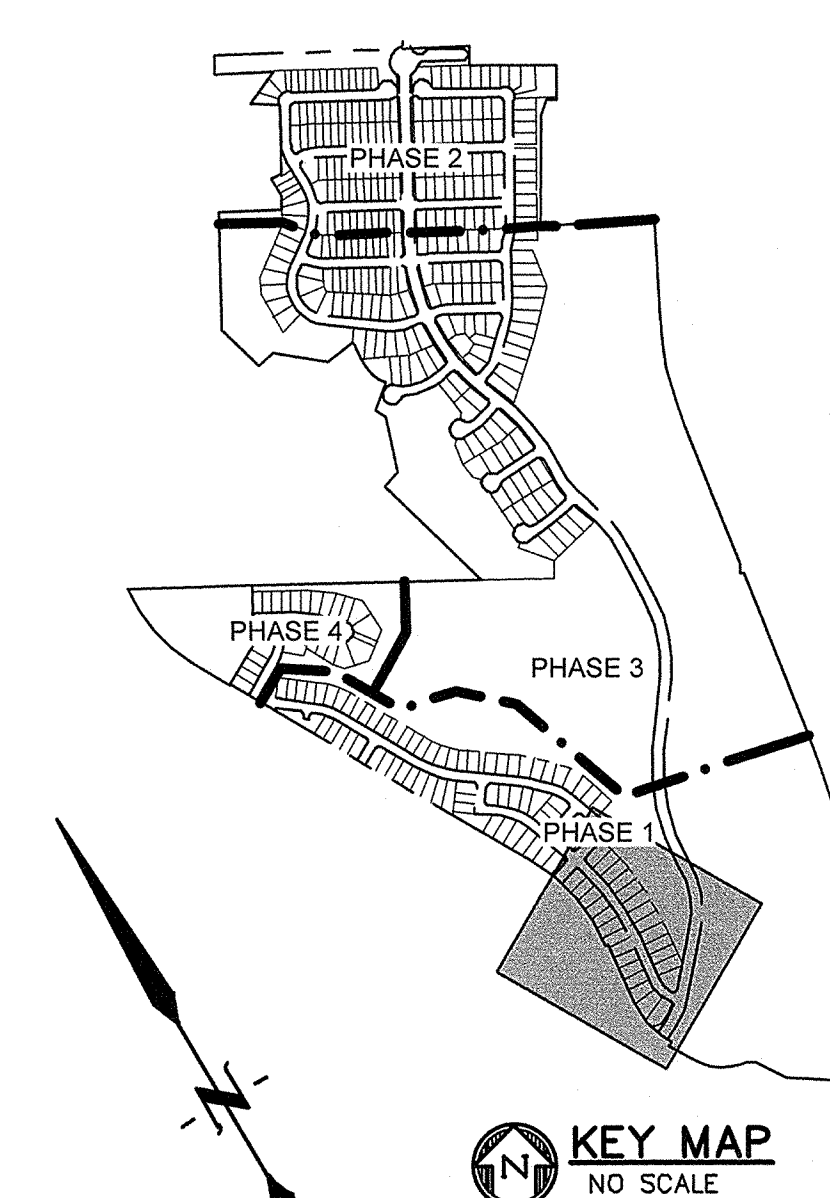
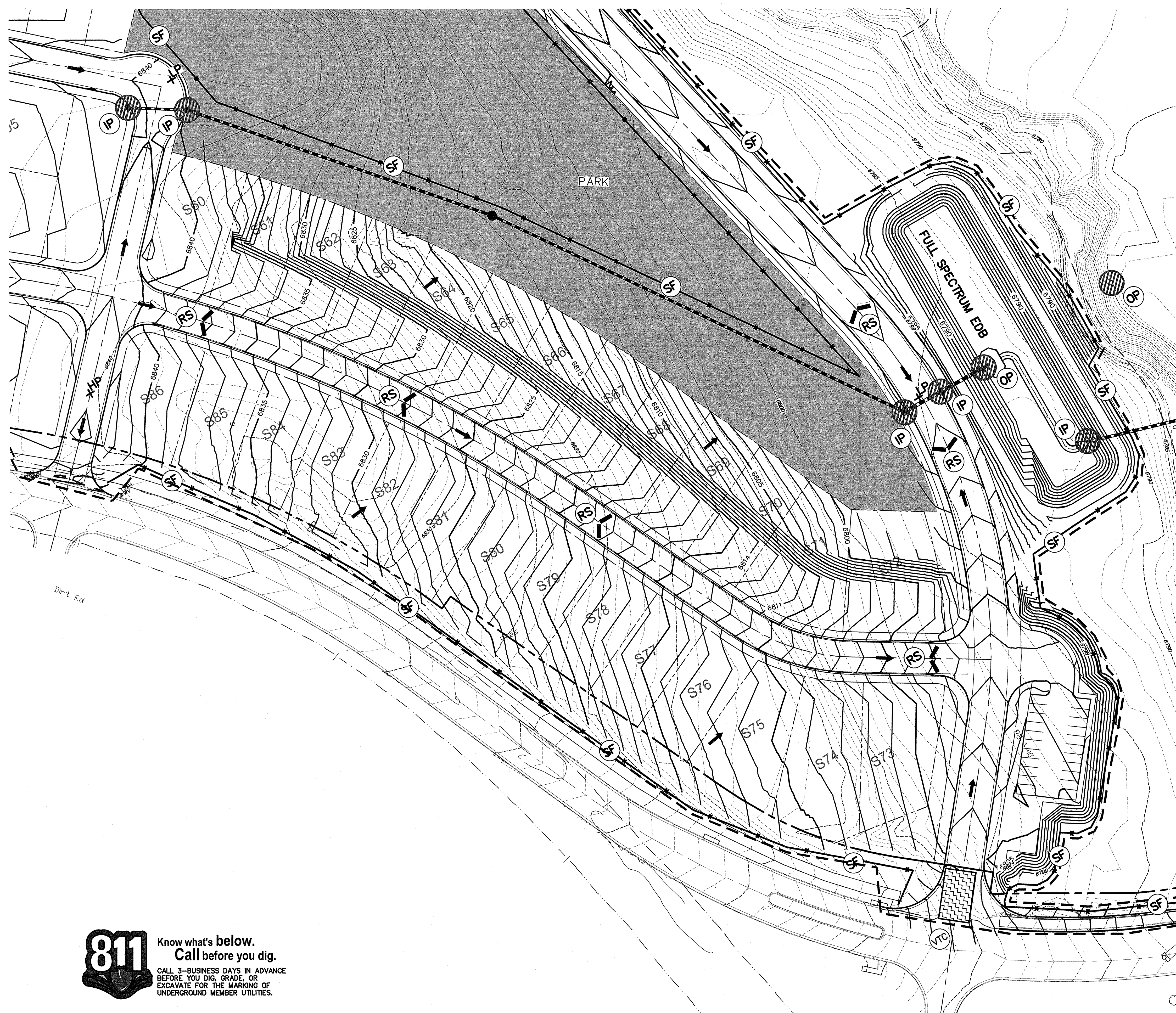
DRAWING SCALE:
HORIZONTAL: 1" = 50'
VERTICAL: N/A

