

# FLYING HORSE NORTH FILING NO. 3 INITIAL/ INTERIM/ FINAL GRADING & EROSION CONTROL PLAN

EPC STORMWATER REVIEW COMMENTS  
IN ORANGE BOXES WITH BLACK TEXT

### LEGAL DESCRIPTION:

A TRACT OF LAND BEING A PORTION OF SECTION 36, TOWNSHIP 11 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, AND A PORTION OF THE NORTHWEST QUARTER OF SECTION 31, TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN, THE BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

#### BASIS OF BEARINGS:

THE NORTH LINE OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 36, TOWNSHIP 11 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, BEING MONUMENTED AT THE WEST END BY A 1" YELLOW PLASTIC CAP STAMPED "18235" AND THE EAST END BY A 2" ALUMINUM CAP STAMPED "32439" WITH APPROPRIATE MARKINGS, IS ASSUMED TO BEAR N89°03'58"E A DISTANCE OF 1,332.09 FEET.

COMMENCING AT THE SOUTHWEST CORNER OF SECTION 36, TOWNSHIP 11 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, SAID POINT BEING THE POINT OF BEGINNING, THENCE N00°14'34"W, ON THE WEST LINE OF SAID SECTION 36, A DISTANCE OF 1,120.17 FEET TO THE SOUTHWESTERLY CORNER OF SAID FLYING HORSE NORTH FILING NO. 1 AS RECORDED UNDER RECEPTION NO. 218714238;

THENCE ON THE SOUTHERLY BOUNDARY OF SAID FLYING HORSE NORTH FILING NO. 1 THE FOLLOWING NINE (9) COURSES:

- S72°33'10"E A DISTANCE OF 134.21 FEET;
- N40°01'04"E A DISTANCE OF 569.80 FEET;
- N38°52'02"E A DISTANCE OF 60.00 FEET TO A POINT ON CURVE;
- ON THE ARC OF A CURVE TO THE RIGHT WHOSE CENTER BEARS N38°52'02"E, HAVING A DELTA OF 48°03'23", A RADIUS OF 520.00 FEET, A DISTANCE OF 436.14 FEET TO A POINT ON CURVE;
- N80°52'25"E A DISTANCE OF 49.85 FEET TO A POINT ON CURVE;
- ON THE ARC OF A CURVE TO THE LEFT WHOSE CENTER BEARS N28°22'34"E, HAVING A DELTA OF 26°35'09", A RADIUS OF 60.00 FEET, A DISTANCE OF 27.84 FEET TO A POINT OF TANGENT;
- S88°12'35"E A DISTANCE OF 210.24 FEET;
- S59°10'55"E A DISTANCE OF 565.00 FEET TO A POINT OF CURVE;
- ON THE ARC OF A CURVE TO THE LEFT HAVING A DELTA OF 82°31'23", A RADIUS OF 60.00 FEET, A DISTANCE OF 86.42 FEET TO A POINT ON CURVE, SAID POINT BEING ON THE WESTERLY BOUNDARY OF FLYING HORSE NORTH FILING NO. 2 RECORDED UNDER RECEPTION NO. 222715009;

THENCE ON THE BOUNDARY OF SAID FLYING HORSE NORTH FILING NO. 2 THE FOLLOWING FOUR (4) COURSES:

- S52°59'28"E A DISTANCE OF 282.69 FEET;
- N31°14'50"E A DISTANCE OF 8.64 FEET TO A POINT OF CURVE;
- ON THE ARC OF A CURVE TO THE RIGHT HAVING A DELTA OF 37°09'00", A RADIUS OF 231.00 FEET, A DISTANCE OF 149.78 FEET TO A POINT ON CURVE;
- THENCE N21°50'10"W A DISTANCE OF 407.62 FEET TO A POINT ON CURVE SAID POINT BEING ON THE SOUTHERLY BOUNDARY OF SAID FLYING HORSE NORTH FILING NO. 1;

THENCE ON THE BOUNDARY OF SAID FLYING HORSE NORTH FILING NO. 1 THE FOLLOWING TWENTY-EIGHT (28) COURSES:

- ON THE ARC OF A CURVE TO THE LEFT WHOSE CENTER BEARS N20°27'45"W, HAVING A DELTA OF 04°42'48", A RADIUS OF 180.00 FEET, A DISTANCE OF 14.81 FEET TO A POINT OF TANGENT;
- N64°42'27"E A DISTANCE OF 387.40 FEET;
- S69°37'09"E A DISTANCE OF 609.64 FEET TO A POINT ON CURVE;
- ON THE ARC OF A CURVE TO THE LEFT WHOSE CENTER BEARS S53°58'28"E, HAVING A DELTA OF 17°58'26", A RADIUS OF 182.00 FEET, A DISTANCE OF 57.09 FEET TO A POINT OF TANGENT;
- S18°03'07"W A DISTANCE OF 513.19 FEET TO A POINT OF CURVE;
- ON THE ARC OF A CURVE TO THE LEFT HAVING A DELTA OF 42°54'04", A RADIUS OF 180.00 FEET, A DISTANCE OF 134.78 FEET TO A POINT OF TANGENT;
- S24°50'58"E A DISTANCE OF 794.30 FEET TO A POINT ON CURVE;
- ON THE ARC OF A CURVE TO THE LEFT WHOSE CENTER BEARS N64°45'42"E, HAVING A DELTA OF 62°51'48", A RADIUS OF 60.00 FEET, A DISTANCE OF 65.83 FEET TO A POINT ON CURVE;
- S28°40'51"E A DISTANCE OF 24.35 FEET TO A POINT ON CURVE;
- ON THE ARC OF A CURVE TO THE LEFT WHOSE CENTER BEARS N10°33'41"W, HAVING A DELTA OF 11°46'40", A RADIUS OF 470.00 FEET, A DISTANCE OF 96.61 FEET TO A POINT ON CURVE;
- N32°14'22"W A DISTANCE OF 83.48 FEET;
- N07°36'57"W A DISTANCE OF 778.38 FEET;
- N18°38'12"E A DISTANCE OF 445.86 FEET TO A POINT ON CURVE;
- ON THE ARC OF A CURVE TO THE LEFT WHOSE CENTER BEARS N72°45'28"W, HAVING A DELTA OF 65°10'59", A RADIUS OF 180.00 FEET, A DISTANCE OF 204.78 FEET TO A POINT ON CURVE;
- N05°51'21"E A DISTANCE OF 73.94 FEET TO A POINT OF CURVE;
- ON THE ARC OF A CURVE TO THE LEFT HAVING A DELTA OF 66°48'26", A RADIUS OF 60.00 FEET, A DISTANCE OF 69.96 FEET TO A POINT OF TANGENT;
- N60°53'14"W A DISTANCE OF 270.58 FEET;
- N67°30'10"E A DISTANCE OF 203.94 FEET;
- N18°28'34"E A DISTANCE OF 216.03 FEET;
- S49°40'30"E A DISTANCE OF 407.47 FEET TO A POINT OF CURVE;
- ON THE ARC OF A CURVE TO THE LEFT HAVING A DELTA OF 42°44'34", A RADIUS OF 260.00 FEET, A DISTANCE OF 193.96 FEET TO A POINT OF TANGENT;
- N67°34'55"E A DISTANCE OF 570.22 FEET;
- S01°27'54"W A DISTANCE OF 421.65 FEET;
- S04°30'48"W A DISTANCE OF 138.74 FEET TO A POINT OF CURVE;
- ON THE ARC OF A CURVE TO THE LEFT HAVING A DELTA OF 122°48'28", A RADIUS OF 180.00 FEET, A DISTANCE OF 385.81 FEET TO A POINT ON CURVE;
- S69°17'06"E A DISTANCE OF 59.71 FEET;
- S09°25'47"E A DISTANCE OF 25.35 FEET TO A POINT OF CURVE;
- ON THE ARC OF A CURVE TO THE LEFT HAVING A DELTA OF 111°46'10", A RADIUS OF 60.00 FEET, A DISTANCE OF 117.04 FEET TO A POINT ON CURVE;

THENCE S35°14'00"E A DISTANCE OF 310.03 FEET TO A POINT ON CURVE; THENCE ON THE ARC OF A CURVE TO THE LEFT WHOSE CENTER BEARS N65°06'43"W, HAVING A DELTA OF 02°22'21", A RADIUS OF 470.00 FEET A DISTANCE OF 19.46 FEET TO A POINT OF TANGENT; THENCE N22°30'56"E A DISTANCE OF 152.89 FEET TO A POINT OF CURVE;

THENCE ON THE ARC OF A CURVE TO THE LEFT HAVING A DELTA OF 17°59'00, A RADIUS OF 470.00 FEET A DISTANCE OF 147.52 FEET TO A POINT OF TANGENT; THENCE N06°31'56"E A DISTANCE OF 244.95 FEET TO A POINT OF CURVE; THENCE ON THE ARC OF A CURVE TO THE RIGHT HAVING A DELTA OF 12°33'58", A RADIUS OF 530.00 FEET A DISTANCE OF 116.24 FEET TO A POINT OF TANGENT; THENCE N17°05'54"E A DISTANCE OF 216.15 FEET TO A POINT OF CURVE; THENCE ON THE ARC OF A CURVE TO THE LEFT HAVING A DELTA OF 17°54'41", A RADIUS OF 470.00 FEET A DISTANCE OF 146.93 FEET TO A POINT OF TANGENT; THENCE N00°48'47"W A DISTANCE OF 40.27 FEET TO A POINT OF CURVE; THENCE ON THE ARC OF A CURVE TO THE LEFT HAVING A DELTA OF 11°16'06", A RADIUS OF 187.00 FEET A DISTANCE OF 36.78 FEET TO A POINT OF REVERSE CURVE; THENCE ON THE ARC OF A CURVE TO THE RIGHT HAVING A DELTA OF 11°16'06", A RADIUS OF 228.00 FEET A DISTANCE OF 44.84 FEET TO A POINT OF TANGENT; THENCE N00°48'47"W A DISTANCE OF 10.02 FEET TO A POINT OF CURVE; THENCE ON THE ARC OF A CURVE TO THE RIGHT HAVING A DELTA OF 11°16'06", A RADIUS OF 228.00 FEET, A DISTANCE OF 44.84 FEET TO A POINT OF REVERSE CURVE; THENCE ON THE ARC OF A CURVE TO THE LEFT HAVING A DELTA OF 11°16'06", A RADIUS OF 187.00 FEET A DISTANCE OF 36.78 FEET TO A POINT OF TANGENT; THENCE N00°48'47"W A DISTANCE OF 209.02 FEET TO A POINT OF CURVE; THENCE ON THE ARC OF A CURVE TO THE LEFT HAVING A DELTA OF 32°57'06", A RADIUS OF 470.00 FEET A DISTANCE OF 270.30 FEET TO A POINT OF TANGENT; THENCE N33°45'55"W A DISTANCE OF 498.37 FEET TO A POINT OF CURVE; THENCE ON THE ARC OF A CURVE TO THE RIGHT HAVING A DELTA 22°00'35", A RADIUS OF 530.00 FEET A DISTANCE OF 203.60 FEET TO A POINT ON CURVE SAID POINT BEING THE SOUTHWEST CORNER OF ALLEN RANCH DRIVE AS PLATTED IN SAID FLYING HORSE NORTH FILING NO. 1, THENCE ON THE BOUNDARY LINE OF SAID FLYING HORSE FILING NO. 1, THE FOLLOWING TWENTY-TWO (22) COURSES:

- N78°14'42"E A DISTANCE OF 60.00 FEET TO A POINT ON CURVE;
- ON THE ARC OF A CURVE TO THE RIGHT WHOSE CENTER BEARS N78°14'42"E, HAVING A DELTA OF 07°44'47", A RADIUS OF 470.00 FEET A DISTANCE OF 63.54 FEET TO A POINT ON CURVE;
- N88°03'35"E A DISTANCE OF 162.46 FEET;
- S27°57'38"W A DISTANCE OF 123.86 FEET TO A POINT ON CURVE;
- ON THE ARC OF A CURVE TO THE LEFT WHOSE CENTER BEARS S55°48'13"E, HAVING A DELTA OF 79°31'17", A RADIUS OF 60.00 FEET, A DISTANCE OF 83.27

- FEET TO A POINT OF TANGENT;
- S45°19'30"E A DISTANCE OF 529.41 FEET;
- N43°38'05"E A DISTANCE OF 217.42 FEET;
- S47°25'19"E A DISTANCE OF 125.23 FEET;
- S12°39'47"W A DISTANCE OF 431.89 FEET TO A POINT ON CURVE;
- ON THE ARC OF A CURVE TO THE LEFT WHOSE CENTER BEARS S78°44'16"E, HAVING DELTA OF 101°02'05", A RADIUS OF 180.00 FEET, A DISTANCE OF 317.41 FEET TO A POINT ON CURVE;
- S38°07'10"E A DISTANCE OF 51.40 FEET;
- S25°28'43"W A DISTANCE OF 583.21 FEET;
- S11°05'37"W A DISTANCE OF 649.91 FEET;
- S01°45'55"W A DISTANCE OF 367.28 FEET TO A POINT ON CURVE;
- ON THE ARC OF A CURVE TO THE LEFT WHOSE CENTER BEARS S82°45'19"E, HAVING A DELTA OF 27°10'25", A RADIUS OF 206.15 FEET, A DISTANCE OF 97.77 FEET TO A POINT ON CURVE;
- S44°23'58"W A DISTANCE OF 446.26 FEET;
- N78°50'05"W A DISTANCE OF 682.24 FEET;
- S89°54'56"W A DISTANCE OF 881.31 FEET;
- N39°18'58"W A DISTANCE OF 58.41 FEET TO A POINT ON CURVE;
- ON THE ARC OF A CURVE TO THE RIGHT WHOSE CENTER BEARS N42°37'31"W, HAVING A DELTA OF 24°08'18", A RADIUS OF 530.00 FEET, A DISTANCE OF 222.98 FEET TO A POINT ON CURVE;
- S63°45'49"E A DISTANCE OF 50.01 FEET;
- THENCE S02°21'44"E A DISTANCE OF 263.10 FEET;

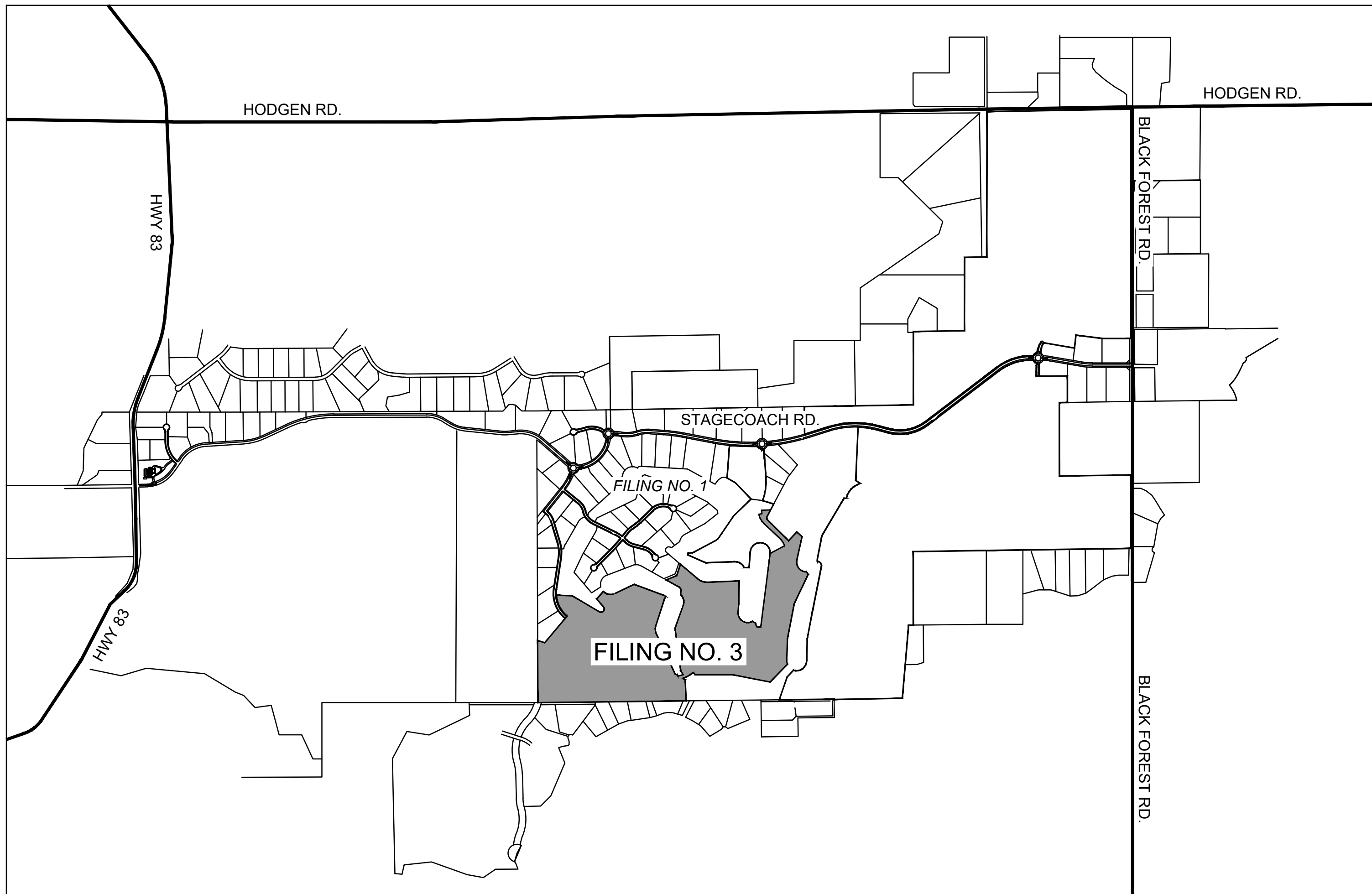
THENCE CONTINUING S02°21'44"E A DISTANCE OF 120.00 FEET TO THE SOUTH QUARTER CORNER OF SAID SECTION 36, THENCE S89°20'35"W ON THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 36, A DISTANCE OF 2,674.50 FEET TO THE POINT OF BEGINNING.

CONTAINING A CALCULATED AREA OF 170,554 ACRES.  
TOGETHER WITH TRACT J AND TRACT L AS PLATTED FLYING HORSE NORTH FILING NO. 1, RECORDED UNDER RECEPTION NUMBER 218714238.

CONTAINING A CALCULATED AREA OF 120,231 ACRES.  
TOGETHER WITH LOT 1 AS PLATTED FLYING HORSE NORTH FILING NO. 2, RECORDED UNDER RECEPTION NUMBER 222715009.

CONTAINING A CALCULATED AREA OF 2,898 ACRES.

FLYING HORSE FILING 3, CONTAINS A TOTAL CALCULATED AREA OF 293,683 ACRES.



VICINITY MAP  
NOT TO SCALE

SHEET LIST TABLE	
SHEET NUMBER	SHEET TITLE
1	COVER
2	LEGEND & NOTES
3	INITIAL & INTERIM GEC
4	INITIAL & INTERIM GEC
5	INITIAL & INTERIM GEC
6	FINAL GEC
7	FINAL GEC
8	FINAL GEC
9	CHANNEL SECTIONS
10	CHANNEL SECTIONS
11	DETAILS
12	DETAILS
13	DETAILS



**ENGINEER'S STATEMENT**  
THIS GRADING AN 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 NEGLIGENT ACTS, ERRORS, OR OMISSIONS ON MY PART IN PREPARING THIS PLAN

KENNETH M. HUHN, P.E. DATE  
KHUHN@HRGREEN.COM  
COLORADO P.E. 0054022

**OWNER/DEVELOPER'S STATEMENT:**  
I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN

OWNER'S SIGNATURE DATE  
PRI #2, LLC

**EL PASO COUNTY**  
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 MANUAL, VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER, IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTORS DISCRETION.

JOSHUA PALMER P.E. DATE  
COUNTY ENGINEER

ADDED TO ALL SHEETS

PCD File SF2326

DRAWN BY: AXB JOB DATE: 2/29/2024  
 APPROVED: KMH JOB NUMBER: 211030  
 CAD DATE: 3/5/2024  
 CAD FILE: J:\2021\211030\CAD\Drawings\C\Estates\_CDs\GEC\GEC\_Cover

BAR IS ONE INCH ON OFFICIAL DRAWINGS.  
 IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY.

