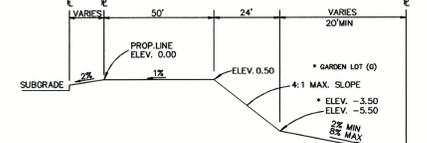
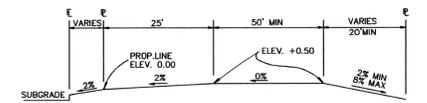
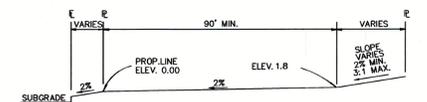
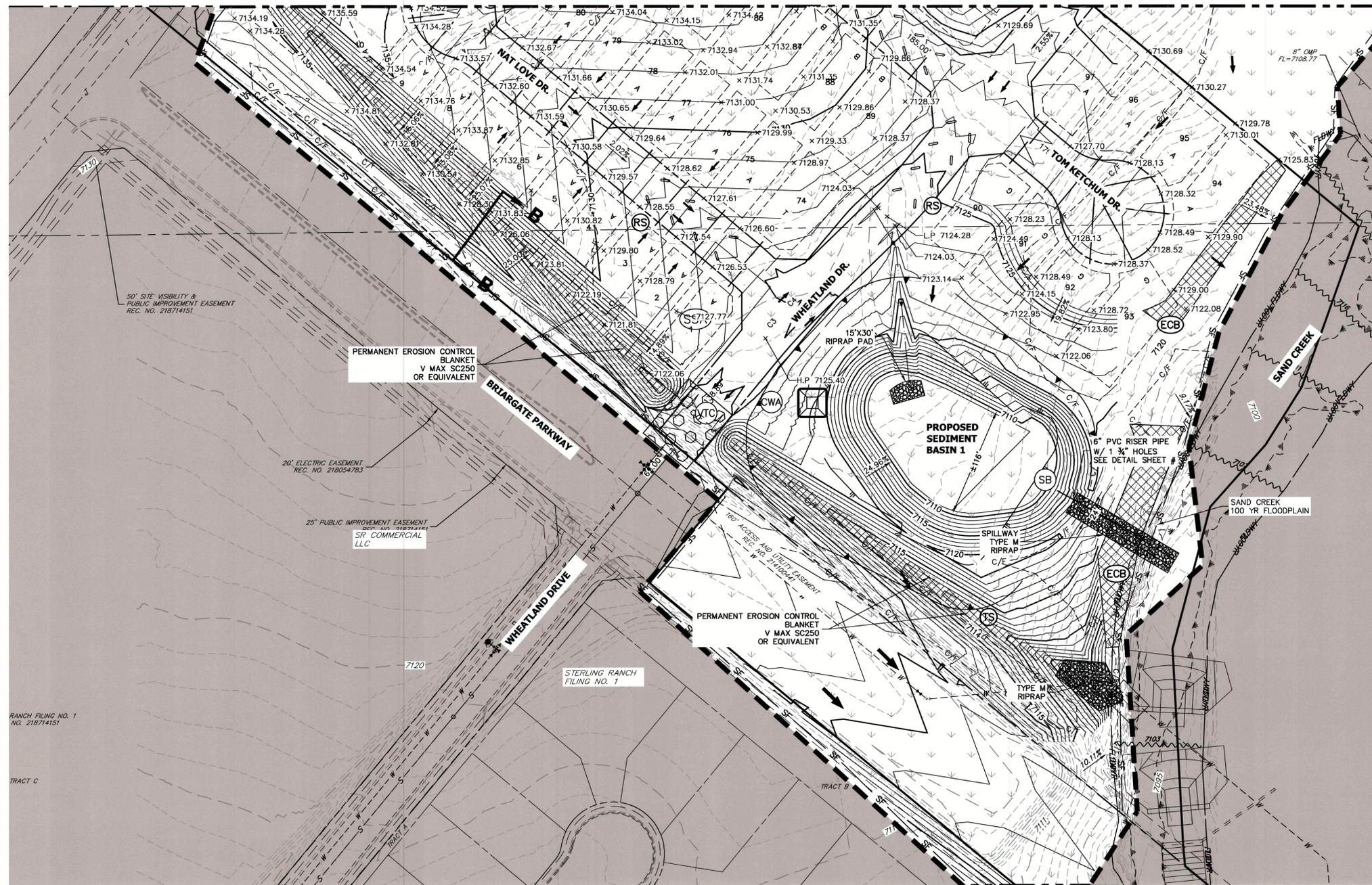