GRADING & EROSION CONTROL PLAN

PROJECT NO. 20876-05CSCV
DRAWING NO.

EC10

SHEET: 11 OF 15



LEGEND

- PROPERTY LINE
- PROPOSED LOT LINE
- PROPOSED R.O.W. LINE
- PROPOSED INTERMEDIATE CONTOUR 6203
- PROPOSED INDEX CONTOUR 6205
- EX. INTERMEDIATE CONTOUR 6203
- EX. INDEX CONTOUR 6205
- DIRECTION OF FLOW
- PROPOSED STORM SEWER
- PROPOSED STORM DRAIN MANHOLE
- PROPOSED INLET
- HIGH POINT
- LOW POINT
- CATCH BASIN INLET PROTECTION (SEE DETAIL SHEET X)
- ROCK CHECK DAM (SEE DETAIL SHEET X)
- EROSION CONTROL BLANKET (SEE DETAIL SHEET X)
- INLET PROTECTION (SEE DETAIL SHEET X)
- OUTLET PROTECTION (SEE DETAIL SHEET X)
- SEDIMENTATION BASIN (SEE DETAIL SHEET X)
- SILT FENCE (SEE DETAIL SHEET X)
- STRAW BALE CHECK DAM (SEE DETAIL SHEET X)
- VEHICLE TRACKING CONTROL (SEE DETAIL SHEET X)
- CONCRETE WASHOUT (SEE DETAIL SHEET X)
- ROCK SOCKS (SEE DETAIL SHEET X)
- LIMIT OF DISTURBANCE
- CUT/FILL LINE