NO.	DATE	BY	REVISION DESCRIPTION

**HRGreen**  
 HR GREEN - COLORADO SPRINGS  
 1975 RESEARCH PARKWAY SUITE 230  
 COLORADO SPRINGS, CO 80920  
 PHONE: 719.300.4140  
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FLYING HORSE NORTH FILING NO. 3  
 PRI #2, LLC  
 EL PASO COUNTY, CO

GRADING & EROSION CONTROL PLAN  
 COVER

SHEET  
 CV  
 1

GRADING AND EROSION CONTROL NOTES:

- 1. 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.
2. 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 CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
3. 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. MANAGEMENT OF THE SWMP DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE DESIGNATED QUALIFIED STORMWATER MANAGER OF CERTIFIED EROSION CONTROL INSPECTOR. THE SWMP SHALL BE LOCATED ON SITE AT ALL TIMES DURING CONSTRUCTION AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.
4. ONCE THE ESQCP IS APPROVED AND A "NOTICE TO PROCEED" HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED ON THE APPROVED GEC. A PRECONSTRUCTION MEETING BETWEEN THE CONTRACTOR, ENGINEER, AND THE 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 STAFF.
5. CONTROL MEASURES MUST BE INSTALLED PRIOR TO COMMENCEMENT OF ACTIVITIES THAT COULD CONTRIBUTE POLLUTANTS TO STORMWATER. CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, AND DISTURBED LAND AREAS SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF THE DISTURBANCE.
6. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REMAIN IN EFFECTIVE OPERATION CONDITION UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND FINAL STABILIZATION IS ESTABLISHED. ALL PERSONS ENGAGED IN LAND DISTURBANCE ACTIVITIES SHALL ASSESS THE ADEQUACY OF CONTROL MEASURES AT THE SITE AND IDENTIFY IF CHANGES TO THOSE CONTROL MEASURES ARE NEEDED TO ENSURE THE CONTINUED EFFECTIVE PERFORMANCE OF THE CONTROL MEASURES. ALL CHANGES TO TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES MUST BE INCORPORATED INTO THE STORMWATER MANAGEMENT PLAN.
7. TEMPORARY STABILIZATION SHALL BE IMPLEMENTED ON DISTURBED AREAS AND STOCKPILES WHERE GROUND DISTURBING ACTIVITY HAS PERMANENTLY CEASED OR TEMPORARILY CEASED FOR LONGER THAN 14 DAYS. FINAL STABILIZATION MUST BE IMPLEMENTED AT ALL APPLICABLE CONSTRUCTION SITES. FINAL STABILIZATION IS ACHIEVED WHEN ALL GROUND DISTURBING ACTIVITIES ARE COMPLETE AND ALL DISTURBED AREAS EITHER HAVE A UNIFORM VEGETATIVE COVER WITH INDIVIDUAL PLANT DENSITY OF 70 PERCENT OF PRE-DISTURBANCE LEVELS ESTABLISHED OR EQUIVALENT PERMANENT ALTERNATIVE STABILIZATION METHOD IS IMPLEMENTED. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED UPON FINAL STABILIZATION AND BEFORE PERMIT CLOSURE.
8. ALL PERMANENT STORMWATER FACILITIES SHALL BE INSTALLED AS DESIGNED IN THE APPROVED PLANS. ANY PROPOSED CHANGES THAT EFFECT THE DESIGN OR FUNCTION OF PERMANENT STORMWATER MANAGEMENT STRUCTURES MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO IMPLEMENTATION.
9. EARTH DISTURBANCES SHALL BE CONDUCTED IN SUCH A MANNER AS TO EFFECTIVELY MINIMIZE 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. PRE-EXISTING VEGETATION SHALL BE PROTECTED AND MAINTAINED WITHIN 50 HORIZONTAL FEET OF A WATERS OF THE STATE UNLESS SHOWN TO BE INFEASIBLE AND SPECIFICALLY REQUESTED AND APPROVED.
10. COMPACTION OF SOIL MUST BE PREVENTED IN AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES OF WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATIVE COVER. AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED. IF COMPACTION PREVENTION IS NOT FEASIBLE DUE TO SITE CONSTRAINTS, ALL AREAS DESIGNATED FOR INFILTRATION AND VEGETATION CONTROL MEASURES MUST BE LOOSENEED PRIOR TO INSTALLATION OF THE CONTROL MEASURE(S).
11. ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE A STABILIZED CONVEYANCE DESIGNED TO MINIMIZE EROSION AND THE DISCHARGE OF SEDIMENT OFF SITE.
12. CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO ENTER STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES. CONCRETE WASHOUTS SHALL NOT BE LOCATED IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT, OR WITHIN 50 FEET OF A SURFACE WATER BODY, CREEK OR STREAM.
13. DURING DEWATERING OPERATIONS OF UNCONTAMINATED GROUND WATER MAY BE DISCHARGED ON SITE, BUT SHALL NOT LEAVE THE SITE IN THE FORM OF SURFACE RUNOFF UNLESS AN APPROVED STATE DEWATERING PERMIT IS IN PLACE.
14. EROSION BLANKET OR OTHER PROTECTIVE COVERING SHALL BE USED ON SLOPES STEEPER THAN 3:1.
15. 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 THIS SITE.
16. 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. CONTROL MEASURES MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.
17. TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP PROPERLY AND PROPERLY DISPOSED OF IMMEDIATELY.
18. THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION, DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, SOIL AND SAND THAT MAY ACCUMULATE IN ROADS, STORM DRAINS AND OTHER DRAINAGE CONVEYANCE SYSTEMS AND STORMWATER APPURTENANCES AS A RESULT OF THE SITE DEVELOPMENT.
19. 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 AN EAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABEL.
20. NO CHEMICAL(S) HAVING THE POTENTIAL TO BE RELEASED IN STORMWATER ARE TO BE STORED OR USED ONSITE UNLESS PERMISSION FOR THE USE OF SUCH CHEMICAL(S) IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING APPROVAL FOR THE USE OF SUCH CHEMICAL(S) SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
21. BULK STORAGE OF ALLOWED PETROLEUM PRODUCTS OR OTHER ALLOWED LIQUID CHEMICALS IN EXCESS OF 55 GALLONS SHALL REQUIRED ADEQUATE SECONDARY PROTECTION TO CONTAIN AL SPILLS ONSITE AND TO PREVENT ANY SPILLED MATERIALS FROM ENTERING STATE WATERS, ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR OTHER FACILITIES.
22. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER OR DITCH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.
23. OWNER/DEVELOPER AND THEIR AGENTS 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 OF THE LAND DEVELOPMENT CODE, DCM VOLUME II AND ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (1041, NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND OTHER LAWS RULES OR REGULATIONS OF OTHER FEDERAL, STATE, LOCAL OR COUNTY AGENCIES, THE MOST RESTRICTIVE LAWS, RULES OR REGULATIONS SHALL APPLY.
24. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS POINTS.
25. PRIOR TO CONSTRUCTION THE PERMITEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
26. A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND SHALL BE UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
27. THE SOILS REPORT FOR THE SITE HAS BEEN PREPARED BY ENTECH ENGINEERING, INC. AND SHALL BE CONSIDERED A PART OF THESE PLANS.
28. AT LEAST (10) DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION FOR PROJECTS THAT WILL DISTURB ONE (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 CHERR CREEK DRIVE SOUTH
DENVER, CO 80246-1530
ATTN: PERMITS UNIT

Add date of soils report

ABBREVIATIONS

Table with 2 columns: Abbreviation and Full Name. Includes terms like DEFLECTION ANGLE, DIAMETER, AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, ASPHALT BASE COURSE, ABANDONED, ACRE, etc.

LEGEND

Legend diagram showing symbols for EXISTING and PROPOSED features. Categories include STORM SEWER, SANITARY SEWER, WATER, DRY UTILITIES, METRO DISTRICTS, and MISCELLANEOUS. Symbols include lines for match/phase/section/property/easement, various utility lines, and specific symbols for manholes, valves, meters, and vaults.

Project metadata including: DRAWN BY: AXB, JOB DATE: 2/29/2024, APPROVED: KMH, JOB NUMBER: 211030, CAD DATE: 3/4/2024, CAD FILE: J:\2021\211030\CAD\DWG\CIE\Estates\_CDs\GEC\GEC\_Cover

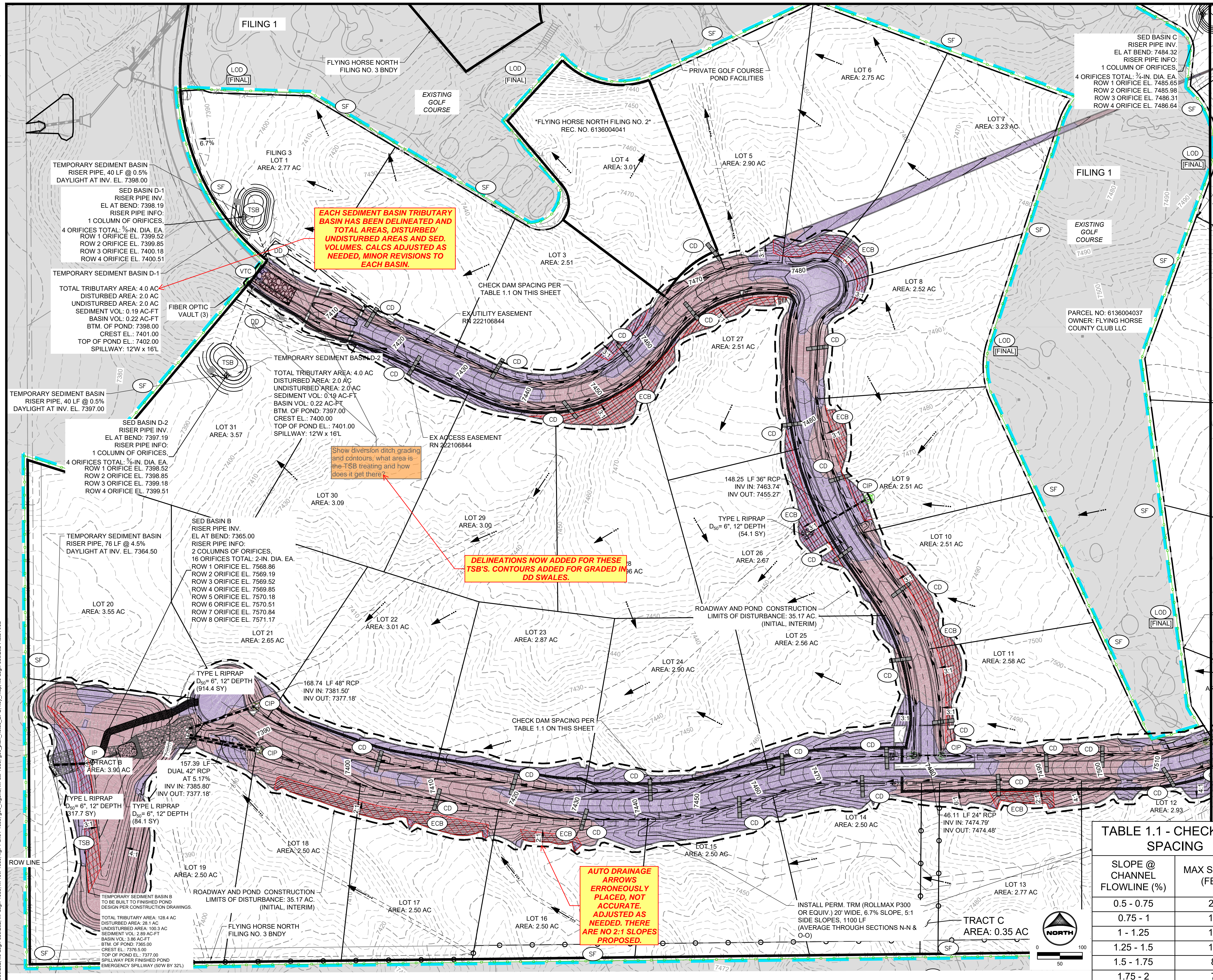
Revision table with columns: NO., DATE, BY, REVISION DESCRIPTION. Contains one revision entry.

HRGreen logo and contact information: HR GREEN - COLORADO SPRINGS, 1975 RESEARCH PARKWAY SUITE 230, COLORADO SPRINGS, CO 80920, PHONE: 719.300.4140, FAX: 713.965.0044

Project title: FLYING HORSE NORTH FILING NO. 3, PRI #2, LLC, EL PASO COUNTY, CO

Sheet title: GRADING & EROSION CONTROL PLAN, LEGEND & NOTES

Sheet identification: SHEET LE 2

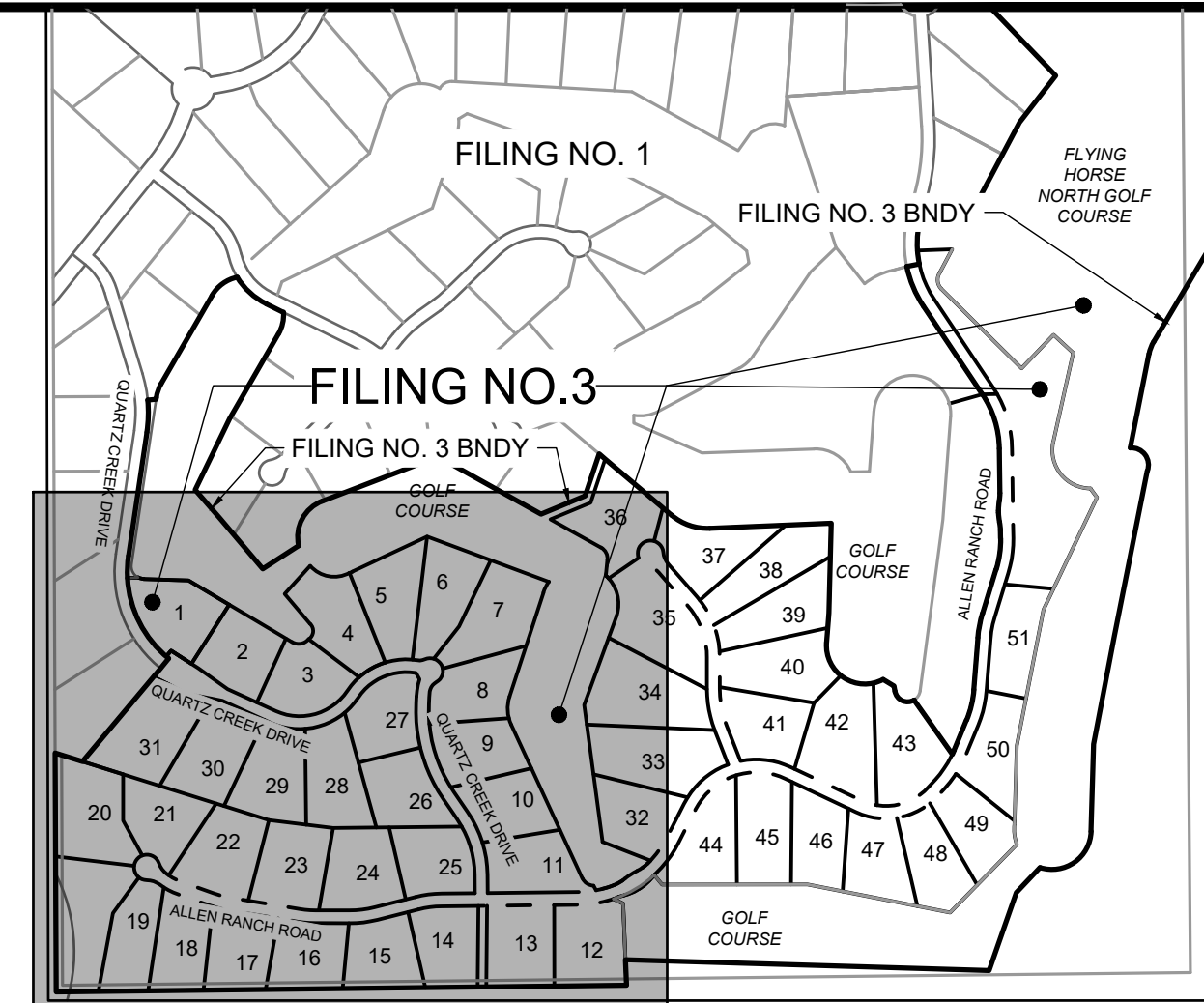


**EACH SEDIMENT BASIN TRIBUTARY BASIN HAS BEEN DELINEATED AND TOTAL AREAS, DISTURBED/UNDISTURBED AREAS AND SED. VOLUMES. CALCS ADJUSTED AS NEEDED, MINOR REVISIONS TO EACH BASIN.**

Show diversion ditch grading and contours, what area is the TSB treating and how does it get there?

**DELINEATIONS NOW ADDED FOR THESE TSB'S. CONTOURS ADDED FOR GRADED IN DD SWALES.**

**AUTO DRAINAGE ARROWS ERRONEOUSLY PLACED, NOT ACCURATE. ADJUSTED AS NEEDED. THERE ARE NO 2:1 SLOPES PROPOSED.**



GEC LEGEND:		PHASE:
	SILT FENCE	INITIAL/INTERIM
	STABILIZED STAGING AREA	INITIAL/INTERIM
	STOCKPILE MANAGEMENT	INITIAL/INTERIM
	INLET PROTECTION: IP-1 TO BE USED ON ALL INLETS	INTERIM
	CULVERT INLET PROTECTION	INTERIM
	VEHICLE TRACKING CONTROL	INITIAL
	DRAINAGE DITCH	INITIAL
	LIMITS OF CONSTRUCTION/DISTURBANCE	INITIAL
	CUT CONDITION	INITIAL
	FILL CONDITION	INITIAL
	FLOW DIRECTION	INITIAL
	EX PROPERTY LINE	INITIAL
	EX RIGHT OF WAY	INITIAL
	EROSION CONTROL BLANKET	INTERIM/FINAL
	ROCK SOCKS	INTERIM
	CHECK DAM (STRAW BALE)	INTERIM
	CONCRETE WASH OUT	INTERIM
	TEMPORARY SEDIMENT BASIN	INITIAL
	CROSS-LOT DRAINAGE EASEMENT	INITIAL

MATCHLINE SEE SHEET 4

Unresolved from Submittal 1 - FAE calls for Permanent Turf Reinforced Mat - show on legend as distinct hatching.

**THIS IS ON PHASE**

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**PROJECT INFO:**  
 CUT VOLUME: 139,700 CUBIC YARDS  
 FILL VOLUME: 137,420 CUBIC YARDS  
 NET 2,280 (CUT) CUBIC YARDS

**TABLE 1.1 - CHECK DAM SPACING**

SLOPE @ CHANNEL FLOWLINE (%)	MAX SPACING (FEET)
0.5 - 0.75	200
0.75 - 1	150
1 - 1.25	120
1.25 - 1.5	100
1.5 - 1.75	85
1.75 - 2	75

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 APPROVED: KMH JOB NUMBER: 211030  
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NO.	DATE	BY	REVISION DESCRIPTION

**HRGreen**  
 HR GREEN - COLORADO SPRINGS  
 1975 RESEARCH PARKWAY SUITE 230  
 COLORADO SPRINGS, CO 80920  
 PHONE: 719.300.4140  
 FAX: 719.965.0044

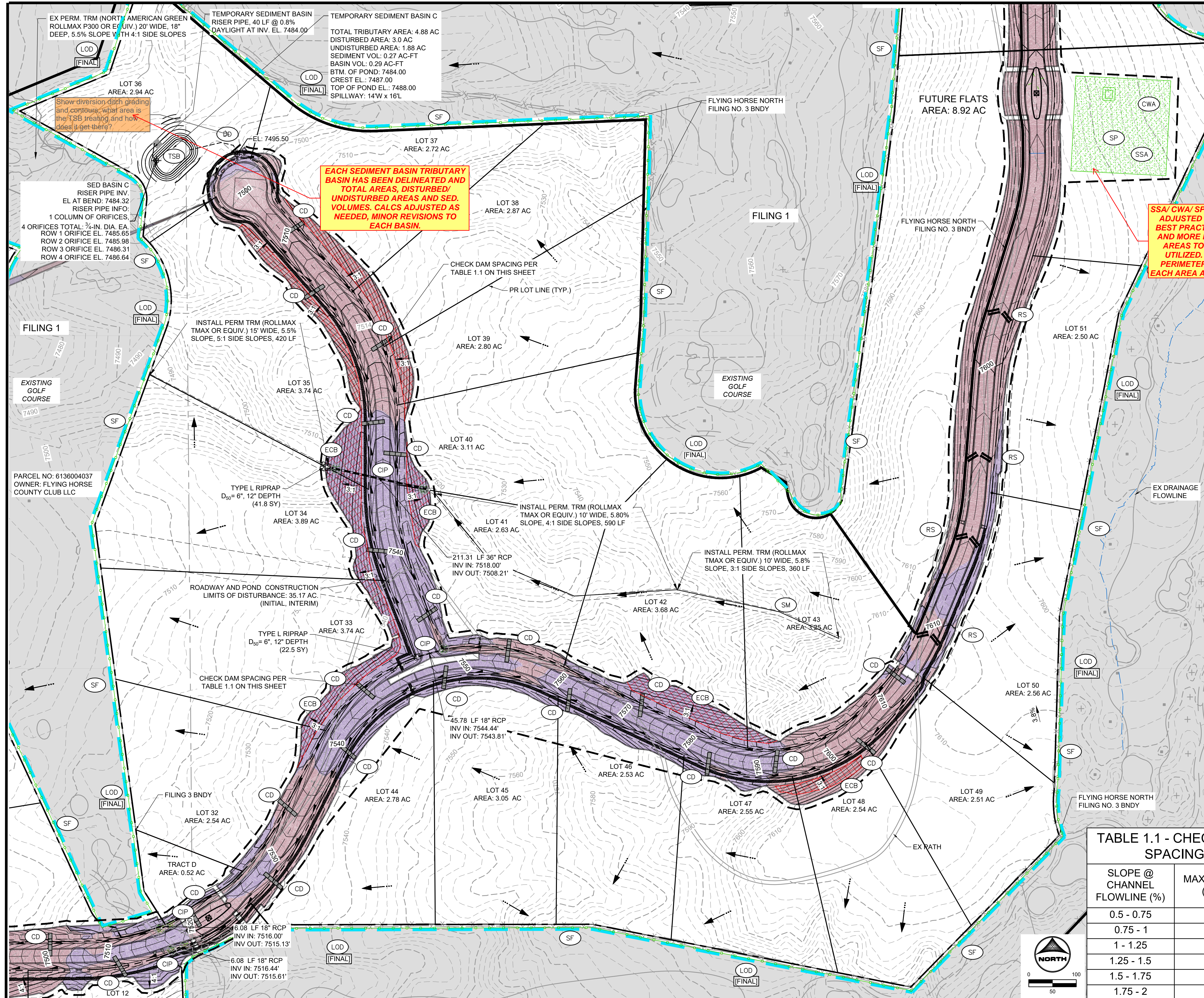
**FLYING HORSE NORTH FILING NO. 3  
 PRI #2, LLC  
 EL PASO COUNTY, CO**