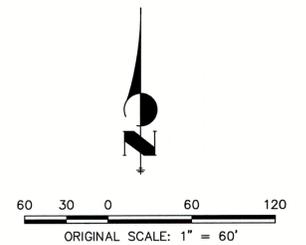


SEE SHEET # 3



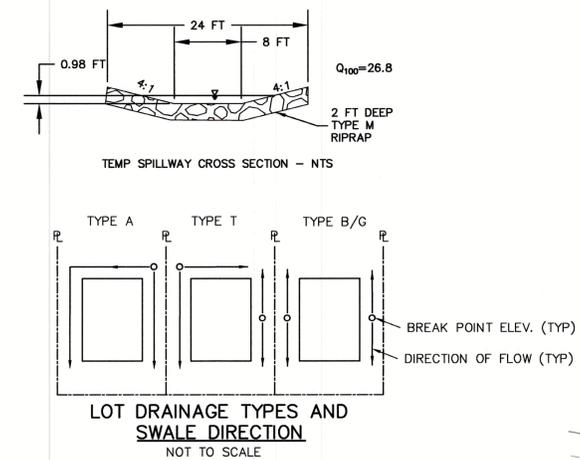
TYPICAL WALKOUT LOT (W/O) OR GARDEN (G) NOT TO SCALE

**NOTE:**  
 "T" LOTS OR "TRANSITION" LOTS OCCUR IN PLACES WHERE BOTH PROPERTY LINES CANNOT BE GRADED AS THE TYPICAL STANDARD LOT TEMPLATES SHOWN. THESE LOTS WILL STILL BE GRADED TO CREATE POSITIVE DRAINAGE AWAY FROM THE STRUCTURE.  
**NOTE:**  
 SIDE LOT SWALES WILL BE PROVIDED WHEN APPROPRIATE.



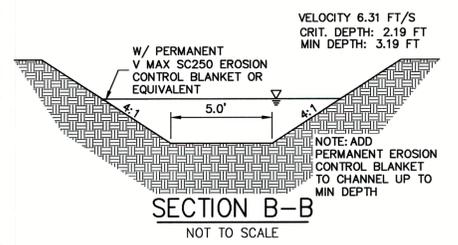
**CONSTRUCTION NOTES:**  
 NO WETLANDS ARE TO BE PERMANENTLY DISTURBED PER THIS GRADING PLAN.  
 NO EARLY GRADING IS TO OCCUR WITHIN THE 100 YEAR FLOODPLAIN.  
 ALL TEMPORARY RIPRAP SHOWN ON THE PLANS SHALL BE TYPE "M". RIPRAP SHALL BE PLACED IN THE LOCATIONS INDICATED BY THE PLAN OR IN AREAS AS THE CONTRACTOR SEES FIT TO CONTROL EROSION. ALL RIPRAP SHALL BE PLACED AT A MINIMUM THICKNESS OF 1.5' DEEP.  
 ALL TEMPORARY STORM SEWER SHOWN ON PLANS SHALL BE 24" DIA. HP POLYPROPYLENE BY ADS OR APPROVED EQUAL. ALL PIPE SHALL BE LAID TO ACHIEVE A MIN. SLOPE OF 0.5%.

**ADDITIONAL NOTES:**  
 EXISTING VEGETATION: AN AERIAL SURVEY WAS USED TO DETERMINE A 30% COVER OF NATIVE GRASSES.  
 STAGING AREA & STOCKPILE LOCATION TO BE DETERMINED BY CONTRACTOR IN THE FIELD. THE LOCATIONS SHALL BE DELINEATED ON THIS PLAN BY THE CONTRACTOR.  
 THE EROSION CONTROL DELINEATED ON THIS PLAN SHALL BE REGULARLY UPDATED BY THE CONTRACTOR.



SEE SHEET # 4

EXISTING	PROPOSED	LEGEND
		EXISTING STORM SEWER
		STORM SEWER PROPOSED
		PROPOSED R.O.W.
		PROPOSED PROPERTY LINE
		PROPOSED SIDEWALK
		EXISTING PROPERTY LINE
		ROW EXISTING
		FL. EXISTING
		SIDEWALK EXISTING
		DRAINAGE ACCESS & MAINTENANCE EASEMENT
		SILT FENCE
		LIMITS OF CONSTRUCTION/DISTURBANCE
		EXISTING WETLAND BOUNDARY
		EXISTING 100 YEAR FLOODPLAIN
		CUT/ FILL
		TEMPORARY DITCH
		INLET
		LOW POINT/HIGH POINT
		FLOW DIRECTION & SLOPE
		FLOW DIRECTION ARROW
		EXISTING FLOW DIRECTION ARROW
		EMERGENCY OVERTFLOW DIRECTION
		CONCRETE WASHOUT AREA
		INLET PROTECTION
		TEMPORARY SEDIMENT BASIN
		SILT FENCE
		VEHICLE TRACKING CONTROL
		STAGE STABILIZED AREA
		TEMPORARY SEEDING
		EROSION CONTROL BLANKET
		ROCK SOCK

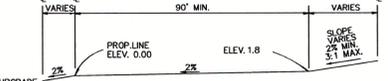


**ENGINEER'S STATEMENT**  
 PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING  
 MIKE A. BRAMLETT, P.E.  
 COLORADO P.E. 32314  
 FOR AND ON BEHALF OF JR ENGINEERING, LLC