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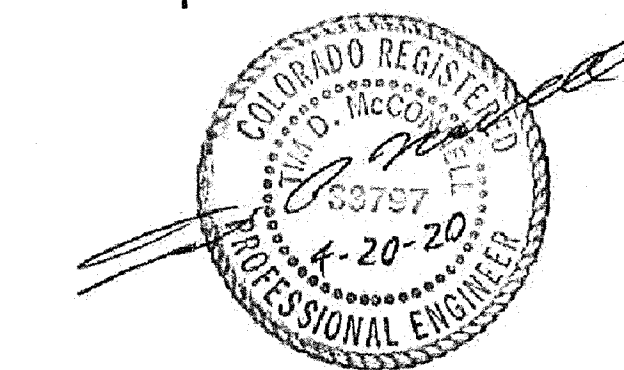
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DRAWN BY:	GES
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FILE NAME:	20876-05EC01



DRAWING SCALE:
HORIZONTAL: 1" = 50'
VERTICAL: N/A
**GRADING &
EROSION
CONTROL PLAN**
PROJECT NO. 20876-05CSOV
DRAWING NO.

EC11
SHEET: 12 OF 15

BLOCKS AND CURB SOCK INSTALLATION/INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. CONCRETE "TIEBARS" BLOCKS SHALL BE Laid ON THEIR SIDS AROUND THE INLET IN A SINGLE ROW, ADJUSTING ONE ANOTHER BY THE OPEN END FACING AWAY FROM THE CURB.
3. GRAVEL BASE SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY WRAPPING ONE ANOTHER AND COVERED 1/2" IN ACCORDANCE TO 11 ROCK SOCK DESIGN DETAIL.

MINIMUM OF 1/2" ROCK SOCK

APPROX 20 DEG.

BLOCK AND ROCK SOCK INLET PROTECTION(SEE DETAIL IP-1)

5' MIN.

5' ± TYP.

IP-1
Urban Drainage and Flood Control District
August 2013

Urban Storm Drainage Criteria Manual Volume 3

GENERAL PILET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
 - LOCATION OF PILET PROTECTION
 - TYPE OF PILET PROTECTION (P.1, P.2, P.3, P.4, P.5, P.6)
2. PILET PROTECTION SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION OR PAVING BE COMPLETED. OTHERWISE, OTHER AS PROVED IF A MAINTENANCE/REPAIR EVENT IS FORECAST, INSTALL PILET PROTECTION PRIOR TO DOWNS OF LANE.
3. MANY JURISDICTIONS HAVE ELEV DETAILS THAT VARY FROM USDCA STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

PILET PROTECT ON MAINTENANCE NOTES

1. INSPECT PILES, EACH INDIVIDUALLY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF PILES SHOULD BE PROTECTIVE, NOT RESTORATIVE. INSPECT PILES AS SOON AS POSSIBLE AFTER ANY INCIDENT, INCLUDING BUT NOT LIMITED TO, COLLISIONS, COLLAPSE, FIRE, AND OTHER PROBLEM NECESSARY MAINTENANCE.

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

TECHNICAL DRAWING OF A TRENCH CROSS-SECTION:

- Excavation:** A trench with a width of 4'-0" and a depth of 12". The bottom of the trench is at elevation 00.00.
- Riprap Bedding:** A layer of riprap bedding, 18" thick, is placed at the bottom of the trench. The bedding is shown in cross-section with a 1:1 slope.
- Trench Wall:** The trench wall is 12" high and has a 1:1 slope. The top of the wall is at elevation 00.00.
- Notes:**
 - "RIPRAP W/ 18" H. HOLES EXCEED 1" DIAMETER, THEN UP TO TWO COLLARS OF SAME SIZE. HOLES MAY BE USED"
 - "DOO-W" RIPRAP TYPE L (SEE TABLE 1) - 12" WALL (14" MAX. H. 12" MAX. L.)
 - "DOO-W" RIPRAP TYPE L
- Section A:** A cross-section of the trench showing the riprap bedding and trench wall.