**GRADING & EROSION CONTROL PLAN  
 INITIAL & INTERIM GEC**

**SHEET  
 GEC  
 3**

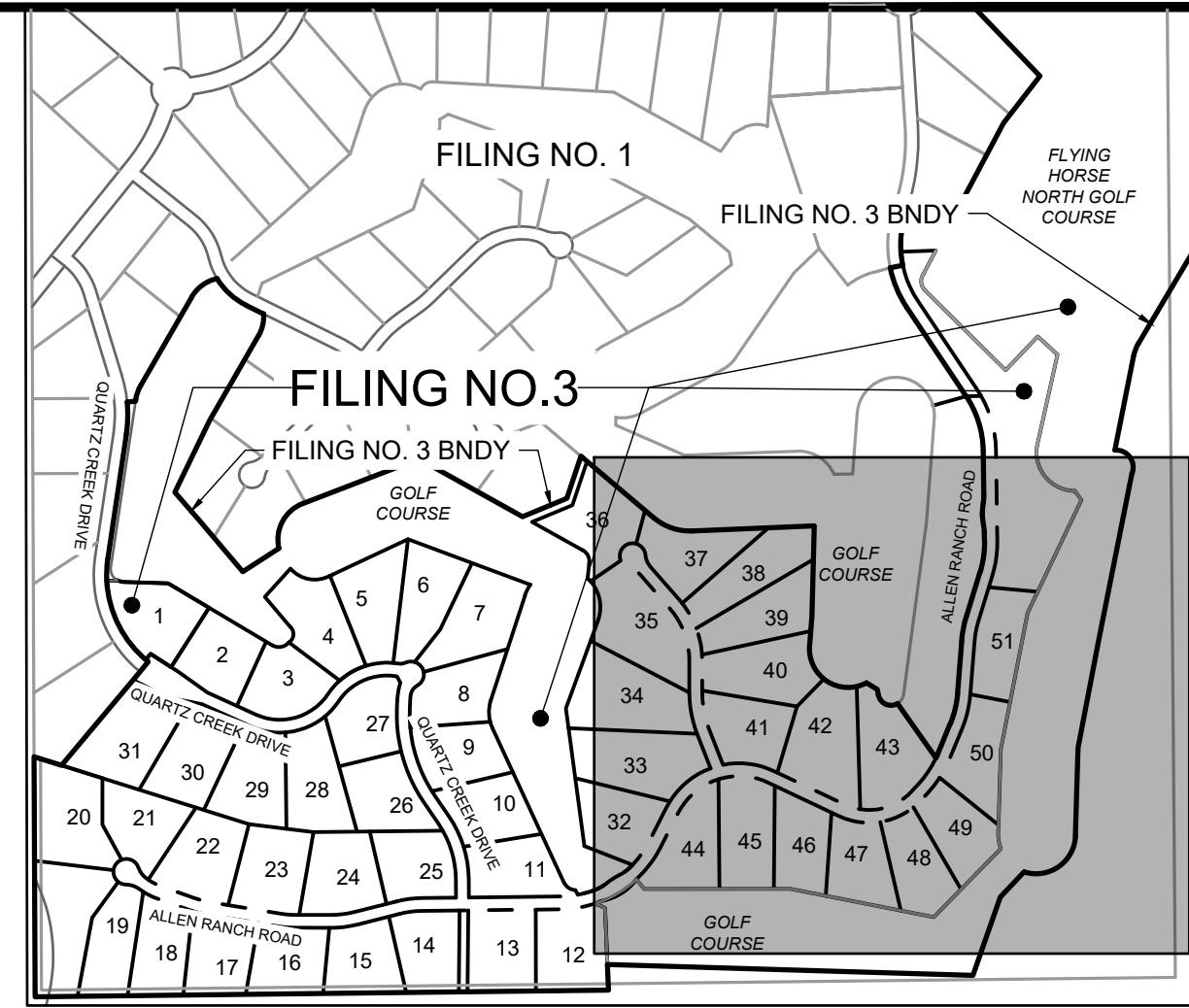
MATCHLINE SEE SHEET 5

BULLARD, ABBY, 3/4/2024, 4:45 PM



**EACH SEDIMENT BASIN TRIBUTARY BASIN HAS BEEN DELINEATED AND TOTAL AREAS, DISTURBED/UNDISTURBED AREAS AND SED. VOLUMES. CALCS ADJUSTED AS NEEDED, MINOR REVISIONS TO EACH BASIN.**

**SSA/CWA/SP AREA ADJUSTED FOR BEST PRACTICES AND MORE FLAT AREAS TO BE UTILIZED. SF PERIMETER OF EACH AREA ADDED.**



**GEC LEGEND:**

[Symbol]	SILT FENCE	PHASE: INITIAL/INTERIM
[Symbol]	STABILIZED STAGING AREA	INITIAL/INTERIM
[Symbol]	STOCKPILE MANAGEMENT	INITIAL/INTERIM
[Symbol]	INLET PROTECTION: IP-1 TO BE USED ON ALL INLETS	INTERIM
[Symbol]	CULVERT INLET PROTECTION	INTERIM
[Symbol]	VEHICLE TRACKING CONTROL	INITIAL
[Symbol]	DRAINAGE DITCH	
[Symbol]	LIMITS OF CONSTRUCTION/DISTURBANCE	
[Symbol]	CUT CONDITION	
[Symbol]	FILL CONDITION	
[Symbol]	FLOW DIRECTION	
[Symbol]	EX PROPERTY LINE	
[Symbol]	EX RIGHT OF WAY	
[Symbol]	EROSION CONTROL BLANKET	INTERIM/FINAL
[Symbol]	ROCK SOCKS	INTERIM
[Symbol]	CHECK DAM (STRAW BALE)	
[Symbol]	CWA CONCRETE WASH OUT	INTERIM
[Symbol]	TSB TEMPORARY SEDIMENT BASIN	INITIAL

**CROSS-LOT DRAINAGE EASEMENT**

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MATCHLINE SEE SHEET 3

MATCHLINE SEE SHEET 5

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 APPROVED: KMH JOB NUMBER: 211030  
 CAD DATE: 3/4/2024  
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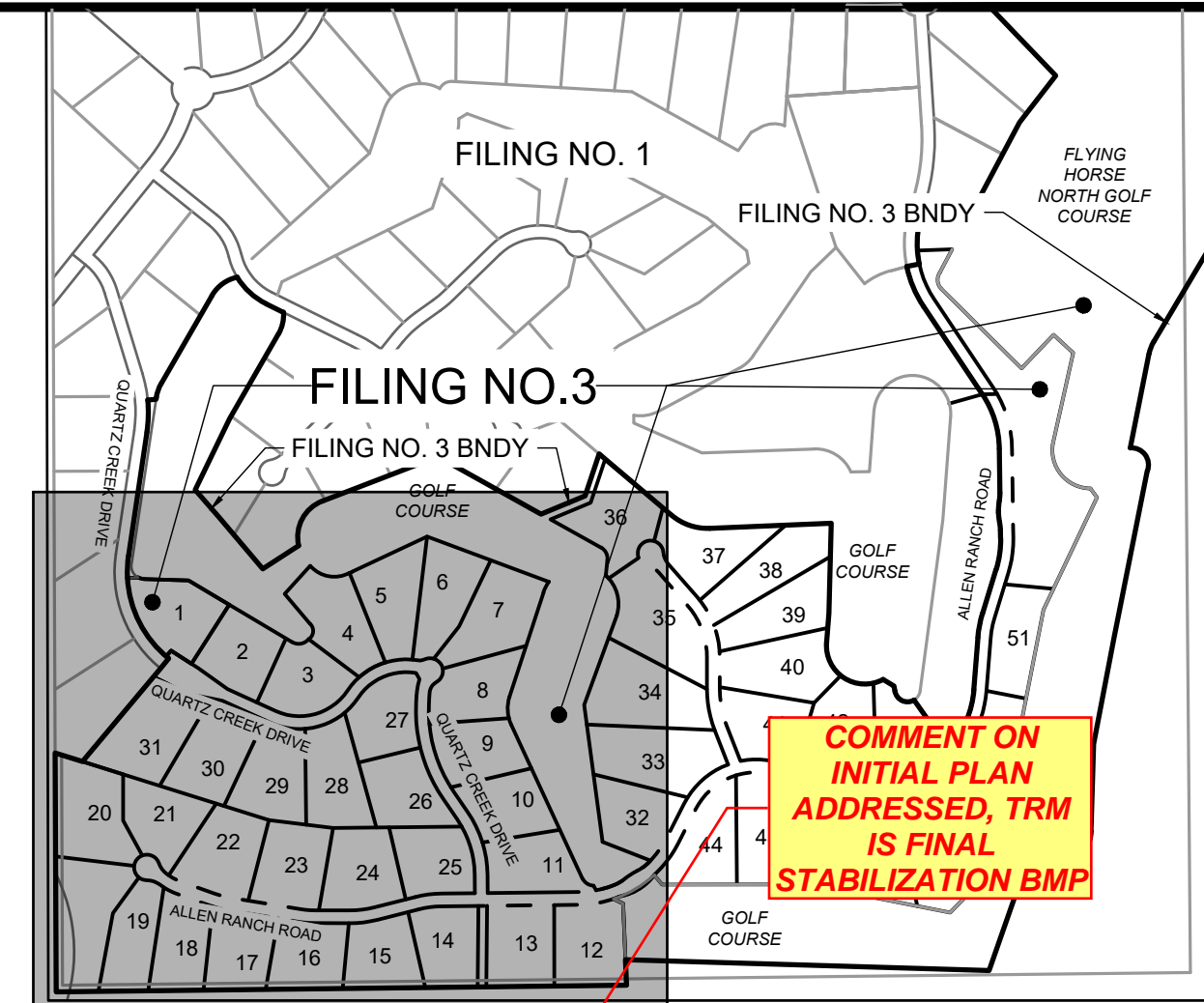
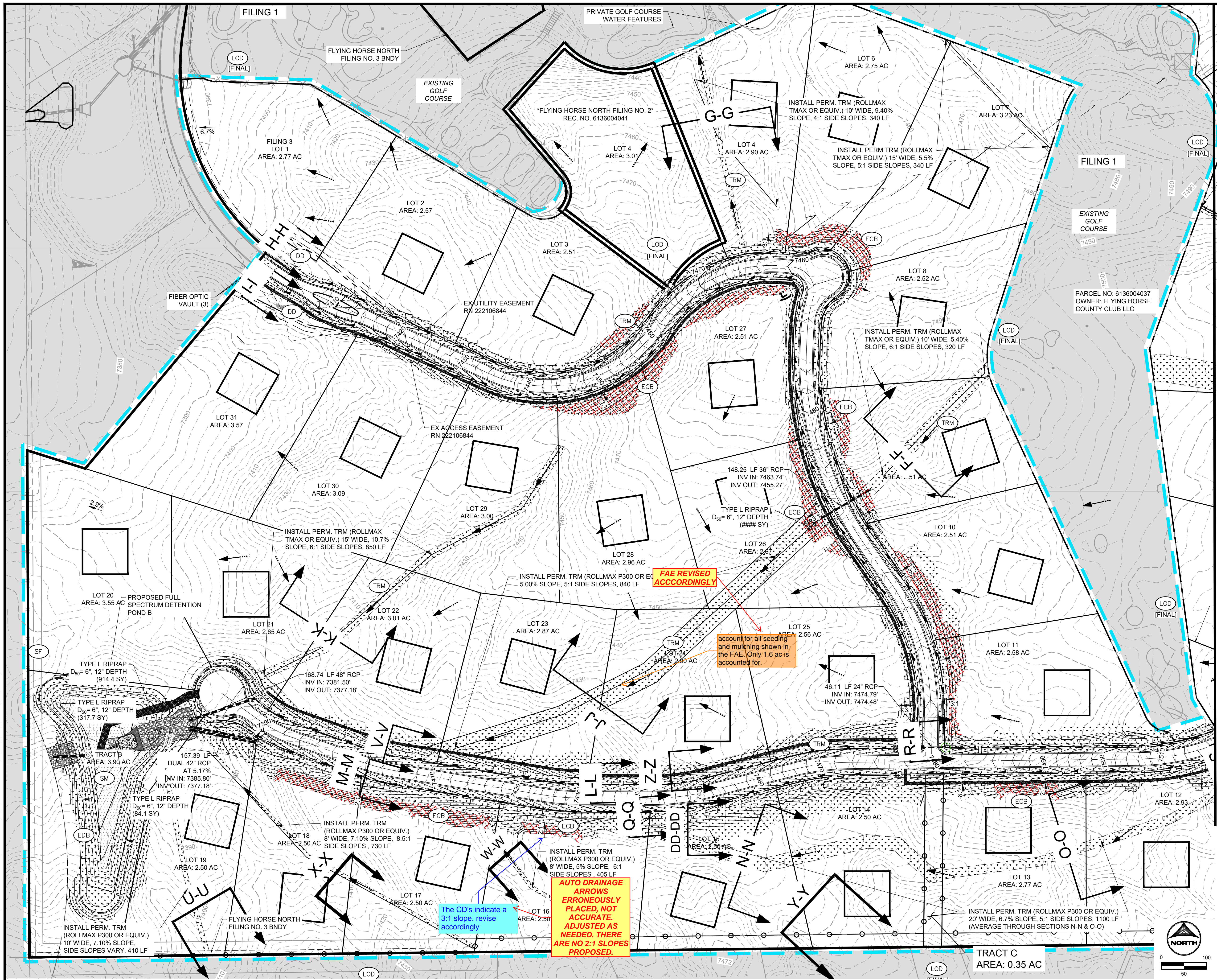
**HRGreen**  
 HR GREEN - COLORADO SPRINGS  
 1975 RESEARCH PARKWAY SUITE 230  
 COLORADO SPRINGS, CO 80920  
 PHONE: 719.300.4140  
 FAX: 719.965.0044

**FLYING HORSE NORTH FILING NO. 3  
 PRI #2, LLC  
 EL PASO COUNTY, CO**

**GRADING & EROSION CONTROL PLAN  
 INITIAL & INTERIM GEC**

**SHEET GEC 4**





GEC LEGEND:		PHASE:
	TRM TURF REINFORCED MAT	FINAL
	SM SEEDING & MULCHING	FINAL
	DD DRAINAGE DITCH	
	LOD LIMITS OF CONSTRUCTION/DISTURBANCE	
	FLOW DIRECTION	
	EX PROPERTY LINE	
	EX RIGHT OF WAY	
	ECB EROSION CONTROL BLANKET	INTERIM/FINAL
	PR ALLOWABLE BUILDING PAD AREA	FINAL
	CROSS-LOT DRAINAGE EASEMENT	

MATCHLINE SEE SHEET 4

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**FAE REVISED ACCORDINGLY**

account for all seeding and mulching shown in the FAE. Only 1.6 ac is accounted for.

**AUTO DRAINAGE ARROWS ERRONEOUSLY PLACED, NOT ACCURATE. ADJUSTED AS NEEDED. THERE ARE NO 2:1 SLOPES PROPOSED.**

The CD's indicate a 3:1 slope, revise accordingly

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APPROVED: KMH	JOB NUMBER: 211030	0" = 10'
CAD DATE: 3/5/2024		IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY.
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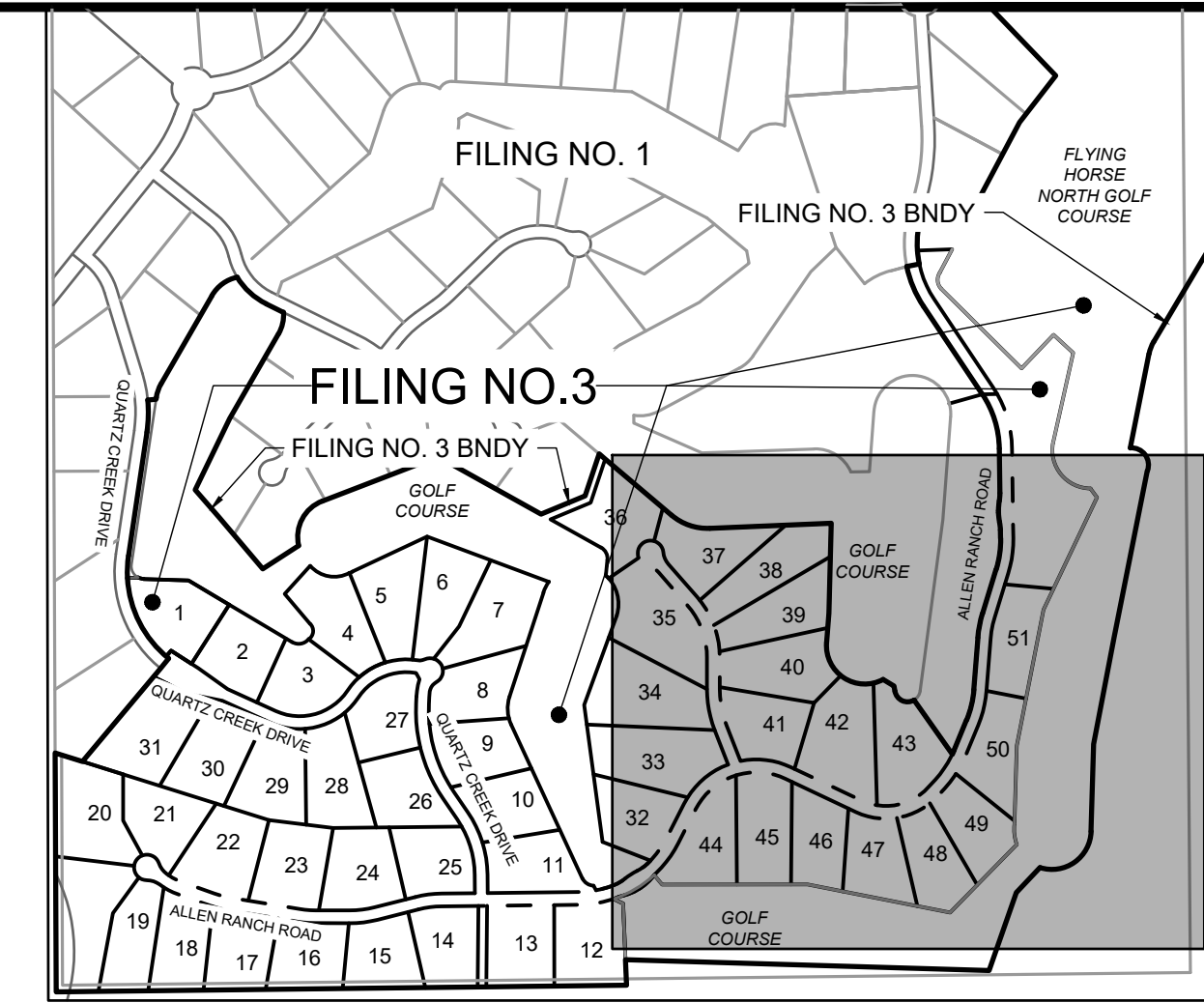
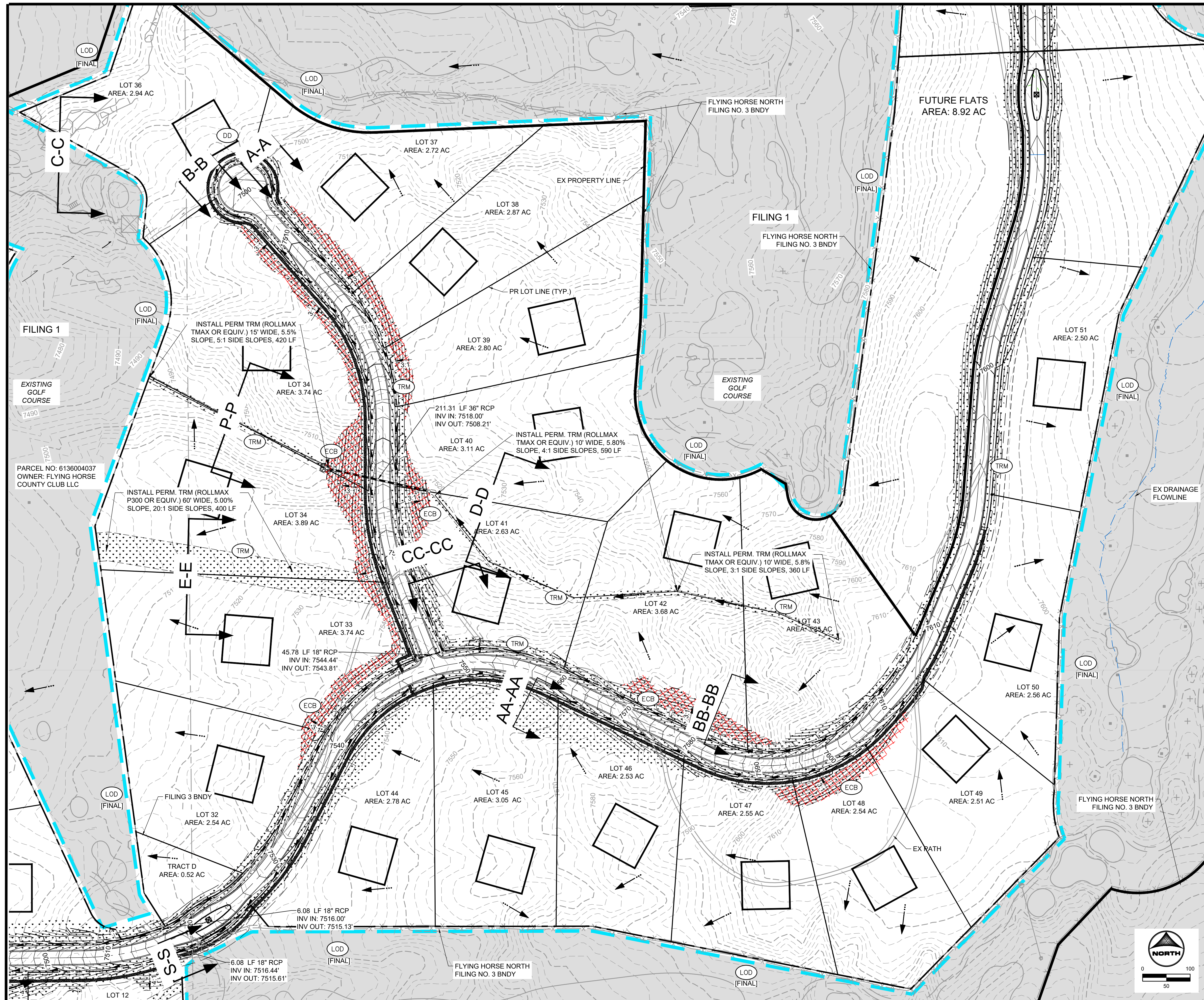
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**HRGreen**  
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**FLYING HORSE NORTH FILING NO. 3**  
**PRI #2, LLC**  
 EL PASO COUNTY, CO