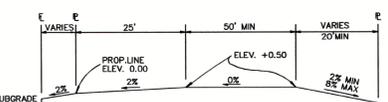
PREPARED FOR		SR LAND, LLC 20 BOULDER CRESCENT SUITE 201 COLORADO SPRINGS, CO 80903 JAMES F. MORLEY (719) 471-1742	
UNLESS SUCH TIME AS APPROVED BY THE APPROPRIATE AGENCIES, JR ENGINEERING APPROVES THEIR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.		 A Westman Company Colorado 303-740-9888 • Colorado Springs 719-589-2888 Fort Collins 970-491-9888 • www.jrengineering.com	
BY	DATE	REVISION	
1"=60'	N/A	01/10/22	BAB
V-SCALE		DESIGNED BY	ARJ
		DRAWN BY	
		CHECKED BY	
HOMESTEAD NORTH AT STERLING RANCH		EARLY GRADING & EROSION CONTROL PLAN	
SHEET 2 OF 4		JOB NO. 25188.00	



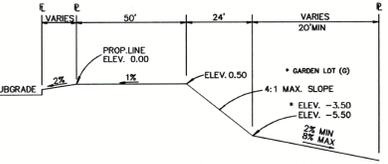
**KEY MAP**  
SCALE: NTS



**TYPICAL A LOT**  
NOT TO SCALE



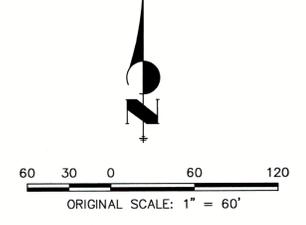
**TYPICAL B LOT**  
NOT TO SCALE



**TYPICAL WALKOUT LOT (W/O) OR GARDEN (G)**  
NOT TO SCALE

**NOTE:**  
"T" LOTS OR "TRANSITION" LOTS OCCUR IN PLACES WHERE BOTH PROPERTY LINES CANNOT BE GRADED AS THE TYPICAL STANDARD LOT TEMPLATES SHOWN. THESE LOTS WILL STILL BE GRADED TO CREATE POSITIVE DRAINAGE FROM THE STRUCTURE.

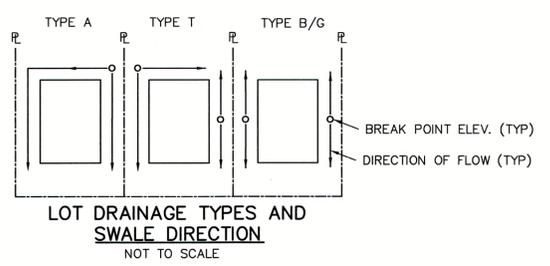
**NOTE:**  
SIDE LOT SWALES WILL BE PROVIDED WHEN APPROPRIATE.



SEE SHEET # 2

**LEGEND**

EXISTING STORM SEWER	— — — — —	L.P./H.P.	□	INLET	□
STORM SEWER PROPOSED	— — — — —	(2.0)%	—	LOW POINT/HIGH POINT	□
PROPOSED R.O.W.	— — — — —	FLOW DIRECTION & SLOPE	—	FLOW DIRECTION & SLOPE	—
PROPOSED PROPERTY LINE	— — — — —	FLOW DIRECTION ARROW	→	FLOW DIRECTION ARROW	→
PROPOSED SIDEWALK	— — — — —	EXISTING FLOW DIRECTION ARROW	→	EXISTING FLOW DIRECTION ARROW	→
EXISTING PROPERTY LINE	— — — — —	EMERGENCY OVERFLOW DIRECTION	→	EMERGENCY OVERFLOW DIRECTION	→
ROW EXISTING	— — — — —	CONCRETE WASHOUT AREA	□	CONCRETE WASHOUT AREA	□
FL EXISTING	— — — — —	INLET PROTECTION	□	INLET PROTECTION	□
SIDEWALK EXISTING	— — — — —	TEMPORARY SEDIMENT BASIN	□	TEMPORARY SEDIMENT BASIN	□
DRAINAGE ACCESS & MAINTENANCE EASEMENT	— — — — —	SILT FENCE	—	SILT FENCE	—
SILT FENCE	— — — — —	EXISTING 100 YEAR FLOODPLAIN	—	EXISTING 100 YEAR FLOODPLAIN	—
LIMITS OF CONSTRUCTION/DISTURBANCE	— — — — —	CUT/ FILL	—	CUT/ FILL	—
EXISTING WETLAND BOUNDARY	— — — — —	TEMPORARY DITCH	—	TEMPORARY DITCH	—
EXISTING 100 YEAR FLOODPLAIN	— — — — —	EXISTING	—	EXISTING	—
CUT/ FILL	— — — — —	PROPOSED	—	PROPOSED	—
TEMPORARY DITCH	— — — — —	CHECK DAM	—	CHECK DAM	—
ROCK SOCK	—				



**CONSTRUCTION NOTES:**

NO WETLANDS ARE TO BE PERMANENTLY DISTURBED PER THIS GRADING PLAN.