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Upstream Drain Area (rounded to nearest: acres), (ac)	Open Ditch Width (ft), (ft)	Spillway Crest Length (ft), (ft)	Hole Diameter (in), (in)
1	12 $\frac{1}{2}$	2	$\frac{3}{8}$
2	21	3	$\frac{1}{2}$
3	28	5	$\frac{5}{8}$
4	33 $\frac{1}{2}$	6	$\frac{3}{4}$
5	42	8	$\frac{7}{8}$
6	45	9	$\frac{1}{2}$
7	47 $\frac{1}{2}$	11	$\frac{1}{2}$
8	51	12	$\frac{1}{2}$
9	55	15	$\frac{1}{2}$
10	58 $\frac{1}{2}$	15	$\frac{1}{2}$
11	61	18	$\frac{1}{2}$
12	64	21	$\frac{1}{2}$
13	67 $\frac{1}{2}$	21	$\frac{1}{2}$
14	70 $\frac{1}{2}$	22	$\frac{1}{2}$
15	73 $\frac{1}{2}$	22	$\frac{1}{2}$

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TEMPORARY OUTLET PROTECTION PLAN

Diagram illustrating the cross-section of a road joint. The diagram shows a horizontal road surface with a vertical joint. A non-woven geotextile is shown below the road surface. A key in to 2 x 3 ANULNI PENNIE is shown at the joint. The dimension D = 2 x D50 is indicated. The slope is 0%.

SECTION A

PIPE DIAMETER, IN. (INCHES)	DISCHARGE Q (CFS)	APRON WIDTH, L _a (FT)	RIPRAP D ₅₀ DIAMETER (INCHES)
8	2.5 5	5 10	4 6
12	5 10	10 15	4 6
18	10 20 30 40	15 20 23 26	6 9 12 16
24	30 50 70 90	15 20 26 30	9 12 16 18

OP-1. TEMPORARY OUTLET PROTECTION

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TEMPORARY OUTLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
 - LOCATION OF OUTLET PROTECTION.
 - DIMENSIONS OF OUTLET PROTECTION.
2. DETAIL IS INTENDED FOR PIPES WITH SLOPE $\leq 10\%$. ADDITIONAL EVALUATION OF RIPRAP SIZING AND OUTLET PROTECTION DIMENSIONS REQUIRED FOR STEEPER SLOPES.
3. TEMPORARY OUTLET PROTECTION INFORMATION IS FOR OUTLETS INTENDED TO BE UTILIZED LESS THAN 2 YEARS.

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VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

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1. SEE PLAN VIEW FOR
LOCATION OF CONSTRUCTION ENTRANCE/EXIT(S)
-TYPE OF CONSTRUCTION ENTRANCE/EXIT(S) (e.g. WALKWAY, STAIR, WALK,
CONSTRUCTION OR TRUCK)
2. CONSTRUCTION MAY OR MAY NOT STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE
USED ON SHORT DURATION PROJECTS (TYPICALLY SAVING FROM A DECK TO A LEVEL) WHERE
THEY MAY "HOLD" THE TRUCK OR EQUIPMENT FROM FALLING OFF THE DECK.
3. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT AN OPENING WHERE
VEHICLES ARE NOT THE CONSTRUCTION TRUCK FROM FALLING RIGHT-OFF-EDGES.
4. STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL NOT BE INSTALLED FROM TO AND LINES
DURING ANY ACTIVITIES.
5. A NON-WOOD DECK/STAIR FIBER SHALL BE PLACED UNDER THE STABILIZED
CONSTRUCTION ENTRANCE/EXIT TO BE IN PLACEMENT OF WOOD.
6. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF "DOT
SEAL", FIBER AND 3/4" COARSE #20 (MIX) ROCK.

STANDARDIZED CONSTRUCTION, DIFFERENCE-EXCISE MAINTENANCE NOTES:

1. REPORT BOTH CATCHES, NUMBER AND WEIGHT, WHEN IT EFFECTIVELY OPERATES. CONTINUOUSLY MONITOR THE CATCHES TO DETERMINE IF THERE IS A PROBLEM. IF A PROBLEM IS POSSIBLE (END ALWAYS WITH 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND/OR A PROBLEM WITH THE CATCHES, REPORT THE PROBLEM TO THE SUPERVISOR.