MATCHLINE SEE SHEET 5

BULLARD, ABBY, 3/5/2024 9:53 AM



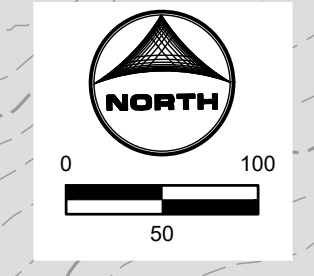
GEC LEGEND:		PHASE:
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MATCHLINE SEE SHEET 3

MATCHLINE SEE SHEET 5

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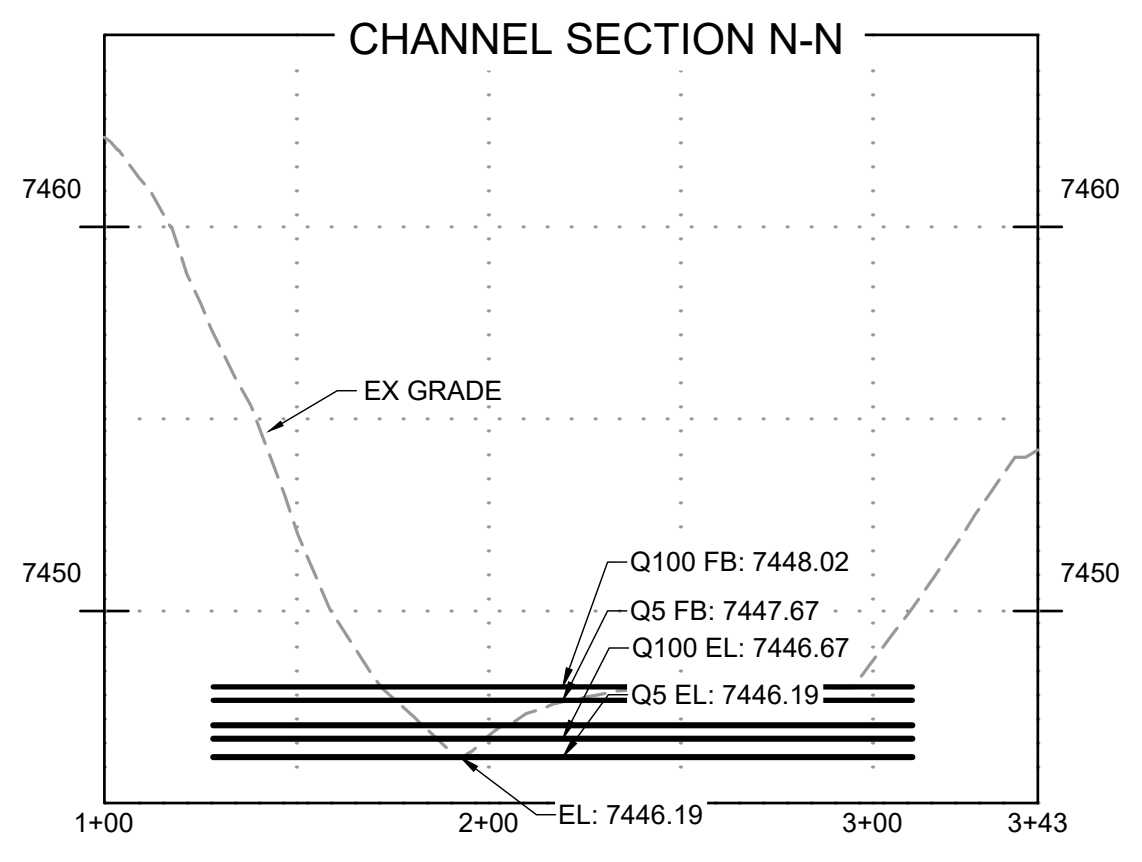
**FLYING HORSE NORTH FILING NO. 3  
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 EL PASO COUNTY, CO**

**GRADING & EROSION CONTROL PLAN  
 FINAL GEC**

**SHEET  
 GEC  
 7**

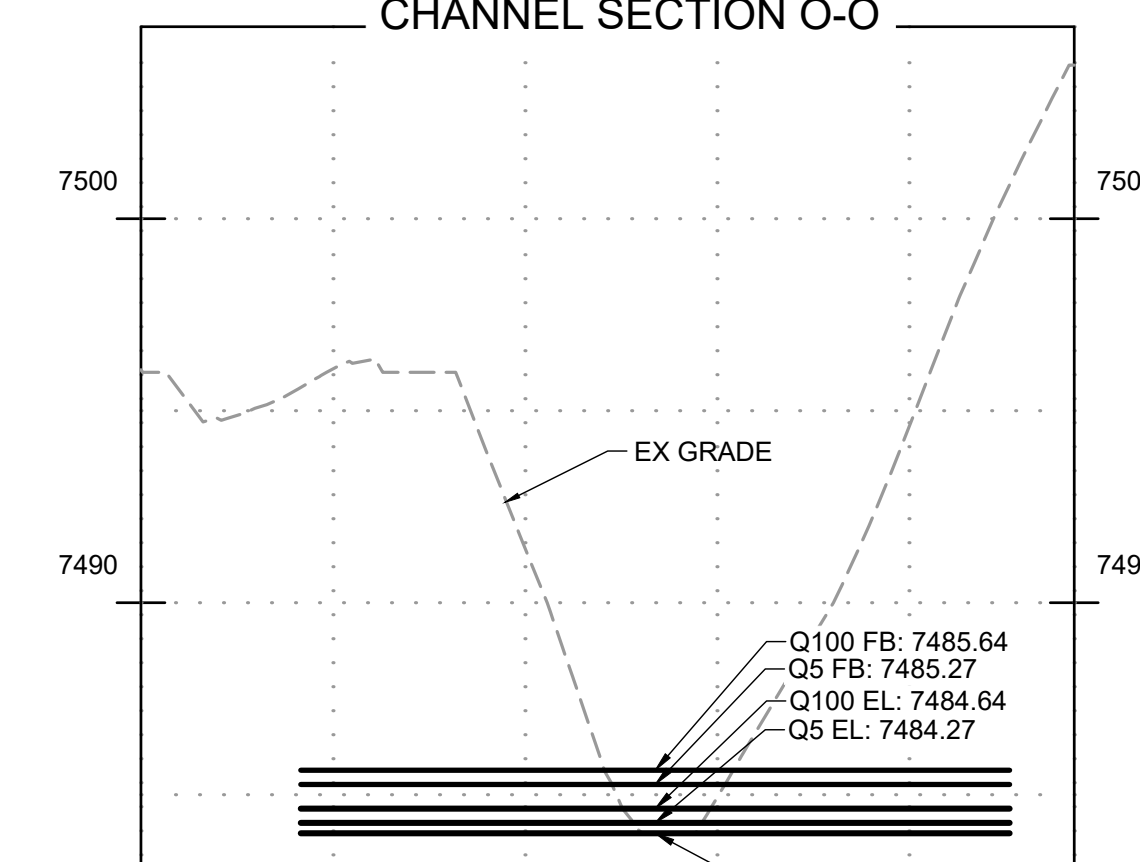






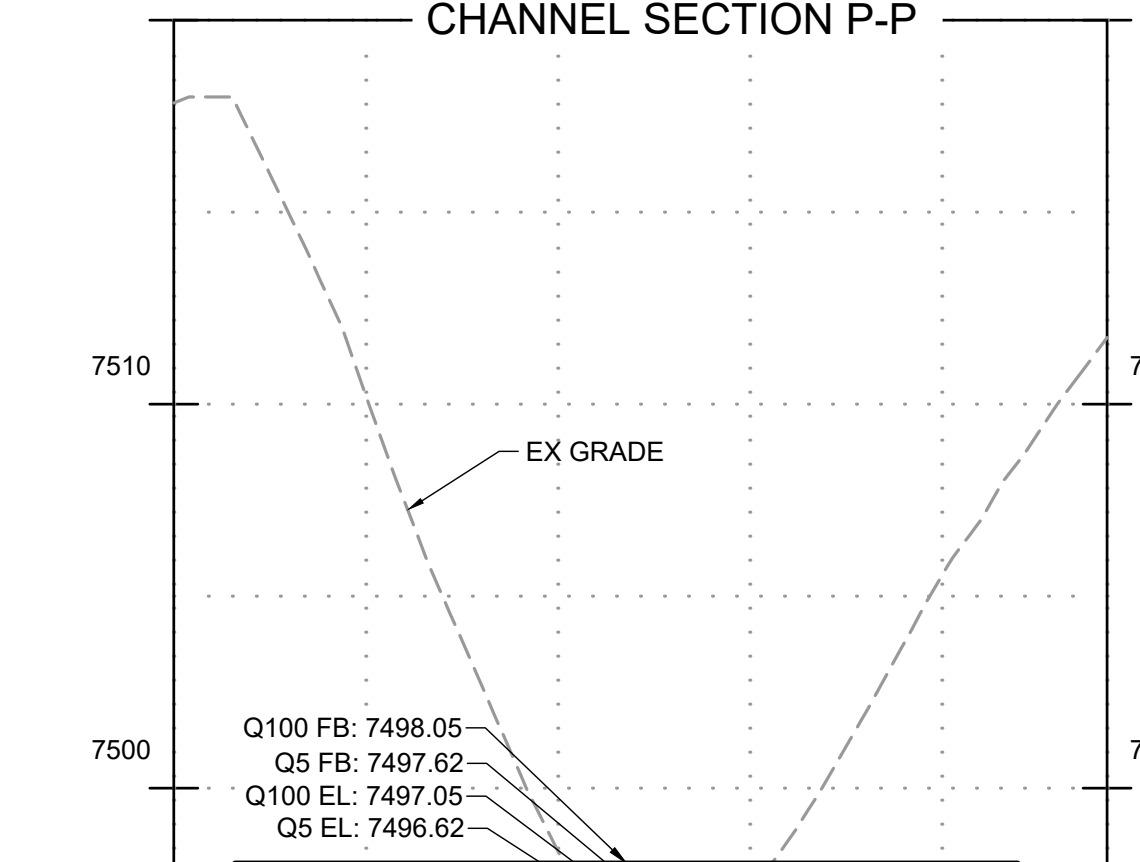
**SECTION N-N**  
Q5 = 16.5 CFS  
Q100 = 73.4 CFS  
SLOPE = 6.70%  
V5 = 1.82 FT/S  
V100 = 3.38 FT/S

**RECOMMENDED BMP:**  
NORTH AMERICAN GREEN ROLLMAX PERMANENT TURF REINFORCEMENT MAT (P300 OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 9.0  
PERMISSIBLE SHEAR STRESS = 3.0



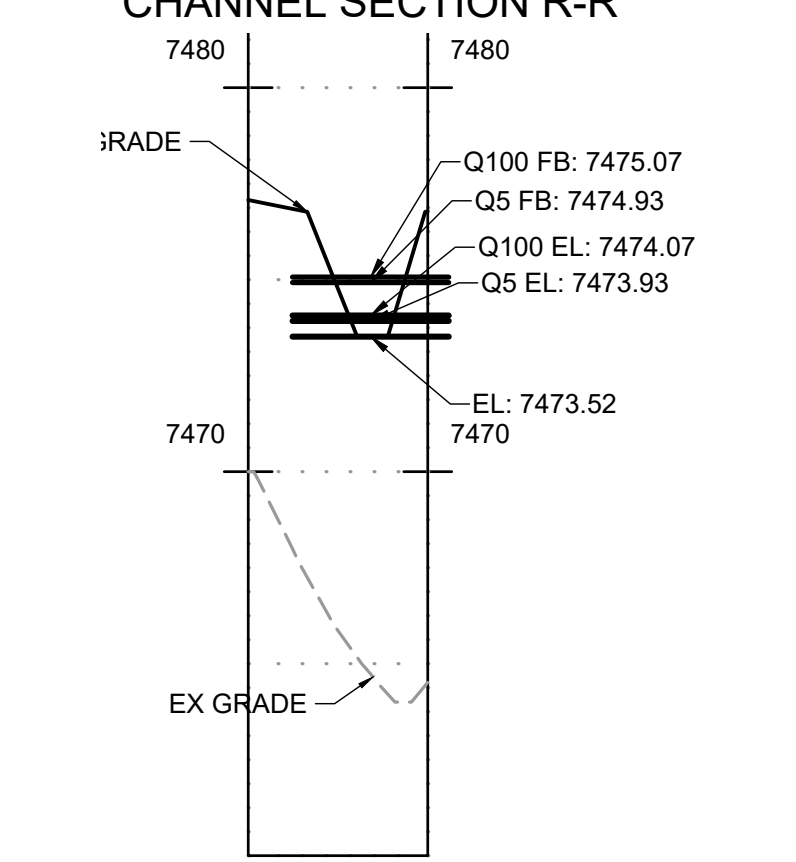
**SECTION O-O**  
Q5 = 16.5 CFS  
Q100 = 73.4 CFS  
SLOPE = 5.30%  
V5 = 3.77 FT/S  
V100 = 6.41 FT/S

**RECOMMENDED BMP:**  
NORTH AMERICAN GREEN ROLLMAX PERMANENT TURF REINFORCEMENT MAT (P300 OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 9.0  
PERMISSIBLE SHEAR STRESS = 3.0



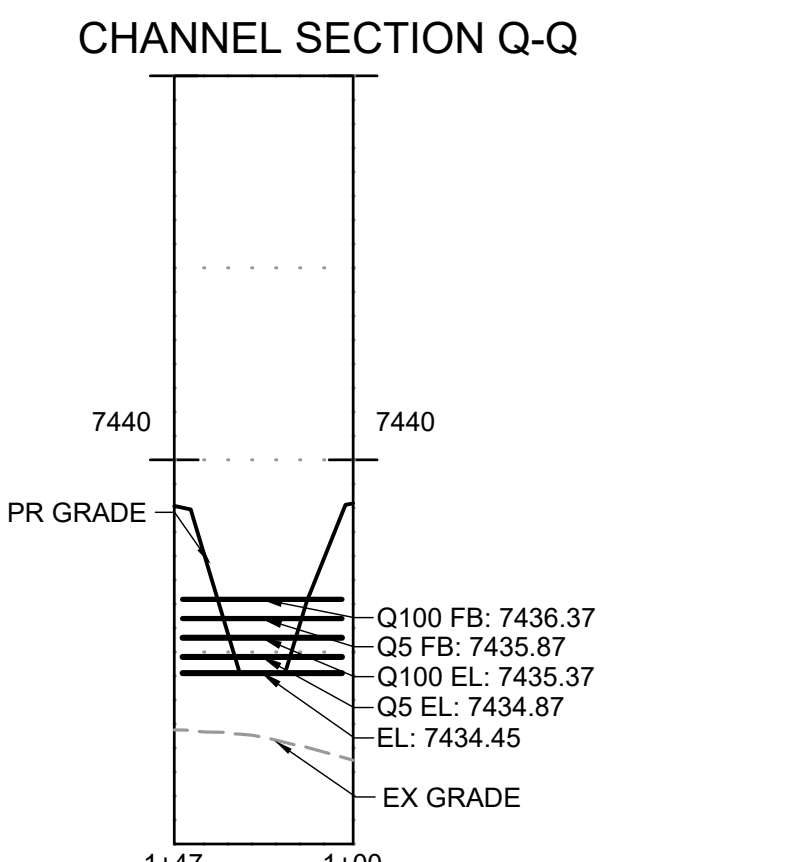
**SECTION P-P**  
Q5 = 10.0 CFS  
Q100 = 40.0 CFS  
SLOPE = 5.10%  
V5 = 4.34 FT/S  
V100 = 6.05 FT/S

**RECOMMENDED BMP:**  
ROLLMAX PERMANENT TURF REINFORCEMENT MAT (TMAX HPTRM OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 25.0  
PERMISSIBLE SHEAR STRESS = 15.0



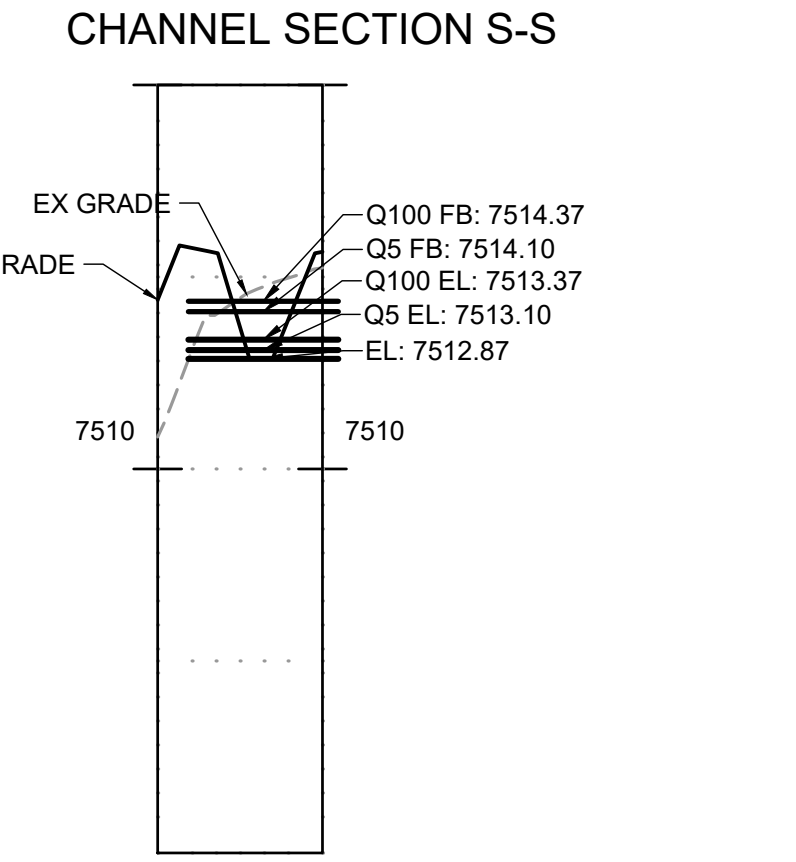
**SECTION R-R**  
Q5 = 20.0 CFS  
Q100 = 32.9 CFS  
SLOPE = 4.00%  
V5 = 5.17 FT/S  
V100 = 6.03 FT/S

**RECOMMENDED BMP:**  
NORTH AMERICAN GREEN ROLLMAX PERMANENT TURF REINFORCEMENT MAT (P300 OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 9.0  
PERMISSIBLE SHEAR STRESS = 3.0



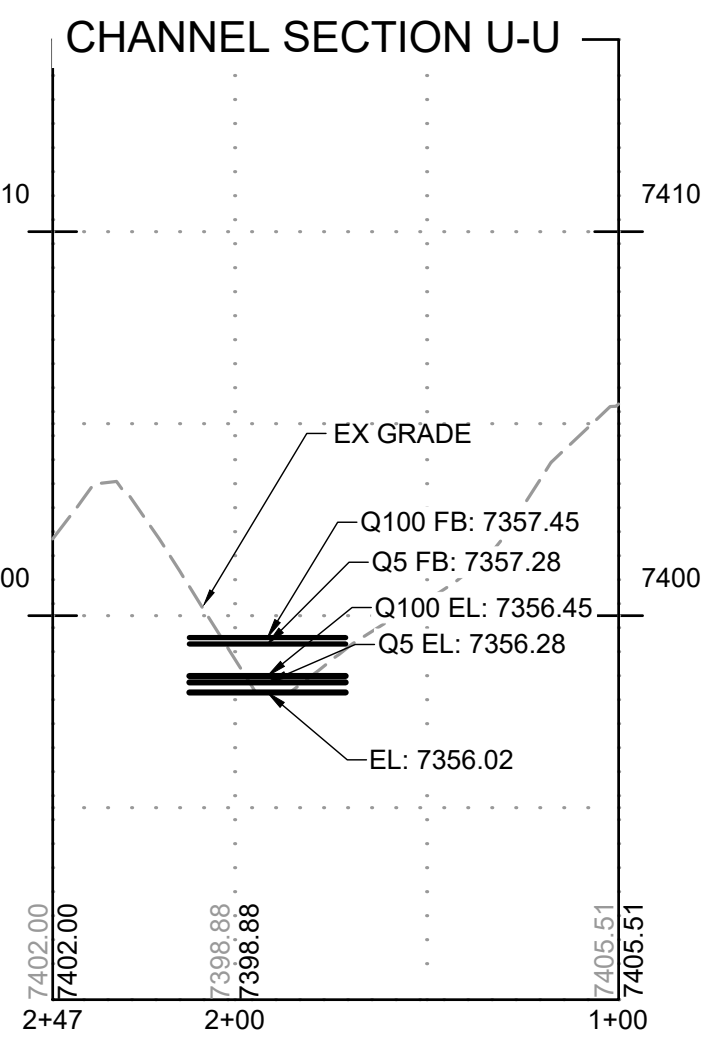
**SECTION Q-Q**  
Q5 = 29.7 CFS  
Q100 = 114.0 CFS  
SLOPE = 4.00%  
V5 = 5.41 FT/S  
V100 = 8.51 FT/S