NO EARLY GRADING IS TO OCCUR WITHIN THE 100 YEAR FLOODPLAIN.

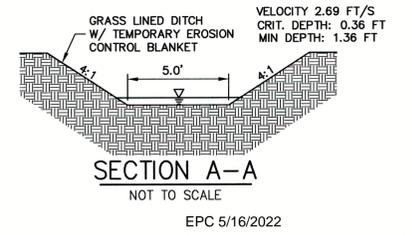
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ALL TEMPORARY STORM SEWER SHOWN ON PLANS SHALL BE 24" DIA. HP POLYPROPYLENE BY ADS OR APPROVED EQUAL. ALL PIPE SHALL BE LAID TO ACHIEVE A MIN. SLOPE OF 0.5%.

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STAGING AREA & STOCKPILE LOCATION TO BE DETERMINED BY CONTRACTOR IN THE FIELD. THE LOCATIONS SHALL BE DELINEATED ON THIS PLAN BY THE CONTRACTOR.

THE EROSION CONTROL DELINEATED ON THIS PLAN SHALL BE REGULARLY UPDATED BY THE CONTRACTOR.



**ENGINEER'S STATEMENT**  
PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

MIKE A. BRAMLETT, P.E.  
COLORADO P.E. 32314  
FOR AND ON BEHALF OF JR ENGINEERING, LLC

DATE: 1/31/22

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROPRIATELY REVIEWED AND APPROVED BY THE AGENCIES, JR ENGINEERING APPROVES THEIR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR  
**SR LAND, LLC**  
20 BOULDER CRESCENT  
SUITE 201  
COLORADO SPRINGS, CO 80903  
JAMES F. MORLEY  
(719) 471-1742

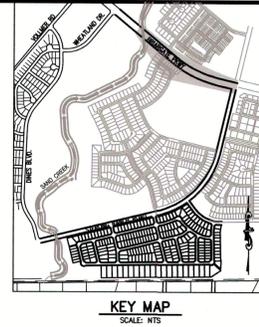
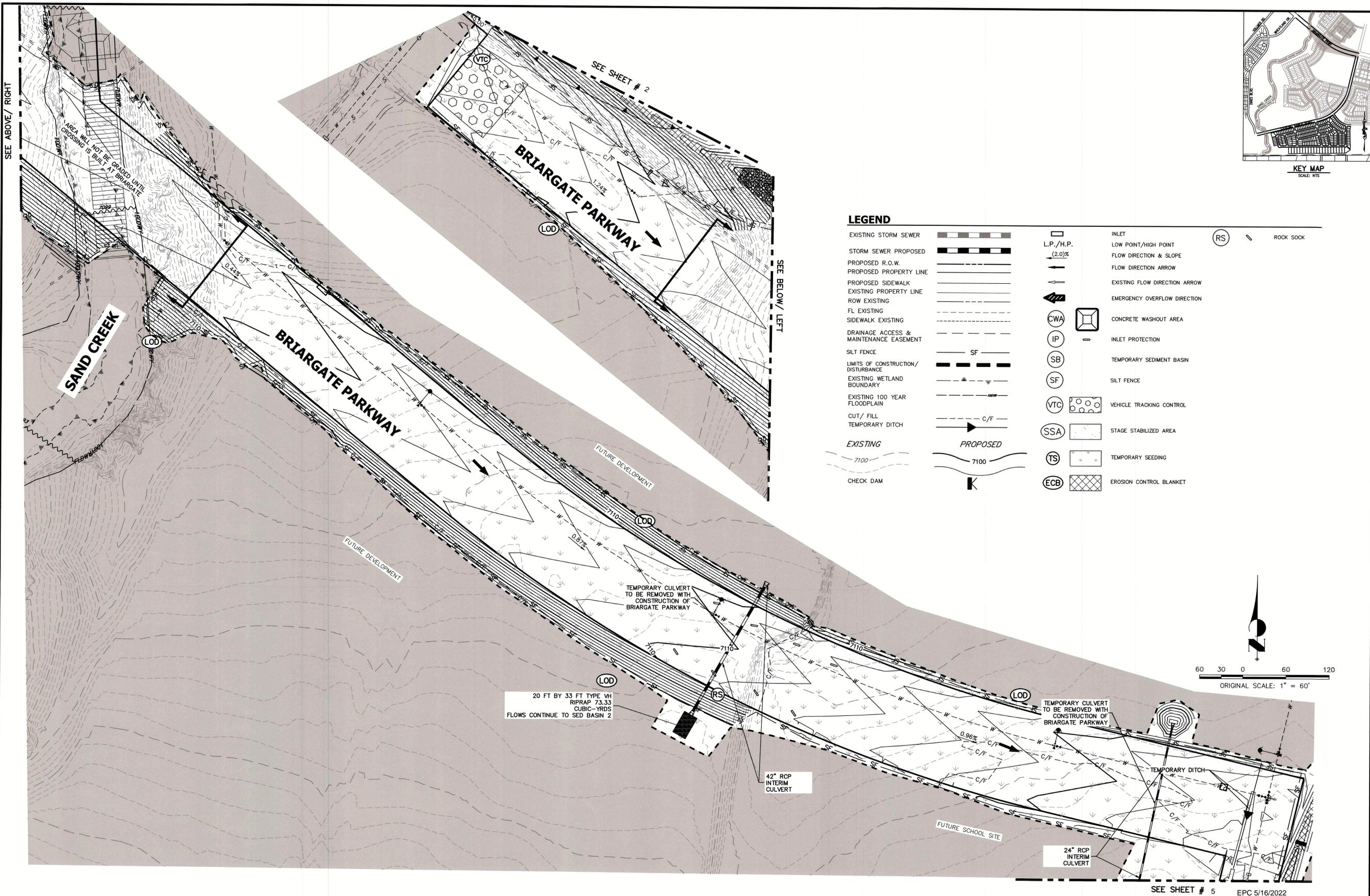
**J.R. ENGINEERING**  
A WestJan Company  
Central 303-740-8888 • Colorado Springs 719-580-2588  
Fort Collins 970-499-9888 • www.jrengineering.com