2. INCLUDE THE CONSTRUCTION AND MAINTENANCE AND NECESSARY TO MAINTAIN SURVEY IN EFFECTIVE OPERATING CONDITION. INSPECTION AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED.

3. WHERE BMPs FOR FILL, PAVEMENT, OR ROADWAY SHOULD BE PREPARED UPON COMPLETION OF THE FILLURE.

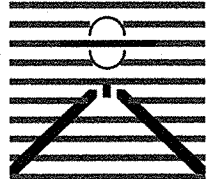
4. ROAD SHOULD BE REPAIRED OR CORRECTED AS NECESSARY TO THE STABILIZED SURFACE/ROAD TO MAINTAIN A CORRECTED RUM.

5. SURVEY TRACKED DOWN PAVED ROAD IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SLOWING OR STOPPING. SURVEY NOT YET BE STOPPED.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USUAL STANDARD DETAILS. THESE ARE THE CONSTRUCTIONS TO WHICH EACH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

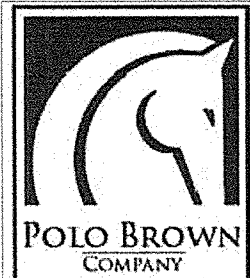
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CONSTRUCTION DOCUMENTS FOR:

WILLOW SPRINGS RANCH
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DRAWING SCALE:
HORIZONTAL: $X'' = XX''$
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EROSION CONTROL DETAILS

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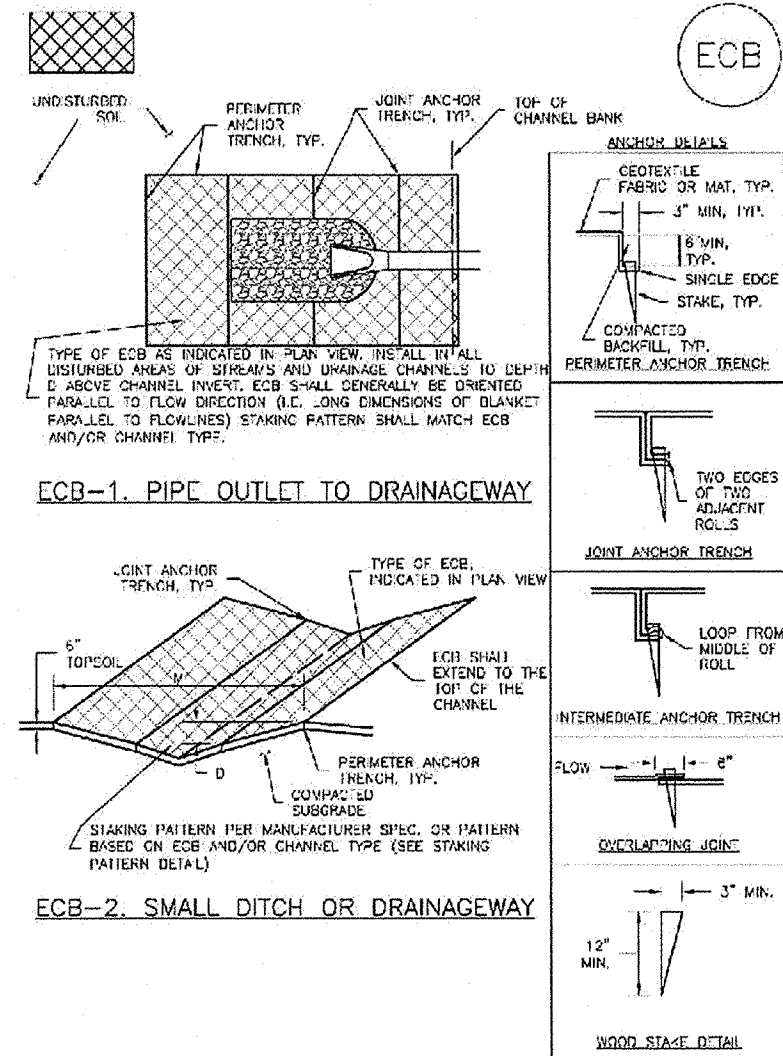
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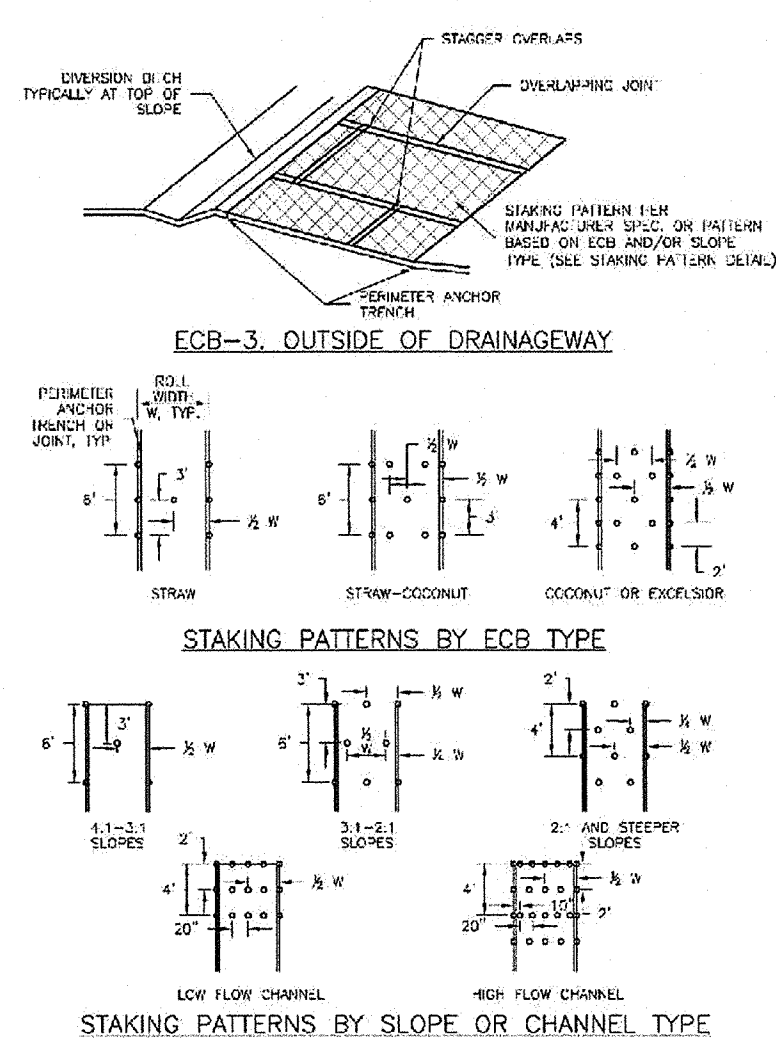