**RECOMMENDED BMP:**  
NORTH AMERICAN GREEN ROLLMAX PERMANENT TURF REINFORCEMENT MAT (P300 OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 9.0  
PERMISSIBLE SHEAR STRESS = 3.0



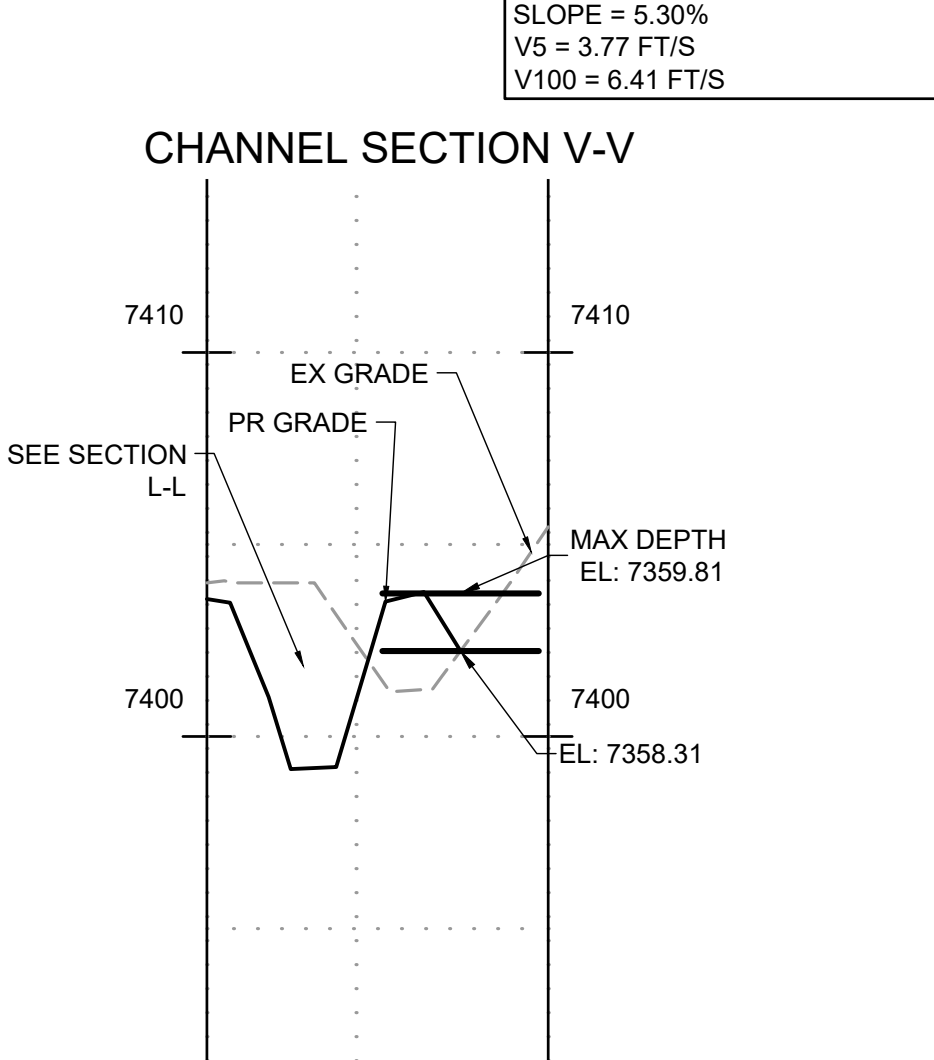
**SECTION S-S**  
Q5 = 5.0 CFS  
Q100 = 20.4 CFS  
SLOPE = 4.00%  
V5 = 3.19 FT/S  
V100 = 5.26 FT/S

**RECOMMENDED BMP:**  
NORTH AMERICAN GREEN ROLLMAX PERMANENT TURF REINFORCEMENT MAT (P300 OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 9.0  
PERMISSIBLE SHEAR STRESS = 3.0



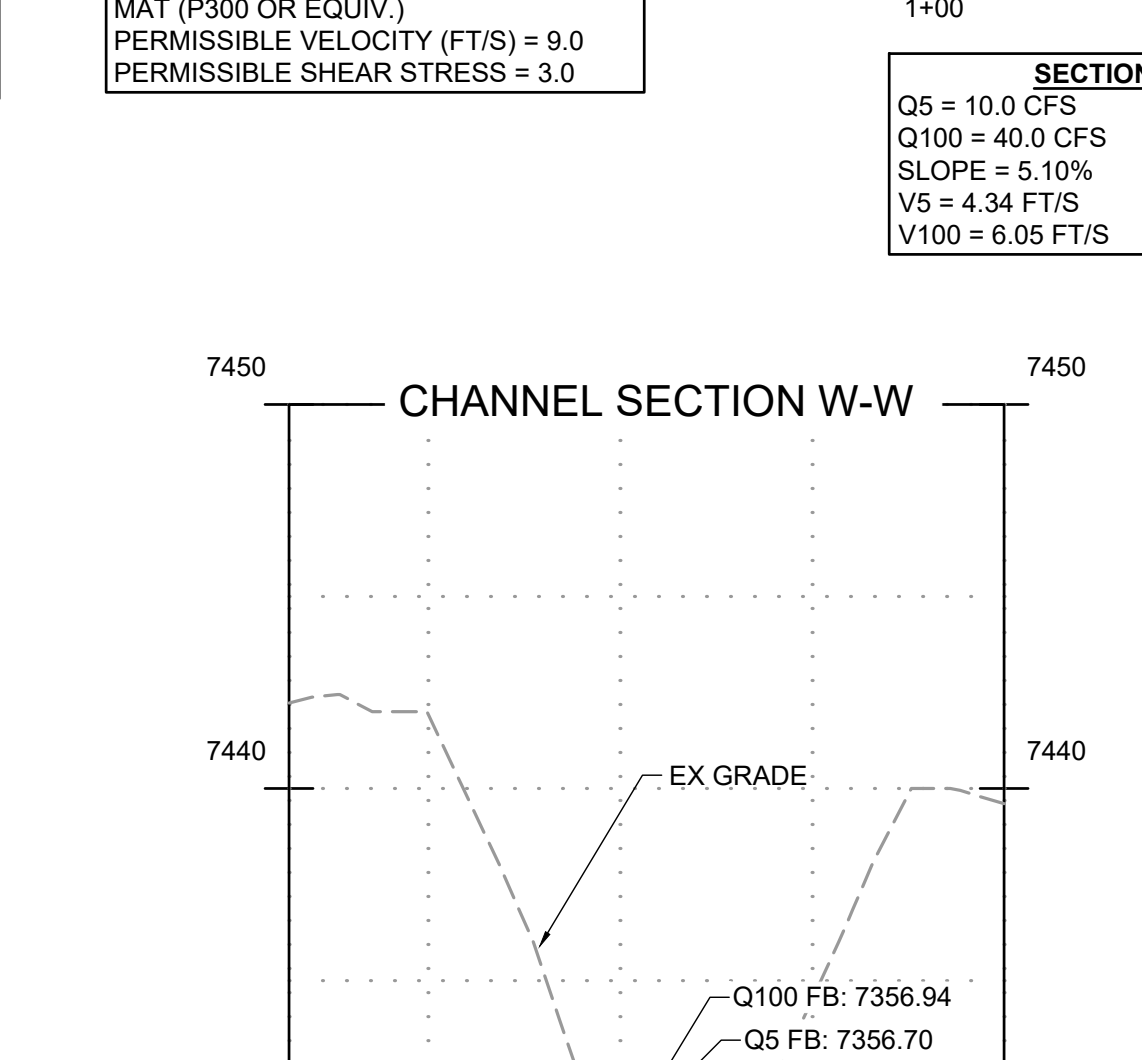
**SECTION U-U**  
Q5 = 1.86 CFS  
Q100 = 7.6 CFS  
SLOPE = 7.1%  
V5 = 2.65 FT/S  
V100 = 3.95 FT/S

**RECOMMENDED BMP:**  
NORTH AMERICAN GREEN ROLLMAX PERMANENT TURF REINFORCEMENT MAT (P300 OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 9.0  
PERMISSIBLE SHEAR STRESS = 3.0



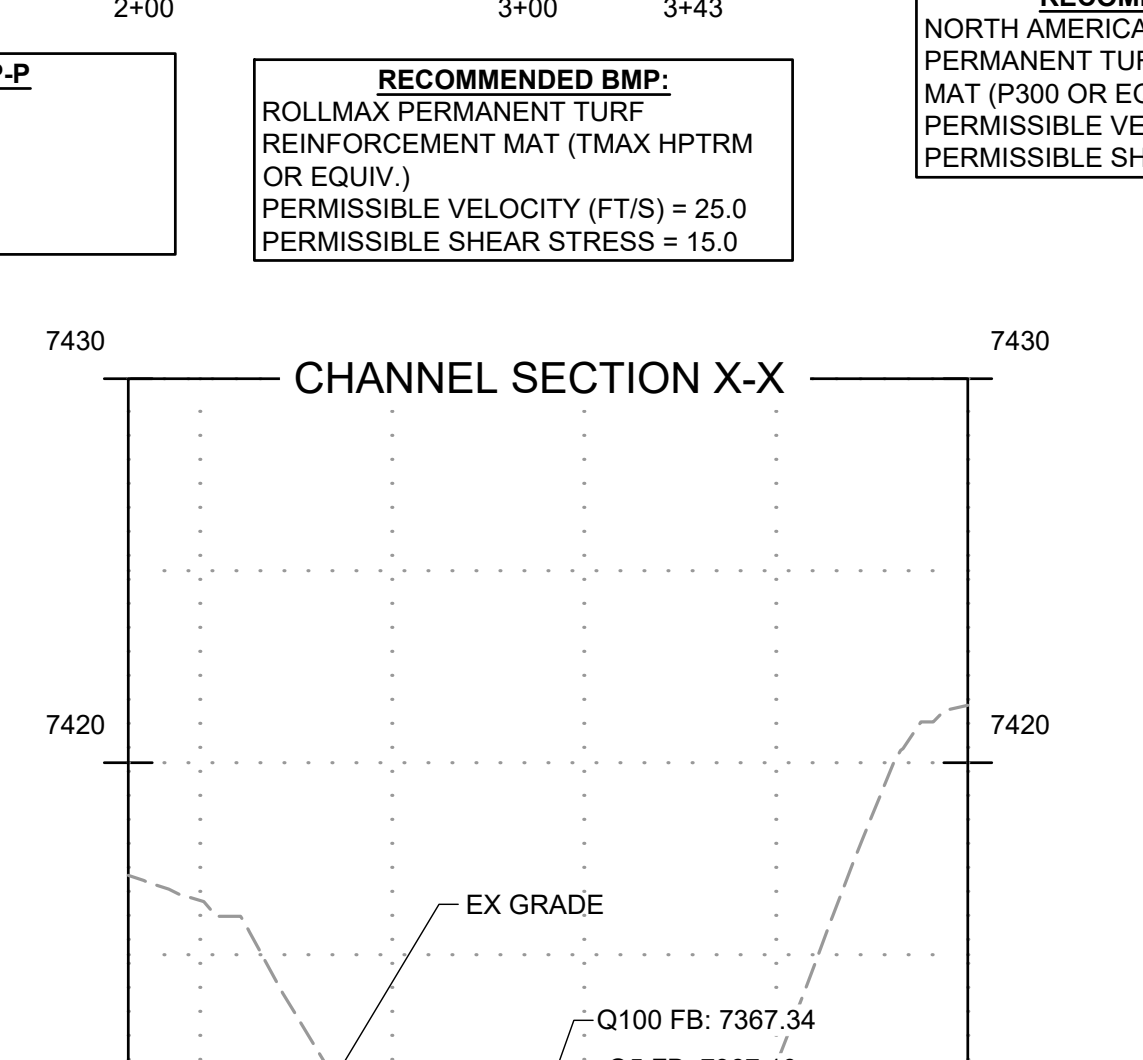
**SECTION V-V**  
QMAX = 108.94 CFS  
SLOPE = 5.4%  
VMAX = 8.07 FT/S

**RECOMMENDED BMP:**  
NORTH AMERICAN GREEN ROLLMAX PERMANENT TURF REINFORCEMENT MAT (P300 OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 9.0  
PERMISSIBLE SHEAR STRESS = 3.0



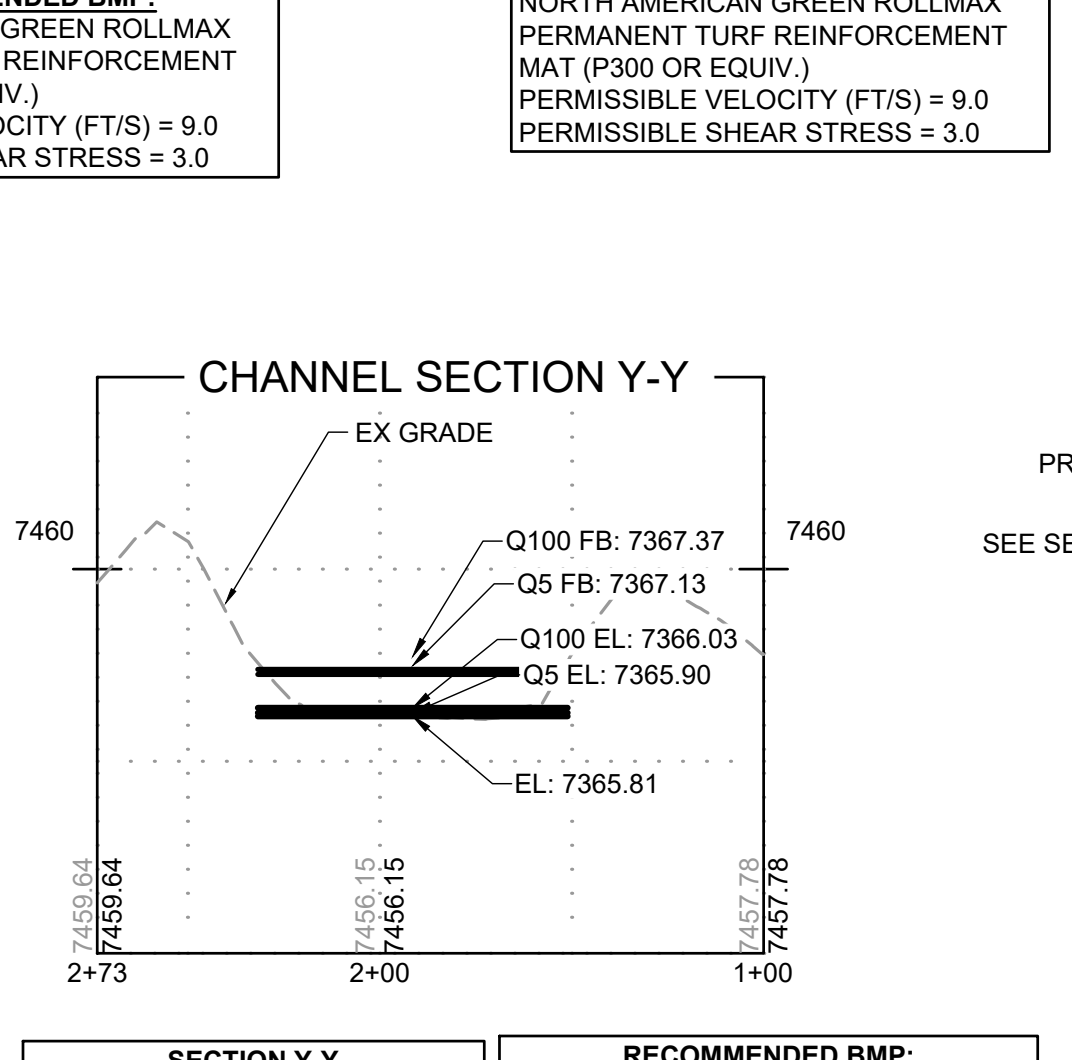
**SECTION W-W**  
Q5 = 1.68 CFS  
Q100 = 7.6 CFS  
SLOPE = 4.70%  
V5 = 2.60 FT/S  
V100 = 3.86 FT/S

**RECOMMENDED BMP:**  
NORTH AMERICAN GREEN ROLLMAX PERMANENT TURF REINFORCEMENT MAT (P300 OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 9.0  
PERMISSIBLE SHEAR STRESS = 3.0



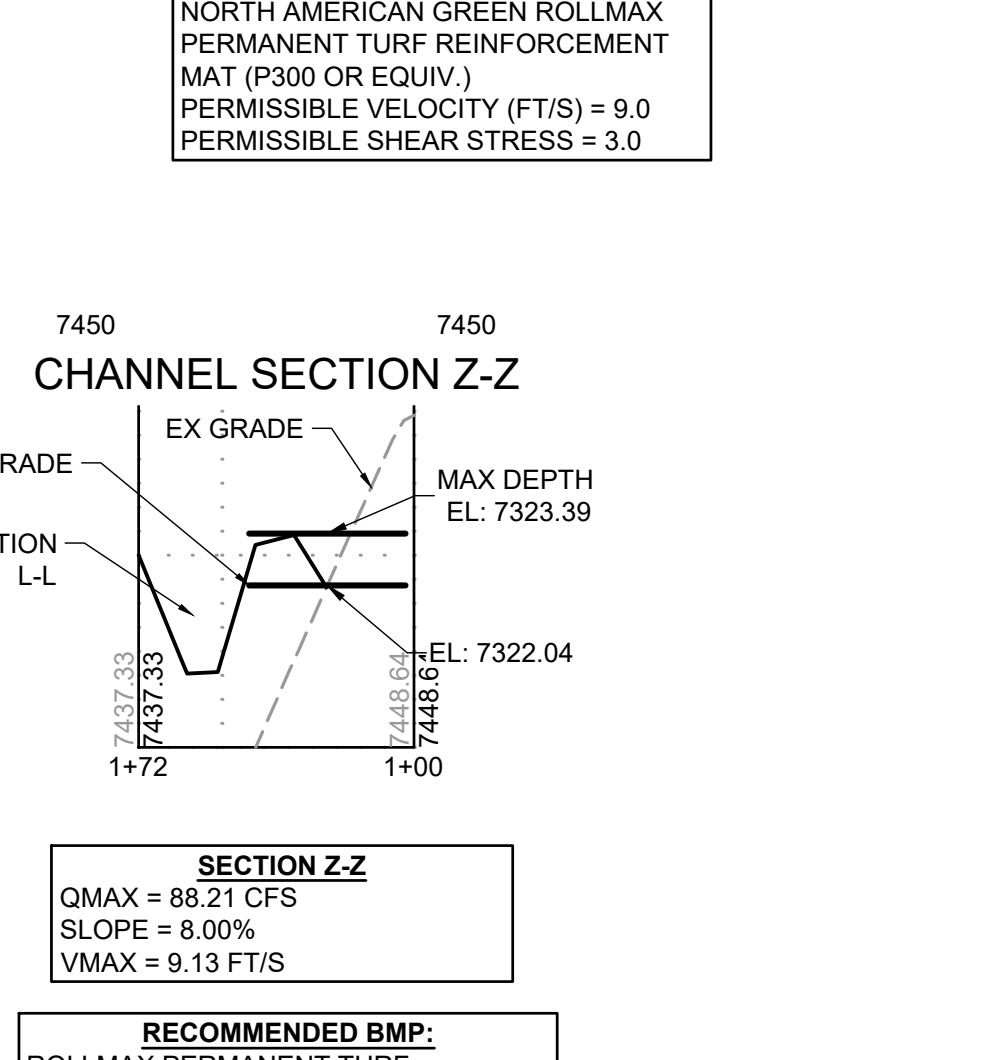
**SECTION X-X**  
Q5 = 1.68 CFS  
Q100 = 7.6 CFS  
SLOPE = 6.70%  
V5 = 0.27 FT/S  
V100 = 4.05 FT/S

**RECOMMENDED BMP:**  
NORTH AMERICAN GREEN ROLLMAX PERMANENT TURF REINFORCEMENT MAT (P300 OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 9.0  
PERMISSIBLE SHEAR STRESS = 3.0



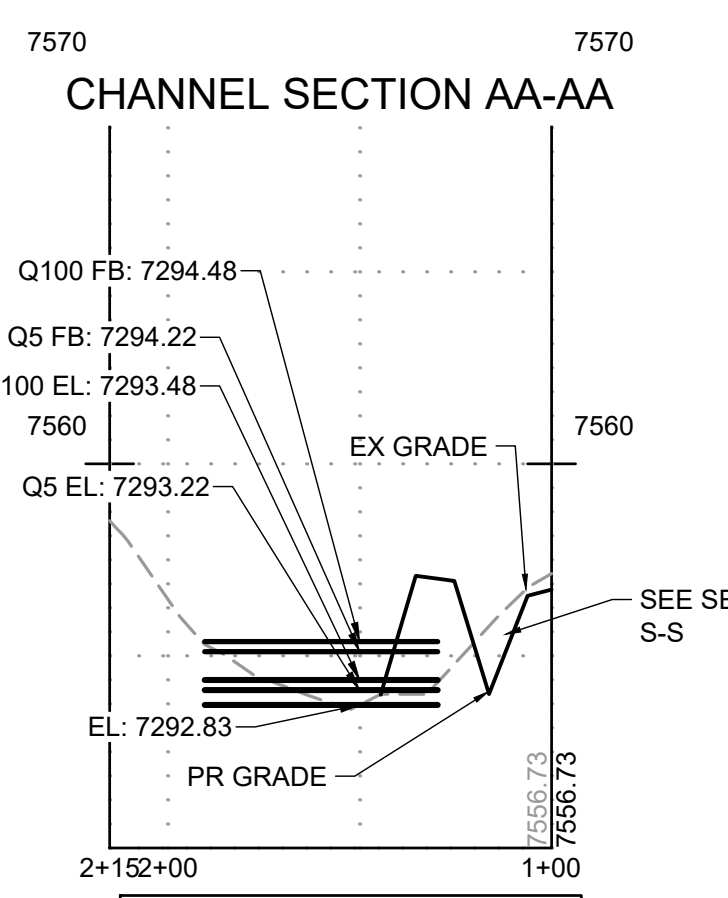
**SECTION Y-Y**  
Q5 = 8.3 CFS  
Q100 = 39.7 CFS  
SLOPE = 5.70%  
V5 = 1.76 FT/S  
V100 = 3.38 FT/S