NO.	REVISION	BY	DATE

H-SCALE	1" = 60'
V-SCALE	N/A
DATE	01/10/22
DESIGNED BY	BAB
DRAWN BY	ARJ
CHECKED BY	

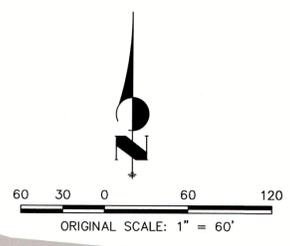
**HOMESTEAD NORTH AT STERLING RANCH**  
**EARLY GRADING & EROSION CONTROL PLAN**

SHEET 3 OF 11  
JOB NO. 25188.00



**LEGEND**

- |  |  |                               |  |
|--|--|-------------------------------|--|
| EXISTING STORM SEWER                   |  | INLET                         |  |
| STORM SEWER PROPOSED                   |  | LOW POINT/HIGH POINT          |  |
| PROPOSED R.O.W.                        |  | FLOW DIRECTION & SLOPE        |  |
| PROPOSED SIDEWALK                      |  | FLOW DIRECTION ARROW          |  |
| EXISTING PROPERTY LINE                 |  | EXISTING FLOW DIRECTION ARROW |  |
| ROW EXISTING                           |  | EMERGENCY OVERTFLOW DIRECTION |  |
| FL EXISTING                            |  | CONCRETE WASHOUT AREA         |  |
| SIDEWALK EXISTING                      |  | INLET PROTECTION              |  |
| DRAINAGE ACCESS & MAINTENANCE EASEMENT |  | TEMPORARY SEDIMENT BASIN      |  |
| SILT FENCE                             |  | SILT FENCE                    |  |
| LIMITS OF CONSTRUCTION/DISTURBANCE     |  | VEHICLE TRACKING CONTROL      |  |
| EXISTING WETLAND BOUNDARY              |  | STAGE STABILIZED AREA         |  |
| EXISTING 100 YEAR FLOODPLAIN           |  | TEMPORARY SEEDING             |  |
| CUT/FILL                               |  | EROSION CONTROL BLANKET       |  |
| TEMPORARY DITCH                        |  |                               |  |



**CONSTRUCTION NOTES**

NO WETLANDS ARE TO BE PERMANENTLY DISTURBED PER THIS GRADING PLAN.  
NO EARLY GRADING IS TO OCCUR WITHIN THE 100 YEAR FLOODPLAIN.

**ADDITIONAL NOTES**

STAGING AREA TO BE DETERMINED BY CONTRACTOR IN THE FIELD. THE LOCATIONS SHALL BE DELINEATED ON THIS PLAN BY THE CONTRACTOR.  
THE EROSION CONTROL DELINEATED ON THIS PLAN SHALL BE REGULARLY UPDATED BY THE CONTRACTOR.

**EARTHWORK NOTES**

VOLUME FILL: 149,891 yd<sup>3</sup>  
VOLUME CUT: 251,794 yd<sup>3</sup>

**ENGINEER'S STATEMENT**

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING  
*Mike Bramlett*  
MIKE A. BRAMLETT, P.E.  
COLORADO P.E. 32314  
DATE 1/31/22  
FOR AND ON BEHALF OF JR ENGINEERING, LLC

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION. PREPARED FOR <b>SR LAND, LLC</b> 20 BOULDER CRESCENT SUITE 201 COLORADO SPRINGS, CO 80903 JAMES F. MORLEY (719) 471-1742	
<b>J.R. ENGINEERING</b> A Western Company Centennial 303-740-9388 • Colorado Springs 719-592-2699 Fort Collins 970-491-8888 • www.jrengineering.com	
BY	DATE
No.	REVISION
H-SCALE	1"=60'
V-SCALE	N/A
DESIGNED BY	01/10/22
DRAWN BY	RAB
CHECKED BY	CGV
HOMESTEAD NORTH AT STERLING RANCH EARLY GRADING & EROSION CONTROL PLAN	
SHEET	4 OF 11
JOB NO.	25188.00