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- SPRINKLE CONTROL BLANKET INSTALLATION NOTES**
1. **PILE PLAN VIEW FOR**
LOCATION AND SPACING OF EACH TYPE OF TIE.
TYPE OF TIE (STEEL, STEEL-CLAD, COCONUT, OR CABLELAY), AND A RECORD OF THE TYPE OF TIE USED.
 2. **100% NAILING AND BRIDGEHARNESS MATERIALS ARE REQUIRED FOR ALL TIES.** ALL TIES ARE TO BE SECURED TO THE PILE WITH A MINIMUM OF TWO TIES PER PILE.
 3. **IN AREA WHERE TIES ARE SPACED 12" IN PLANS, THE PERMITTEE SHALL PROVIDE TIES AND PERFORM PILE SURFACE PREPARATION, AND SEEDING AND MULCHING.** THE TIES SHALL BE PLACED AT THE 12" SPACING FOR THE ENTIRE LENGTH OF THE PILE IN FULL CONTACT WITH SURFACE OF THE PILE OR SURFACE OF THE TIE. FASTENERS THE TIES TO THE PILE.
 4. **REINFORCING ANCHORS (TIE BARS) ARE USED ALONG THE CLUSURE PERIMETER OF ALL REINFORCING TIES.**
 5. **JOINT ANCHOR TIE BARS ARE USED TO JOIN ROLES OF TIES TOGETHER CONTINUOUSLY AND UNINTERRUPTEDLY FOR ALL BARS USED.** TIES WITH JOINT BAR USE JOINT ANCHOR TIE BARS.
 6. **INTERMEDIATE JOINT ANCHOR TIE BARS ARE USED AT SPACING OF ONE-HALF (0.5) THE LENGTH OF THE TIE.**
 7. **OVERLAPPING JOINT DETAILS SHALL BE USED TO JOIN ROLLS OF ONE-HALF (0.5) THE LENGTH OF THE TIE.**
 8. **WARRANTY REQUIREMENTS OF TIE BARS CONFORM TO TIE TIE-1.**
 9. **ANY AREAS OF SEEDING AND MULCHING DISRUPTED IN THE PROCESS OF INSTALLING TIES SHALL BE RESEEDED AND MULCHED.**
 10. **ONCE ON DESIGN PILE PLAN FOR MAJOR DIAPHRAGM STABILIZATION PILE SYSTEM IS COMPLETED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FOLLOWING:**