**RECOMMENDED BMP:**  
NORTH AMERICAN GREEN ROLLMAX PERMANENT TURF REINFORCEMENT MAT (P300 OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 9.0  
PERMISSIBLE SHEAR STRESS = 3.0



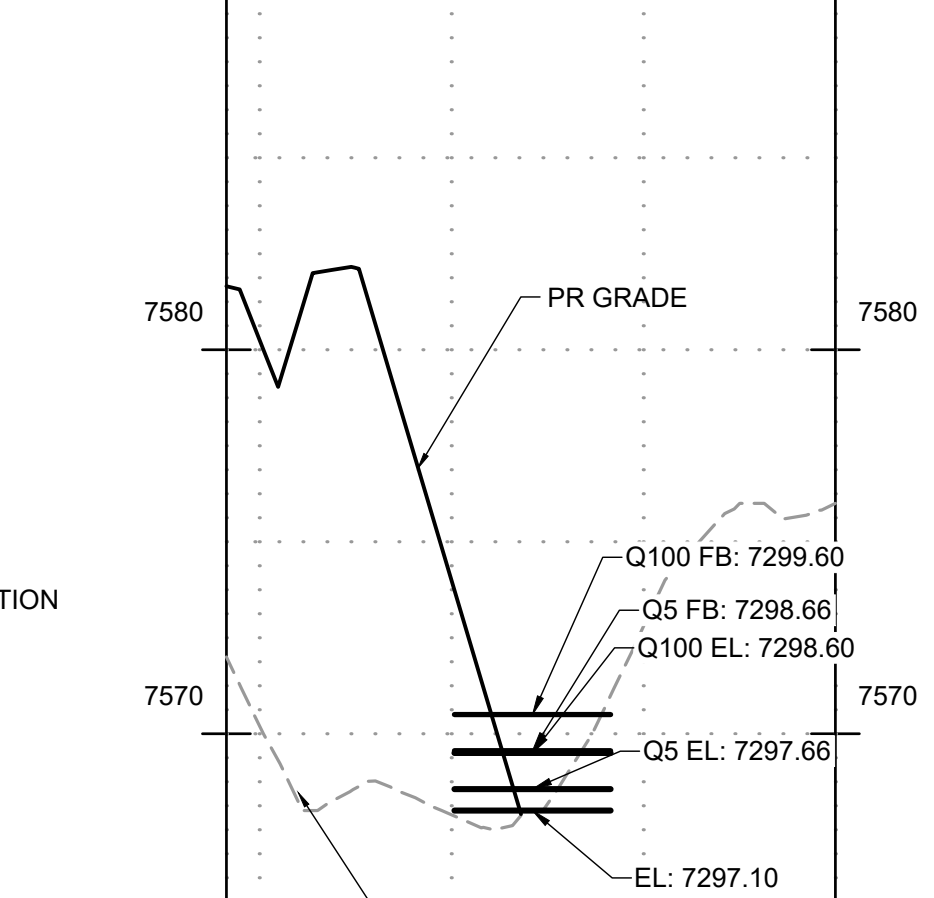
**SECTION Z-Z**  
QMAX = 88.21 CFS  
SLOPE = 8.00%  
VMAX = 9.13 FT/S

**RECOMMENDED BMP:**  
ROLLMAX PERMANENT TURF REINFORCEMENT MAT (TMAX HPTRM OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 25.0  
PERMISSIBLE SHEAR STRESS = 15.0



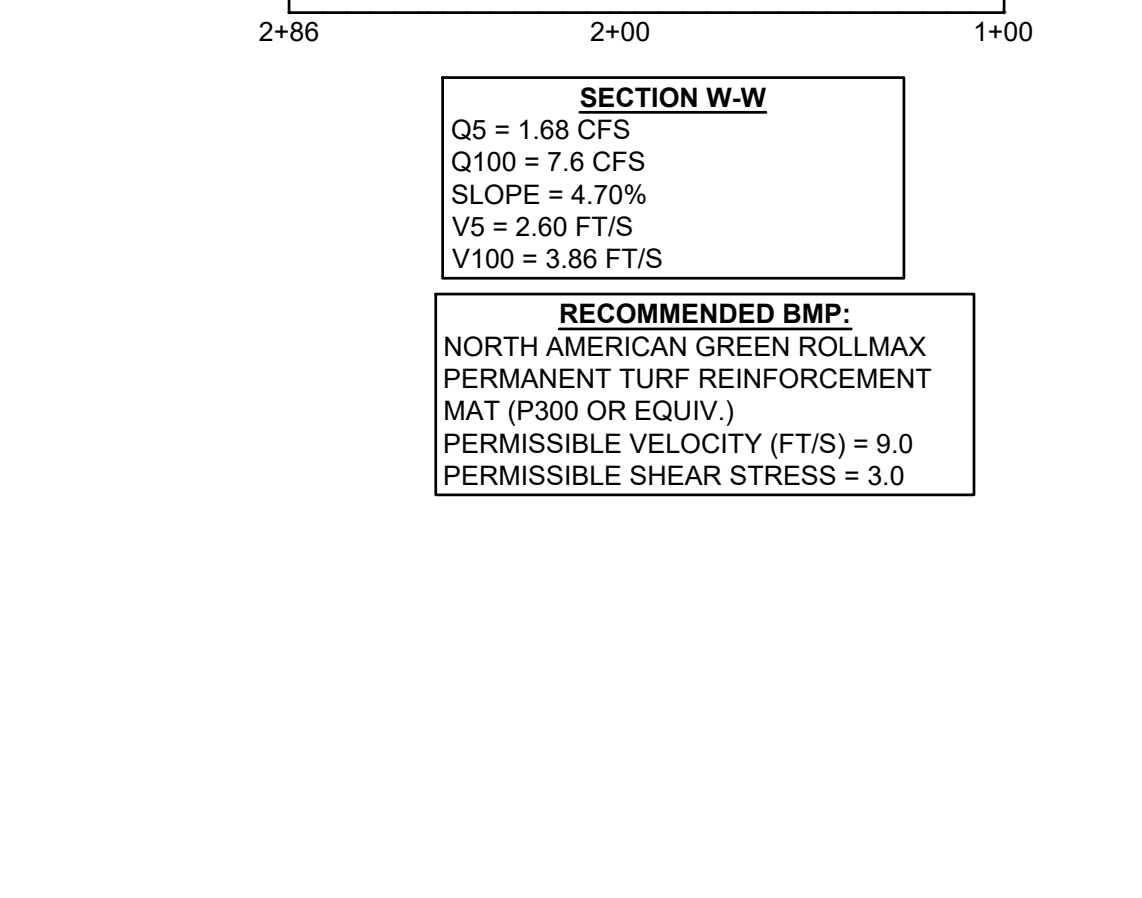
**SECTION AA-AA**  
Q5 = 5.0 CFS  
Q100 = 20.4 CFS  
SLOPE = 6.00%  
V5 = 3.29 FT/S  
V100 = 4.83 FT/S

**RECOMMENDED BMP:**  
ROLLMAX PERMANENT TURF REINFORCEMENT MAT (TMAX HPTRM OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 25.0  
PERMISSIBLE SHEAR STRESS = 15.0



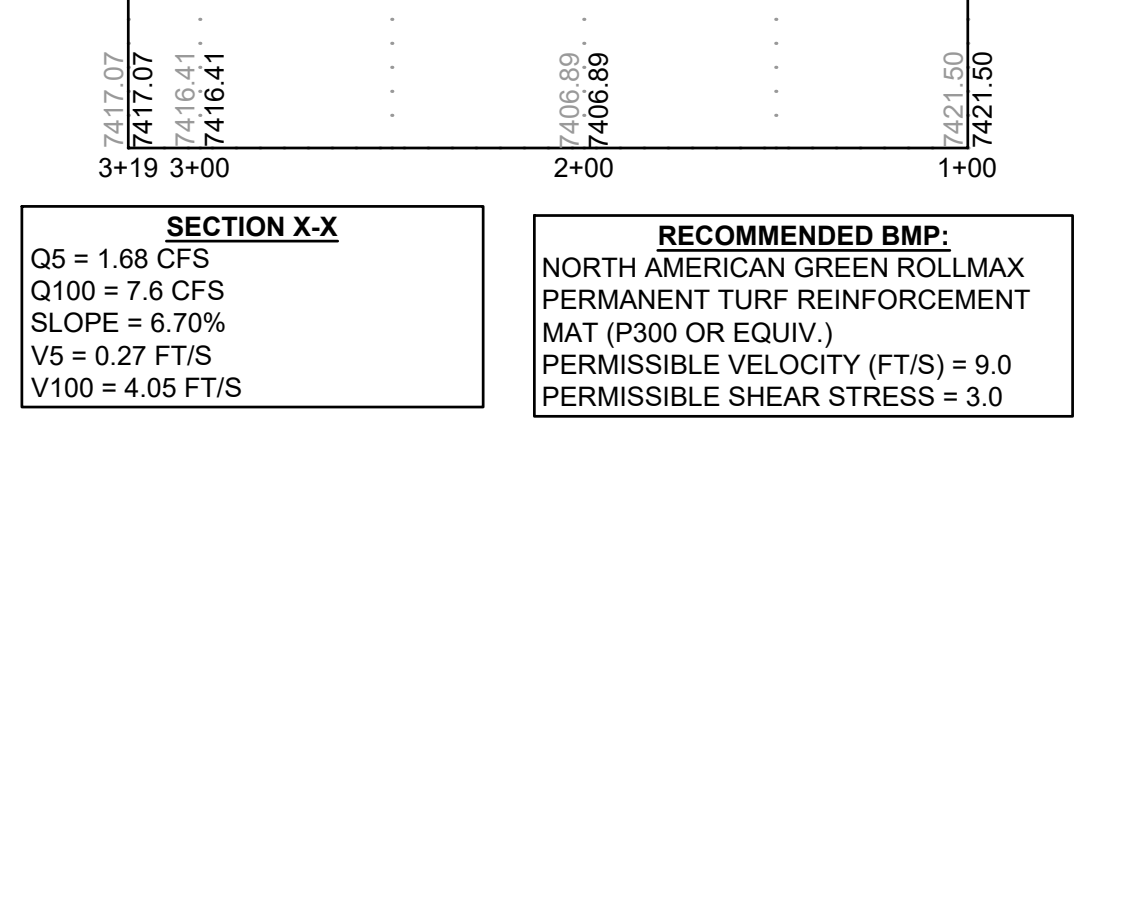
**SECTION BB-BB**  
Q5 = 8.5 CFS  
Q100 = 34.3 CFS  
SLOPE = 9.50%  
V5 = 5.42 FT/S  
V100 = 7.76 FT/S

**RECOMMENDED BMP:**  
NORTH AMERICAN GREEN ROLLMAX PERMANENT TURF REINFORCEMENT MAT (P300 OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 9.0  
PERMISSIBLE SHEAR STRESS = 3.0



**SECTION CC-CC**  
Q5 = 8.5 CFS  
Q100 = 34.3 CFS  
SLOPE = 4.00%  
V5 = 0.39 FT/S  
V100 = 3.90 FT/S

**RECOMMENDED BMP:**  
NORTH AMERICAN GREEN ROLLMAX PERMANENT TURF REINFORCEMENT MAT (P300 OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 9.0  
PERMISSIBLE SHEAR STRESS = 3.0



**SECTION DD-DD**  
Q5 = 29.7 CFS  
Q100 = 114.0 CFS  
SLOPE = 5.20%  
V5 = 4.66 FT/S  
V100 = 6.63 FT/S

**RECOMMENDED BMP:**  
ROLLMAX PERMANENT TURF REINFORCEMENT MAT (TMAX HPTRM OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 25.0  
PERMISSIBLE SHEAR STRESS = 15.0

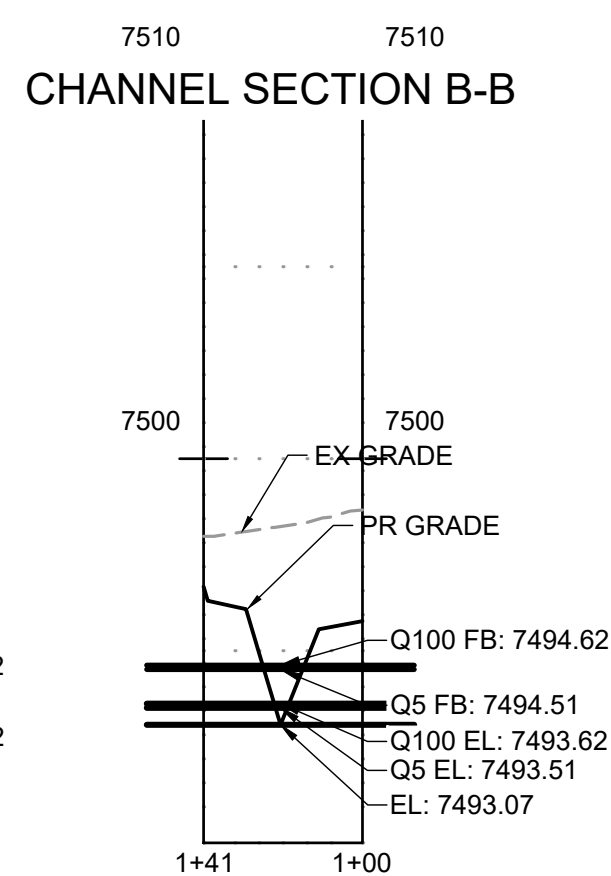
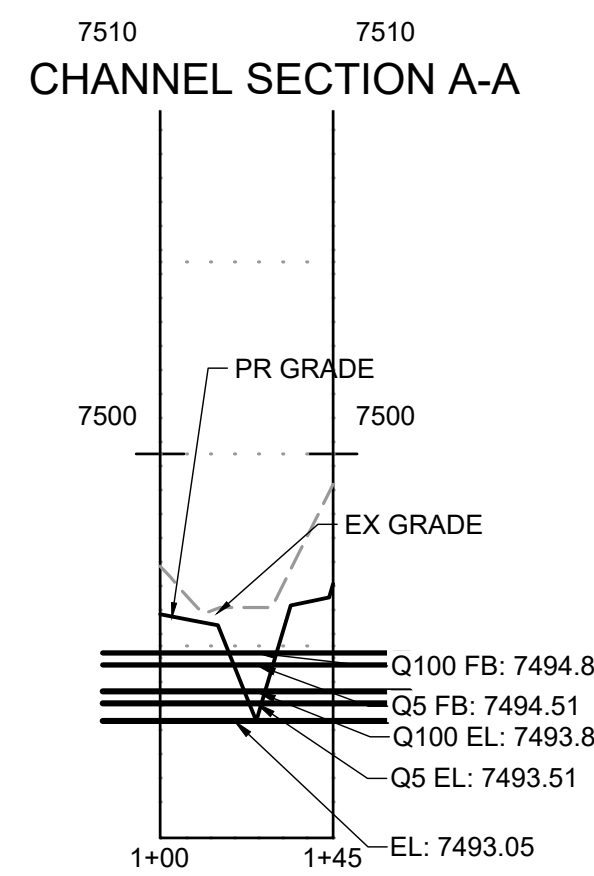
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APPROVED: RDL JOB NUMBER: 211030 0  
CAD DATE: 3/4/2024 IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY.  
CAD FILE: J:\2021\211030\CAD\Drawings\Channel\_Sections

NO.	DATE	BY	REVISION DESCRIPTION

**HRGreen**  
1975 RESEARCH PARKWAY SUITE 230  
COLORADO SPRINGS, CO 80920  
PHONE: 719.300.4140  
FAX: 719.965.0044

**FLYING HORSE NORTH PHASE 2 PUD**  
PRI #2, LLC.  
EL PASO COUNTY, CO

DETAILS  
CHANNEL SECTIONS

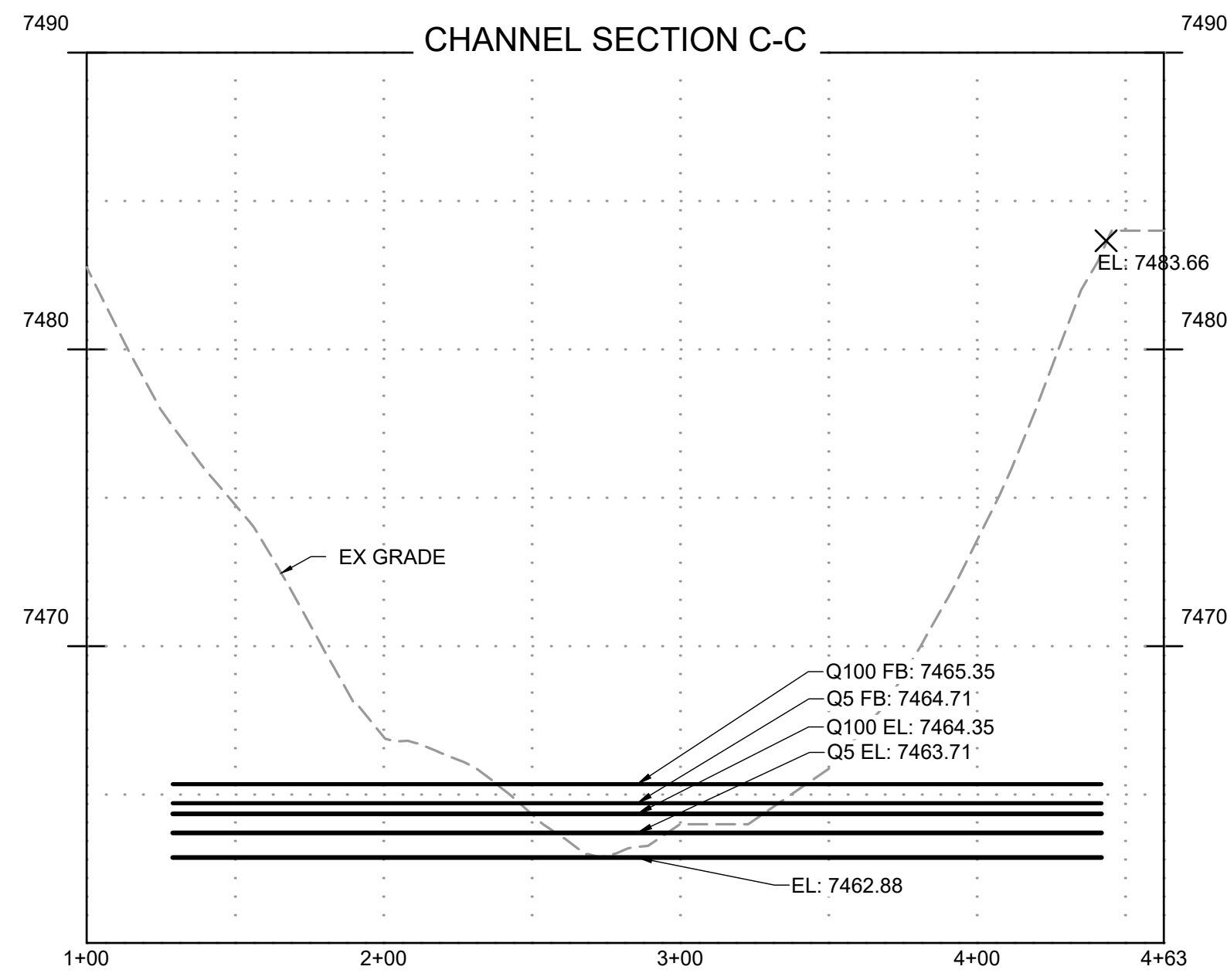


**SECTION A-A**  
Q5 = 2.5 CFS  
Q100 = 10.1 CFS  
SLOPE = 5.15%  
V5 = 3.38 FT/S  
V100 = 4.87 FT/S

**SECTION B-B**  
Q5 = 2.3 CFS  
Q100 = 4.1 CFS  
SLOPE = 5.15%  
V5 = 3.39 FT/S  
V100 = 3.87 FT/S

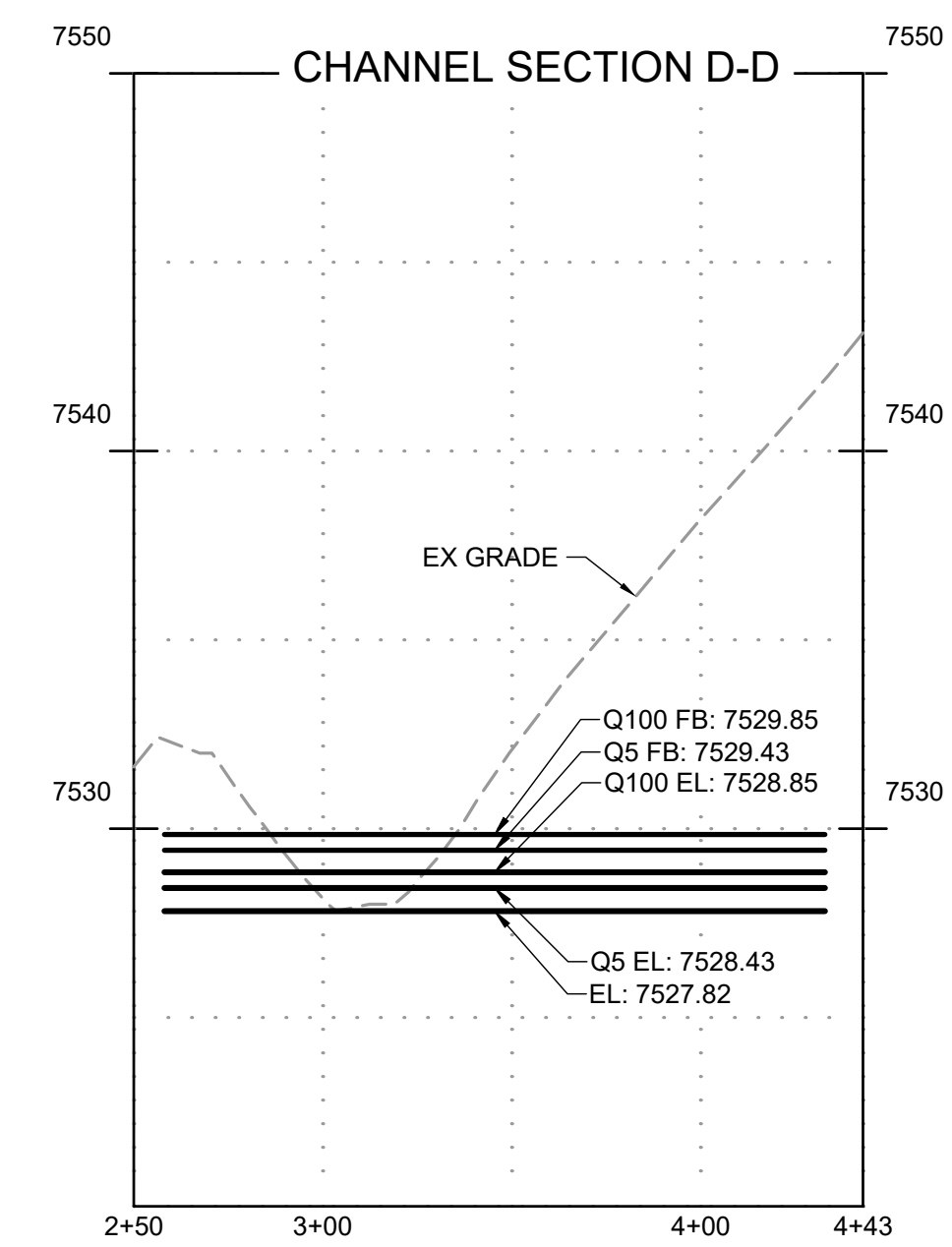
**RECOMMENDED BMP:**  
NORTH AMERICAN GREEN ROLLMAX PERMANENT TURF REINFORCEMENT MAT (P300 OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 9.0  
PERMISSIBLE SHEAR STRESS = 3.0