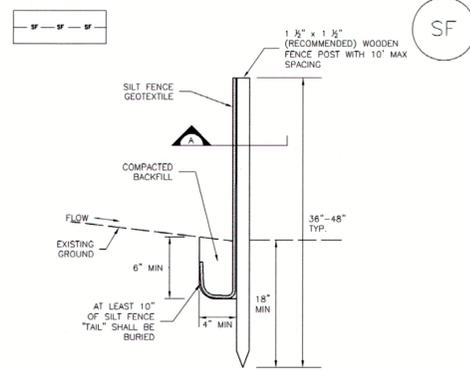




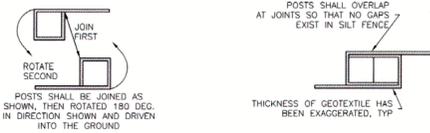


**Silt Fence (SF)**

**SC-1**



**SILT FENCE**



**SECTION A**

**SF-1. SILT FENCE**

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

**SC-1**

**Silt Fence (SF)**

**SILT FENCE INSTALLATION NOTES**

- SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER PONDING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVERAL FEET (2-5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND DEPOSITION.
- A UNIFORM 6" X 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION DEVICE. NO ROAD GRADERS, BACKHOES, OR SIMILAR EQUIPMENT SHALL BE USED.
- COMPACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTMENT SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.
- SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO NOTICEABLE SAG BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.
- SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC DOWN THE STAKE.
- AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TURNED PERPENDICULAR TO THE CONTOUR TO CREATE A "J-HOOK". THE "J-HOOK" EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNOFF FROM FLOWING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' - 20').
- SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

**SILT FENCE 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 THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP. TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 6".
- REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.
- SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.
- WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

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

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

**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.

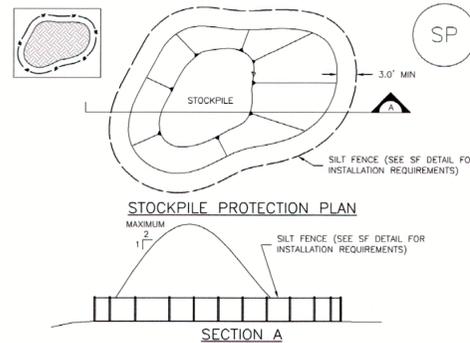
**STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES**

- 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)