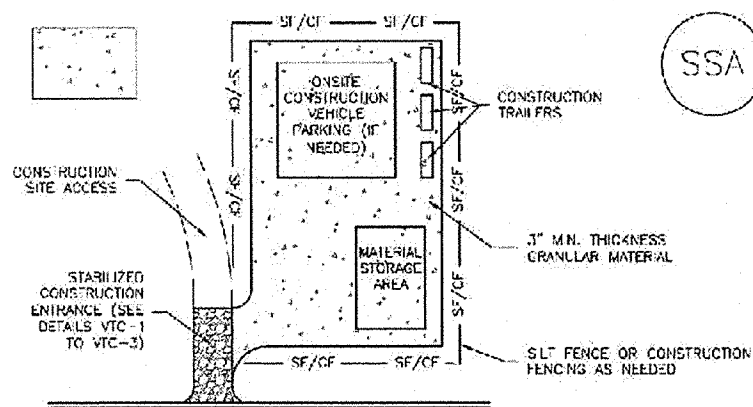
TYPE	COAGULANT CONTENT	STRAIN CONTENT	EXCELS OR CONTENT	RECOMMENDED NETTING*
STRAW	-	100%	-	DOUBLE / NATURAL
STRAW COAGULANT	50% MIN	70% MAX	-	DOUBLE / NATURAL
COAGULANT	100%	-	-	DOUBLE / NATURAL
EXCELS OR	-	-	100%	DOUBLE / NATURAL

*STRETCH TO BE ONLY 10% STRETCH OF STRETCH AND STRETCH COAGULANT.

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STABILIZED STAGING AREA INSTALLATION NOTES

1. SITE PLAN SHALL SHOW:
 - LOCATION OF STAGING AREA(S).
 - DIMENSIONS THAT 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 3" THICK GRANULAR MATERIAL.
5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF 60% SPT. 30% ASPHT. 10% COARSE AGGREGATE OR 3" MAXIMUM ROCK.
6. ADDITIONAL PAVEMENT SHALL BE AS REQUIRED INCLUDING BUT NOT LIMITED TO SLOPE

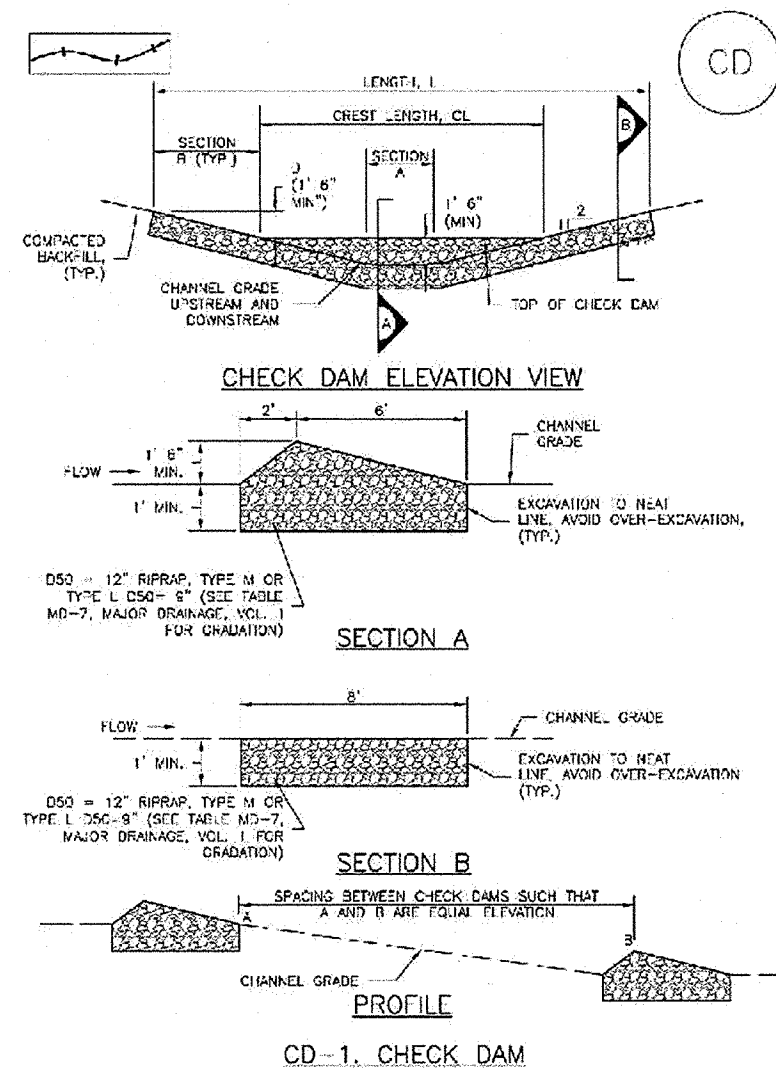
STABILIZED STAGING AREA MAINTENANCE NOTES