**RECOMMENDED BMP:**  
NORTH AMERICAN GREEN ROLLMAX PERMANENT TURF REINFORCEMENT MAT (P300 OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 9.0  
PERMISSIBLE SHEAR STRESS = 3.0



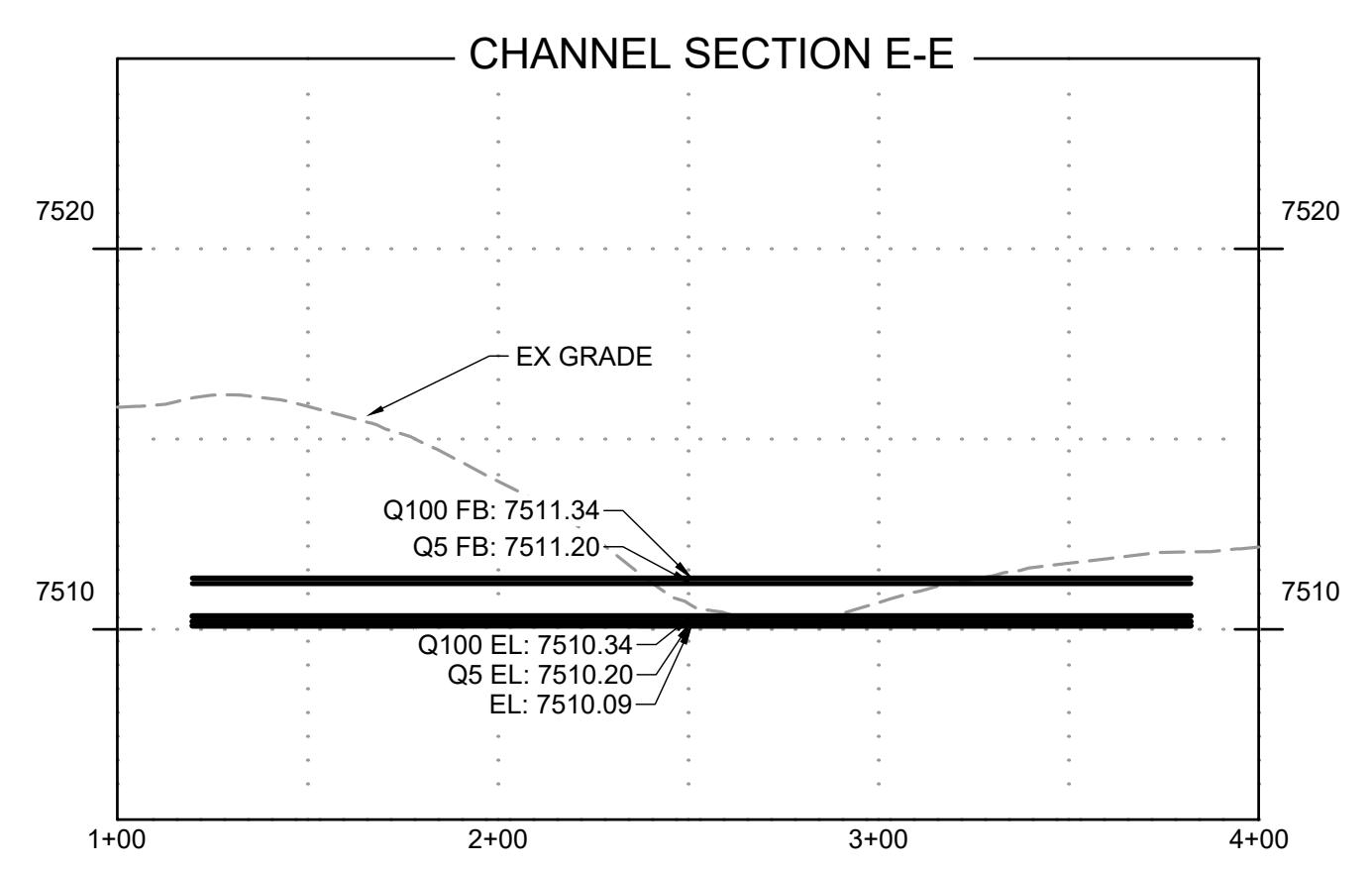
**SECTION C-C**  
Q5 = 30.6 CFS  
Q100 = 140.2 CFS  
SLOPE = 4.40%  
V5 = 4.92 FT/S  
V100 = 7.21 FT/S

**RECOMMENDED BMP:**  
ROLLMAX PERMANENT TURF REINFORCEMENT MAT (TMAX HPTRM OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 25.0  
PERMISSIBLE SHEAR STRESS = 15.0



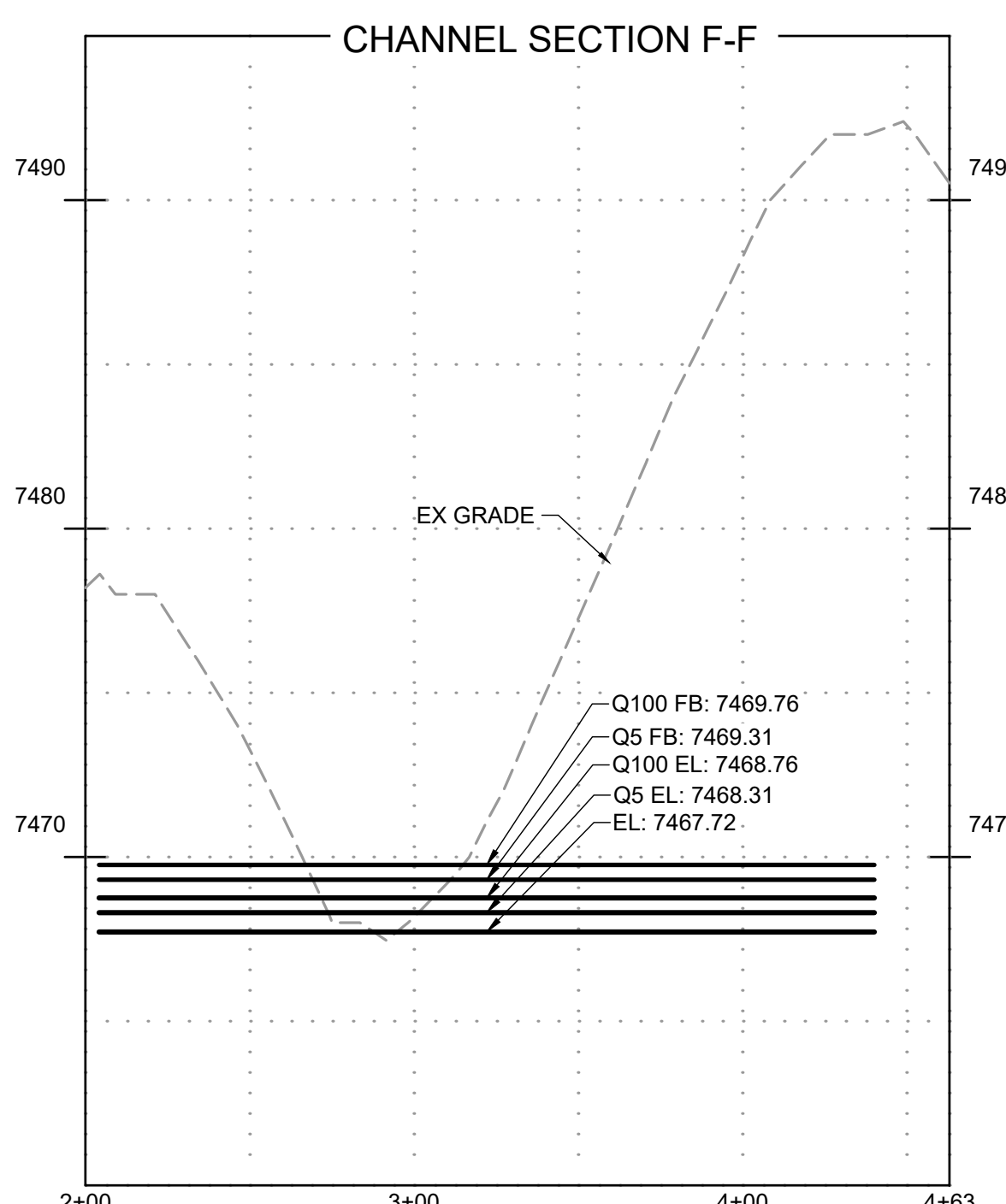
**SECTION D-D**  
Q5 = 8.50 CFS  
Q100 = 34.3 CFS  
SLOPE = 5.80%  
V5 = 4.57 FT/S  
V100 = 6.47 FT/S

**RECOMMENDED BMP:**  
ROLLMAX PERMANENT TURF REINFORCEMENT MAT (TMAX HPTRM OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 25.0  
PERMISSIBLE SHEAR STRESS = 15.0



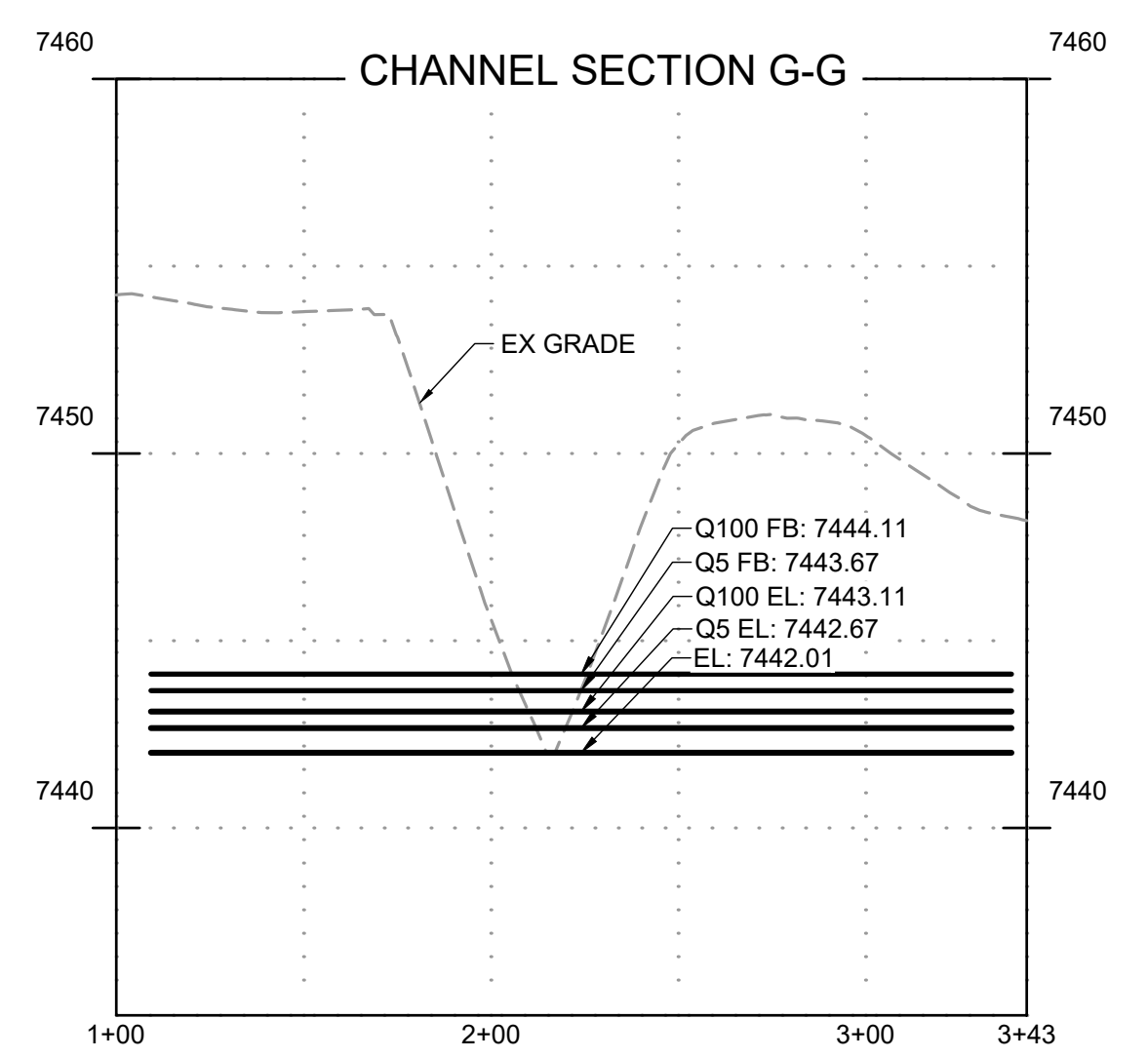
**SECTION E-E**  
Q5 = 9.0 CFS  
Q100 = 41.0 CFS  
SLOPE = 5.00%  
V5 = 1.85 FT/S  
V100 = 3.29 FT/S

**RECOMMENDED BMP:**  
NORTH AMERICAN GREEN ROLLMAX PERMANENT TURF REINFORCEMENT MAT (P300 OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 9.0  
PERMISSIBLE SHEAR STRESS = 3.0



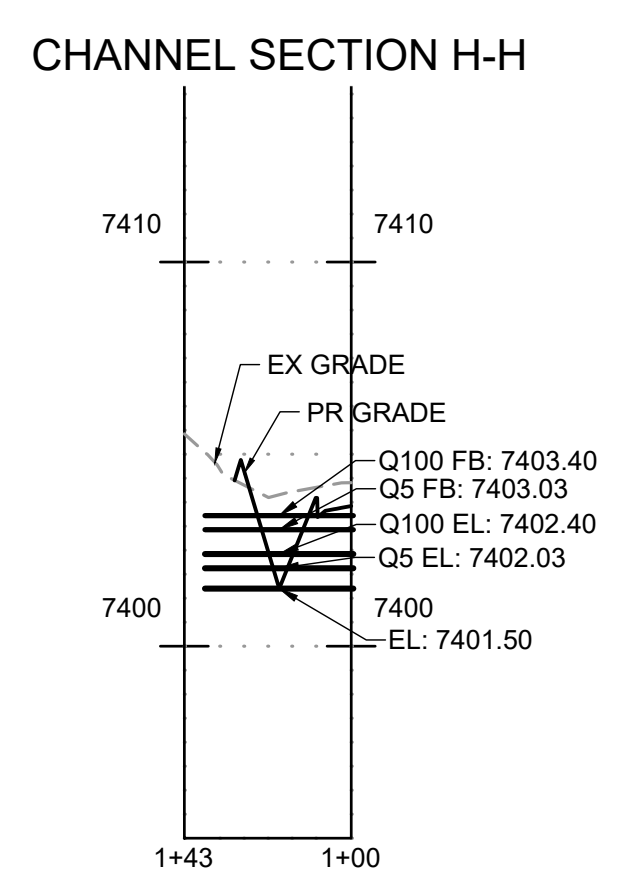
**SECTION F-F**  
Q5 = 9.0 CFS  
Q100 = 41.0 CFS  
SLOPE = 5.40%  
V5 = 4.31 FT/S  
V100 = 6.32 FT/S

**RECOMMENDED BMP:**  
ROLLMAX PERMANENT TURF REINFORCEMENT MAT (TMAX HPTRM OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 25.0  
PERMISSIBLE SHEAR STRESS = 15.0



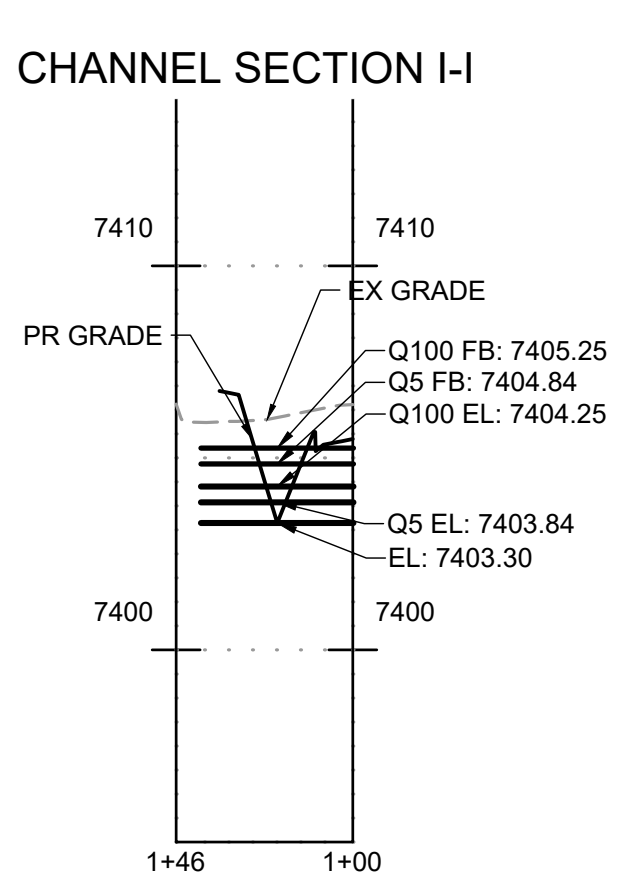
**SECTION G-G**  
Q5 = 10.3 CFS  
Q100 = 40.90 CFS  
SLOPE = 9.4%  
V5 = 5.91 FT/S  
V100 = 8.45 FT/S

**RECOMMENDED BMP:**  
ROLLMAX PERMANENT TURF REINFORCEMENT MAT (TMAX HPTRM OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 25.0  
PERMISSIBLE SHEAR STRESS = 15.0