VTC-6 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

**Stockpile Management (SP) MM-2**

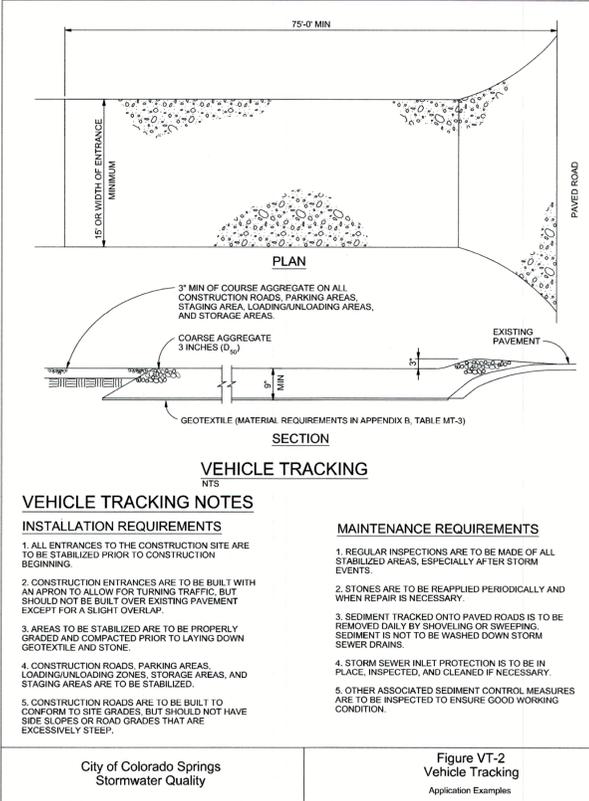


**SP-1. STOCKPILE PROTECTION**

**STOCKPILE PROTECTION INSTALLATION NOTES**

- SEE PLAN VIEW FOR:  
-LOCATION OF STOCKPILE  
-TYPE OF STOCKPILE PROTECTION.
- INSTALL PERIMETER CONTROLS IN ACCORDANCE WITH THEIR RESPECTIVE DESIGN DETAILS. SILT FENCE IS SHOWN IN THE STOCKPILE PROTECTION DETAILS; HOWEVER, OTHER TYPES OF PERIMETER CONTROLS INCLUDING SEDIMENT CONTROL LOGS OR ROCK SOCKS MAY BE SUITABLE IN SOME CIRCUMSTANCES. CONSIDERATIONS FOR DETERMINING THE APPROPRIATE TYPE OF PERIMETER CONTROL FOR A STOCKPILE INCLUDE WHETHER THE STOCKPILE IS LOCATED ON A PERVIOUS OR IMPERVIOUS SURFACE, THE RELATIVE HEIGHTS OF THE PERIMETER CONTROL AND STOCKPILE, THE ABILITY OF THE PERIMETER CONTROL TO CONTAIN THE STOCKPILE WITHOUT FAILING IN THE EVENT THAT MATERIAL FROM THE STOCKPILE SHIFTS OR SLUMPS AGAINST THE PERIMETER, AND OTHER FACTORS.
- STABILIZE THE STOCKPILE SURFACE WITH SURFACE ROUGHENING, TEMPORARY SEEDING AND MULCHING, EROSION CONTROL BLANKETS, OR SOIL BINDERS. SOILS STOCKPILED FOR AN EXTENDED PERIOD (TYPICALLY FOR MORE THAN 60 DAYS) SHOULD BE SEEDED AND MULCHED WITH A TEMPORARY GRASS COVER ONCE THE STOCKPILE IS PLACED (TYPICALLY WITHIN 14 DAYS). USE OF MULCH ONLY OR A SOIL BINDER IS ACCEPTABLE IF THE STOCKPILE WILL BE IN PLACE FOR A MORE LIMITED TIME PERIOD (TYPICALLY 30-60 DAYS).
- FOR TEMPORARY STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DOWNGRADE CONTROLS, INCLUDING PERIMETER CONTROL, ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.

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



**VEHICLE TRACKING INSTALLATION REQUIREMENTS**

- ALL ENTRANCES TO THE CONSTRUCTION SITE ARE TO BE STABILIZED PRIOR TO CONSTRUCTION BEGINNING.
- CONSTRUCTION ENTRANCES ARE TO BE BUILT WITH AN APRON TO ALLOW FOR TURNING TRAFFIC, BUT SHOULD NOT BE BUILT OVER EXISTING PAVEMENT EXCEPT FOR A SLIGHT OVERLAP.
- AREAS TO BE STABILIZED ARE TO BE PROPERLY GRADED AND COMPACTED PRIOR TO LAYING DOWN GEOTEXTILE AND STONE.
- CONSTRUCTION ROADS, PARKING AREAS, LOADING/UNLOADING ZONES, STORAGE AREAS, AND STAGING AREAS ARE TO BE STABILIZED.
- CONSTRUCTION ROADS ARE TO BE BUILT TO CONFORM TO SITE GRADES (BUT SHOULD NOT HAVE SIDE SLOPES OR ROAD GRADES THAT ARE EXCESSIVELY STEEP).

**MAINTENANCE REQUIREMENTS**

- REGULAR INSPECTIONS ARE TO BE MADE OF ALL STABILIZED AREAS, ESPECIALLY AFTER STORM EVENTS.
- STONES ARE TO BE REAPPLIED PERIODICALLY AND WHEN REPAIR IS NECESSARY.
- SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED DAILY BY SHOVELING OR SWEEPING. SEDIMENT IS NOT TO BE WASHED DOWN STORM SEWER DRAINS.
- STORM SEWER INLET PROTECTION IS TO BE IN PLACE, INSPECTED, AND CLEANED IF NECESSARY.
- OTHER ASSOCIATED SEDIMENT CONTROL MEASURES ARE TO BE INSPECTED TO ENSURE GOOD WORKING CONDITION.

City of Colorado Springs Stormwater Quality Figure VT-2 Vehicle Tracking Application Examples  
3-54

**MM-2 Stockpile Management (SM)**

**STOCKPILE PROTECTION MAINTENANCE NOTES**

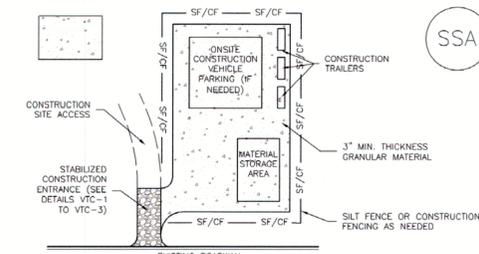
- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS 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.
- IF PERIMETER PROTECTION MUST BE USED TO ACCESS SOIL STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORKDAY.
- STOCKPILE PERIMETER CONTROLS CAN BE REMOVED ONCE ALL THE MATERIAL FROM THE STOCKPILE HAS BEEN USED.