1. INSPECT BUMP EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BUMPS SHOULD BE PREVENTIVE, NOT REACTIVE. SUSPECT BUMPS AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND FORMULY NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BUMPS IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BUMPS HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. ROCK SHALL BE REPLACED OR REGRADED AS NECESSARY IF HITTING OCCURS OR IMPROVING SUBGRADE BECOMES EXPOSED.

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5. STABILIZED STAGING AREA SHALL BE ENHANCED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.
6. THE STABILIZED STAGING AREA SHALL BE MAINTAINED AT THE END OF CONSTRUCTION. THE GRASSLAND PLANTING SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, LEFT ON SITE. THE AREA COVERED BY THE COVER, STREETS AND MAINTAINED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

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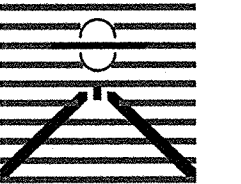
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CHECK DAM MAINTENANCE NOTES

1. INSPECT BURN CHOK DOWNS AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. CONDUCT VISUAL INSPECTIONS OF CHOK DOWNS AT LEAST ONCE PER SHIFT. REPORT ANY POSSIBLE LACK ALWAYS WITHIN 24 HOURS FOLLOWING A SHIFT. IF CHOK DOWNS ARE FOUND TO BE DEFECTIVE, REPORT DEFECTS TO THE SUPERVISOR IMMEDIATELY.
2. FREQUENT OPERATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BURN IN DIRECTING OPERATOR'S CONTROL ON INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. BURN SHOTS HAVE FAILED BEFORE OR REPLACEMENT SHOULD BE INITIATED UPON OBSERVATION OF ANY OF THE FOLLOWING:
4. SLOWLY ACCUMULATED WEARINGS OF THE CHOK DOWNS SHAL BE REMOVED WHEN THE STORMAGE DEPTH IS WITHIN 2' OF THE HEIGHT OF THE CRIST.
5. CHOK DOWNS ARE TO REMAIN IN PLACE UNTIL THE WEARSTIM STURBING RAIN IS ESTABLISHED. CHOK DOWNS MUST BE REMOVED BY THE USE OF THE FOLLOWING:
6. WHEN CHOK DOWNS ARE REPLACED, EXCAVATIONS SHALL BE FILLED WITH SUFFICIENT COMPACTED CHOK. DEFECTED AREA SHALL BE SPECIFIED AND MAILED AND COVERED WITH SUFFICIENTLY STABILIZED IN A MANNER APPROVED BY THE LOCAL SUPERVISOR.
- DOCKS ASSIGNED FROM DOCKAGE CHOKS, CRANES, NOT AVAILABLE AT AROUND.
- NOTE: MANY JURISDICTIONS HAVE BURN DETAILS THAT VARY FROM USUAL STANDARD DETAILS. CONTROL WITH LOCAL JURISDICTIONS AS TO WHICH CRACK SHOULD BE USED WHEN

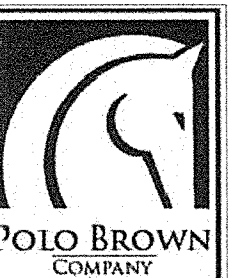
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