(DETAILS ADAPTED FROM PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)  
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

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

**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.

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

**SM-6 Stabilized Staging Area (SSA)**

**STABILIZED STAGING AREA MAINTENANCE NOTES**

- STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.
- THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.  
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.  
(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

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

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PREPARED FOR SR LAND, LLC 20 BOULDER CRESCENT SUITE 201 COLORADO SPRINGS, CO 80903 JAMES F. MORLEY (719) 471-1742

JR ENGINEERING A Western Company  
Central 303-740-8883 • Colorado Springs 719-580-2558 Fort Collins 970-468-8888 • www.jrengineering.com

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V-SCALE	N/A
DATE	01/10/22
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DRAWN BY	RAB
CHECKED BY	

HOMESTEAD NORTH AT STERLING RANCH  
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**Specification Sheet**  
**VMax® SC250® Turf Reinforcement Mat**



**DESCRIPTION**

The composite turf reinforcement mat (CTRM) shall be a machine-produced mat of 70% straw and 30% coconut fiber matrix incorporated into permanent three-dimensional turf reinforcement matting. The matrix shall be evenly distributed across the entire width of the matting and stitch bonded between a heavy duty UV stabilized nettings with 0.50 x 0.50 inch (1.27 x 1.27 cm) openings, an ultra heavy UV stabilized, dramatically corrugated (crimped) intermediate netting with 0.5 x 0.5 inch (1.27 x 1.27 cm) openings, and covered by an heavy duty UV stabilized nettings with 0.50 x 0.50 inch (1.27 x 1.27 cm) openings. The middle corrugated netting shall form prominent closely spaced ridges across the entire width of the mat. The three nettings shall be stitched together on 1.50 inch (3.81cm) centers with UV stabilized polypropylene thread to form permanent three-dimensional turf reinforcement matting. All mats shall be manufactured with a colored thread stitched along both outer edges as an overlap guide for adjacent mats.

The SC250 shall meet Type 5A, 5B, and 5C specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration's (FHWA) FP-03 Section 713.18

Material Content		
<b>Matrix</b>	70% Straw Fiber	0.35 lb/sq yd (0.19 kg/sm)
	30% Coconut Fiber	0.15 lb/sq yd (0.08 kg/sm)
<b>Netting</b>	Top and Bottom, UV-Stabilized Polypropylene	5 lb/1000 sq ft (2.44 kg/100 sm)
	Middle, Corrugated UV-Stabilized Polypropylene	24 lb/1000 sf (11.7 kg/100 sm)
<b>Thread</b>	Polypropylene, UV Stable	

Standard Roll Sizes		
<b>Width</b>	6.5 ft (2.0 m)	8 ft (2.44m)
<b>Length</b>	55.5 ft (16.9 m)	90 ft (27.4 m)
<b>Weight ± 10%</b>	34 lbs (15.42 kg)	70 lbs (31.8 kg)
<b>Area</b>	40 sq yd (33.4 sm)	80 sq yd (66.8 sm)

Index Property	Test Method	Typical
<b>Thickness</b>	ASTM D6525	0.62 in. (15.75 mm)
<b>Resiliency</b>	ASTM 6524	95.2%
<b>Density</b>	ASTM D792	0.891 g/cm <sup>3</sup>
<b>Mass/Unit Area</b>	ASTM 6566	16.13 oz/sy (548 g/sm)
<b>UV Stability</b>	ASTM D4355/1000 HR	80%
<b>Porosity</b>	ECTC Guidelines	99%
<b>Stiffness</b>	ASTM D1388	222.65 oz-in.
<b>Light Penetration</b>	ASTM D6567	4.1%
<b>Tensile Strength - MD</b>	ASTM D6818	709 lbs/ft (10.51 kN/m)
<b>Elongation - MD</b>	ASTM D6818	23.9%
<b>Tensile Strength - TD</b>	ASTM D6818	712 lbs/ft (10.56 kN/m)
<b>Elongation - TD</b>	ASTM D6818	36.9%
<b>Biomass Improvement</b>	ASTM D7322	441%

Design Permissible Shear Stress		
	Short Duration	Long Duration
<b>Phase 1: Unvegetated</b>	3.0 psf (144 Pa)	2.5 psf (120 Pa)
<b>Phase 2: Partially Veg.</b>	8.0 psf (383 Pa)	8.0 psf (383 Pa)
<b>Phase 3: Fully Veg.</b>	10.0 psf (480 Pa)	8.0 psf (383 Pa)
<b>Unvegetated Velocity</b>	9.5 fps (2.9 m/s)	
<b>Vegetated Velocity</b>	15 fps (4.6 m/s)	

Slope Design Data: C Factors				Roughness Coefficients - Unveg.	
Slope Length (L)	Slope Gradients (S)			Flow Depth	Manning's n
	≤ 3:1	3:1 - 2:1	≥ 2:1		
≤ 20 ft (6 m)	0.0010	0.0209	0.0507	≤ 0.50 ft (0.15 m)	0.040
20-50 ft	0.0081	0.0266	0.0574	0.50 - 2.0 ft	0.040-0.012
≥ 50 ft (15.2 m)	0.0455	0.0555	0.081	≥ 2.0 ft (0.60 m)	0.011



Western Green  
4609 E. Boonville-New Harmony Rd.  
Evansville, IN 47725  
na-green.com  
800-772-2040

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