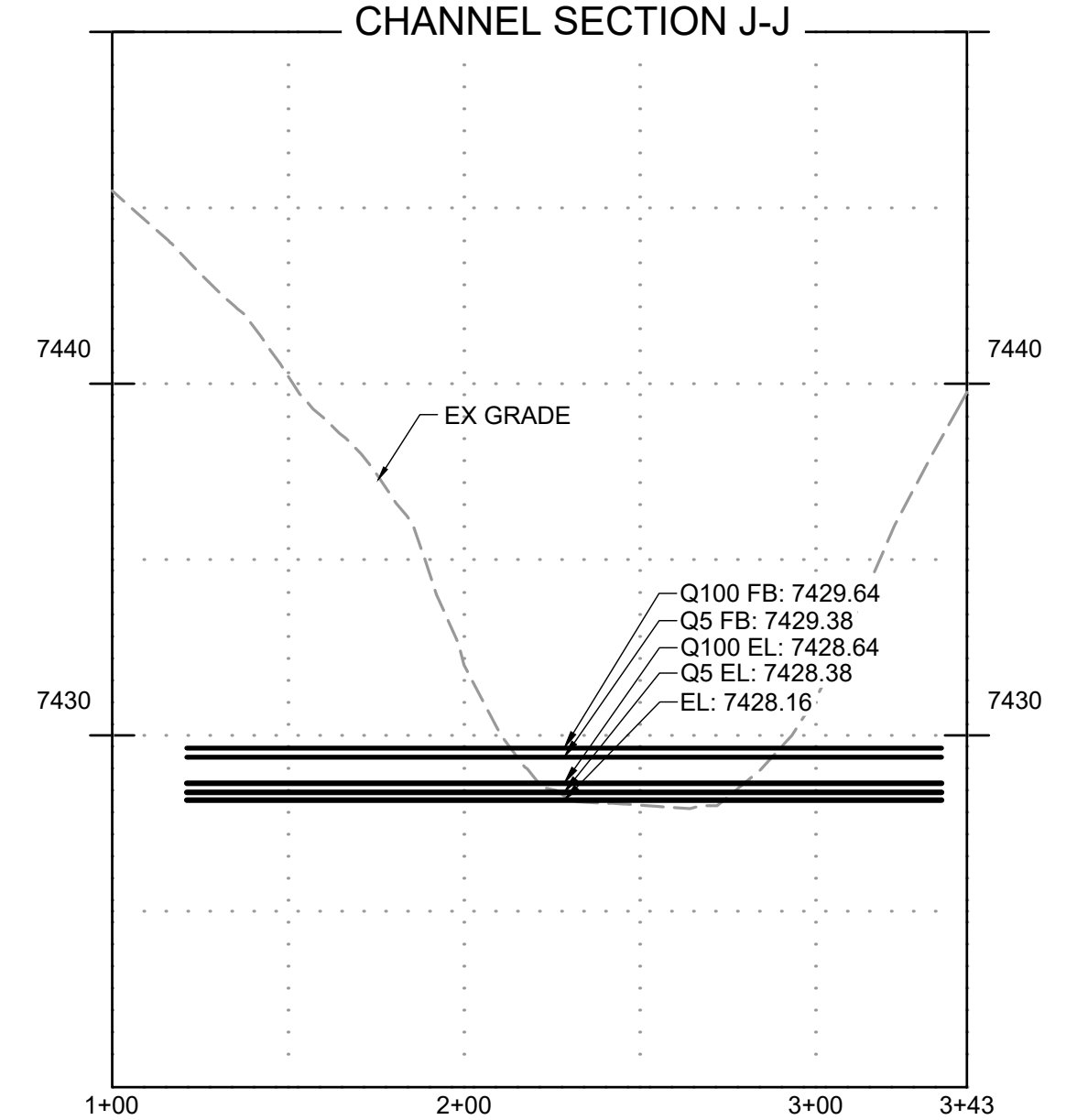
**SECTION H-H**  
Q5 = 4.1 CFS  
Q100 = 17.1 CFS  
SLOPE = 4.21%  
V5 = 3.61 FT/S  
V100 = 5.19 FT/S

**RECOMMENDED BMP:**  
NORTH AMERICAN GREEN ROLLMAX PERMANENT TURF REINFORCEMENT MAT (P300 OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 9.0  
PERMISSIBLE SHEAR STRESS = 3.0



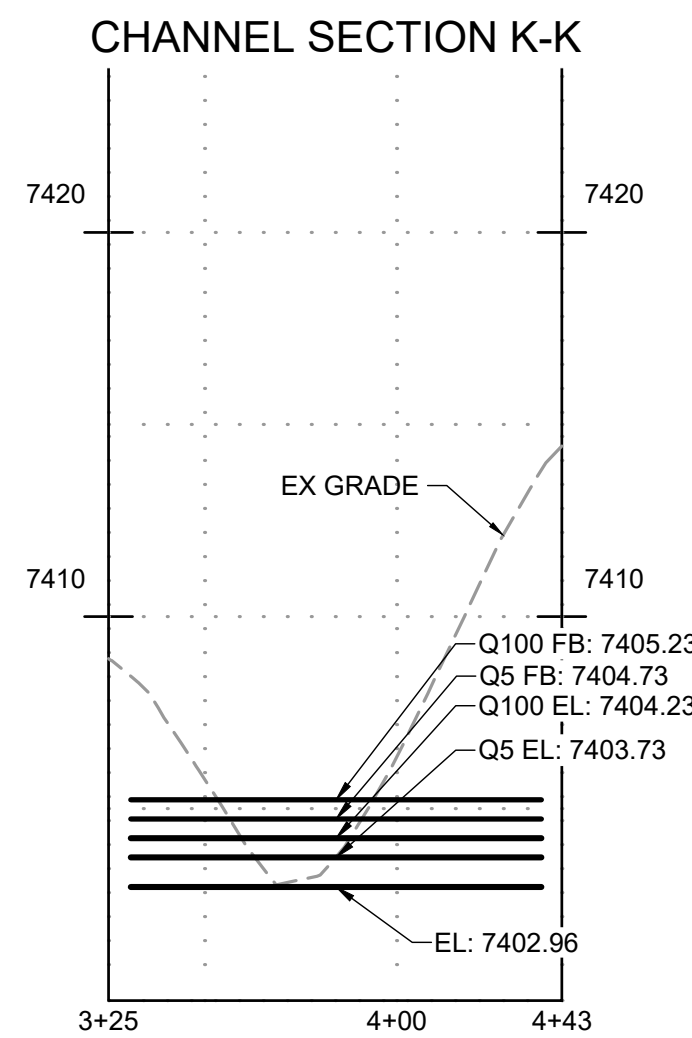
**SECTION I-I**  
Q5 = 4.3 CFS  
Q100 = 19.6 CFS  
SLOPE = 4.21%  
V5 = 3.65 FT/S  
V100 = 5.38 FT/S

**RECOMMENDED BMP:**  
NORTH AMERICAN GREEN ROLLMAX PERMANENT TURF REINFORCEMENT MAT (P300 OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 9.0  
PERMISSIBLE SHEAR STRESS = 3.0



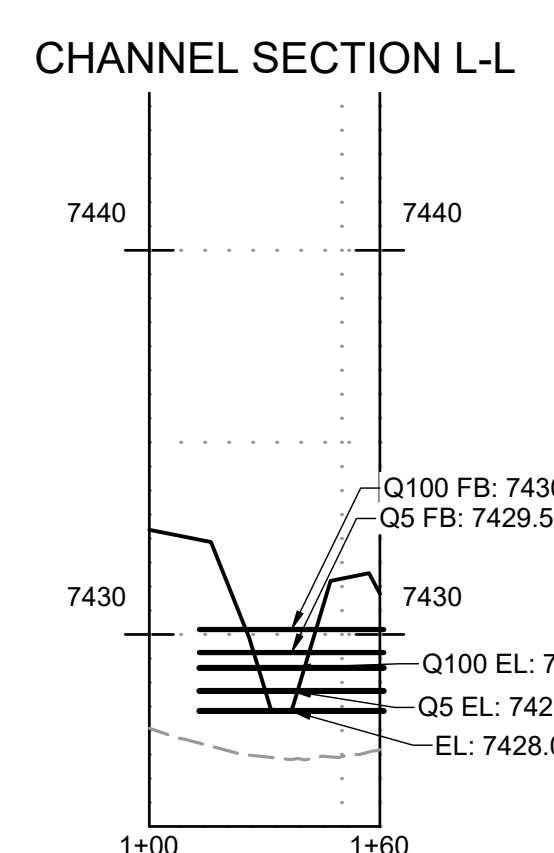
**SECTION J-J**  
Q5 = 29.7 CFS  
Q100 = 114.0 CFS  
SLOPE = 5.00%  
V5 = 3.27 FT/S  
V100 = 5.54 FT/S

**RECOMMENDED BMP:**  
NORTH AMERICAN GREEN ROLLMAX PERMANENT TURF REINFORCEMENT MAT (P300 OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 9.0  
PERMISSIBLE SHEAR STRESS = 3.0



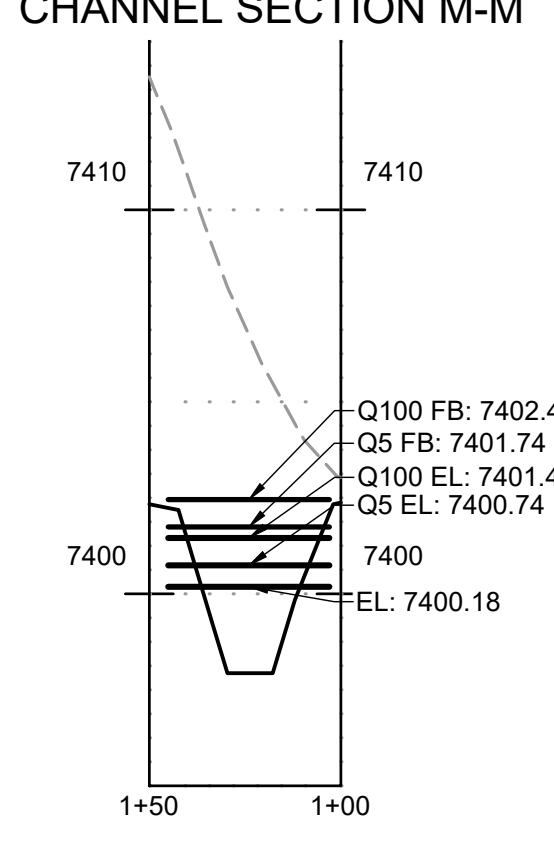
**SECTION K-K**  
Q5 = 29.7 CFS  
Q100 = 114.0 CFS  
SLOPE = 10.7%  
V5 = 7.16 FT/S  
V100 = 10.10 FT/S

**RECOMMENDED BMP:**  
ROLLMAX PERMANENT TURF REINFORCEMENT MAT (TMAX HPTRM OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 25.0  
PERMISSIBLE SHEAR STRESS = 15.0



**SECTION L-L**  
Q5 = 29.7 CFS  
Q100 = 114.0 CFS  
SLOPE = 3.00%  
V5 = 4.35 FT/S  
V100 = 6.91 FT/S

**RECOMMENDED BMP:**  
NORTH AMERICAN GREEN ROLLMAX PERMANENT TURF REINFORCEMENT MAT (P300 OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 9.0  
PERMISSIBLE SHEAR STRESS = 3.0



**SECTION M-M**  
Q5 = 36.9 CFS  
Q100 = 157.3 CFS  
SLOPE = 3.00%  
V5 = 4.49 FT/S  
V100 = 7.37 FT/S

**RECOMMENDED BMP:**  
NORTH AMERICAN GREEN ROLLMAX PERMANENT TURF REINFORCEMENT MAT (P300 OR EQUIV.)  
PERMISSIBLE VELOCITY (FT/S) = 9.0  
PERMISSIBLE SHEAR STRESS = 3.0

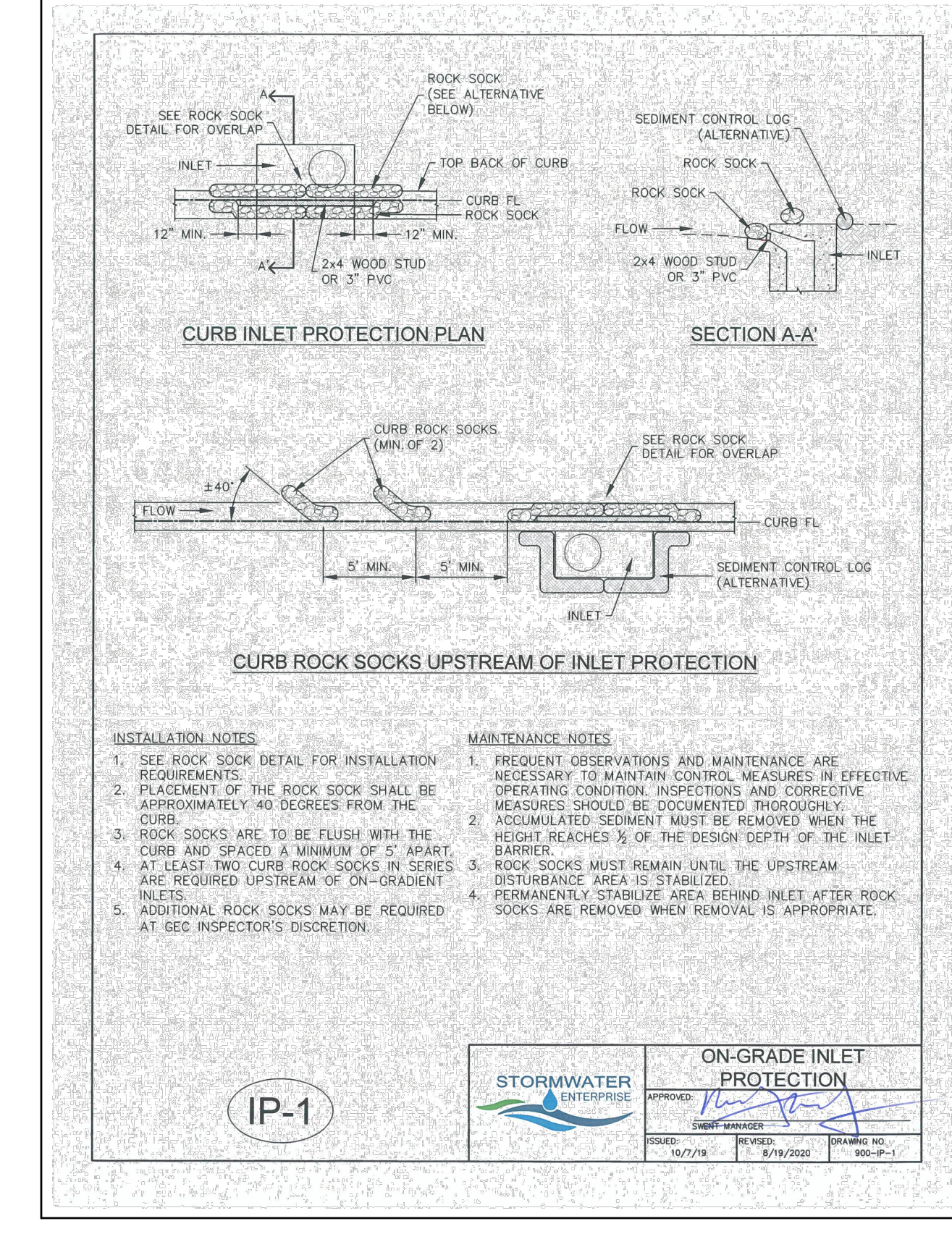
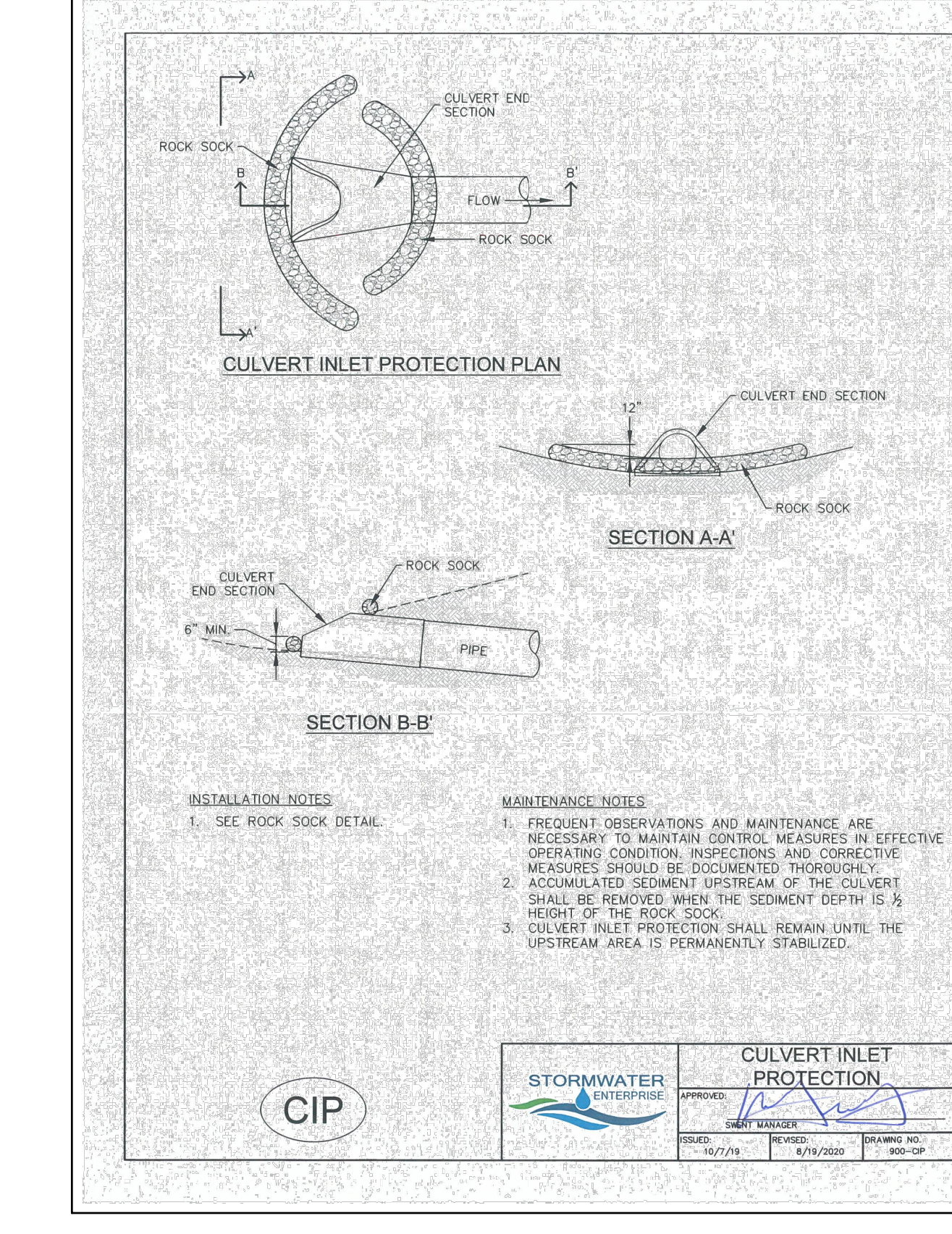
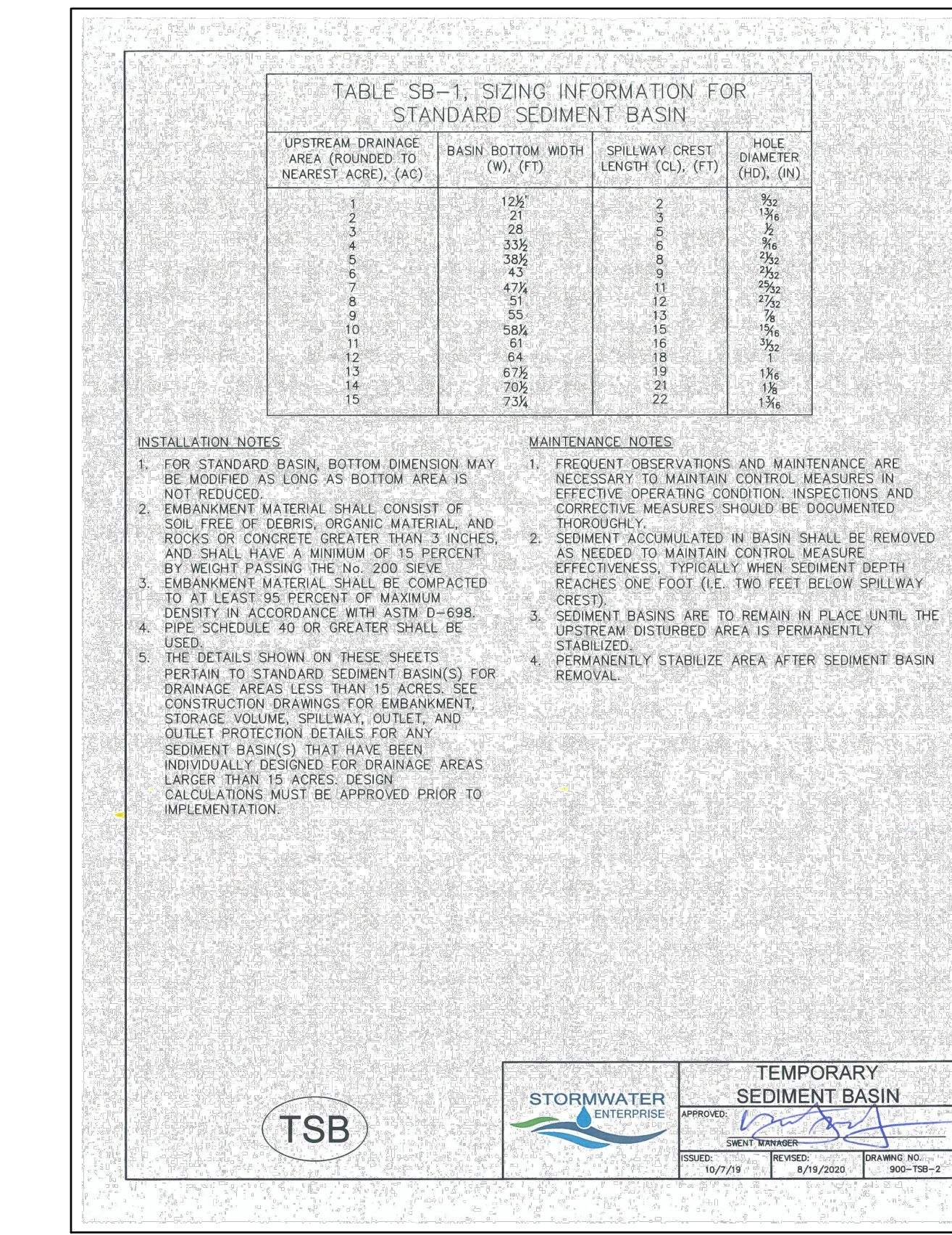
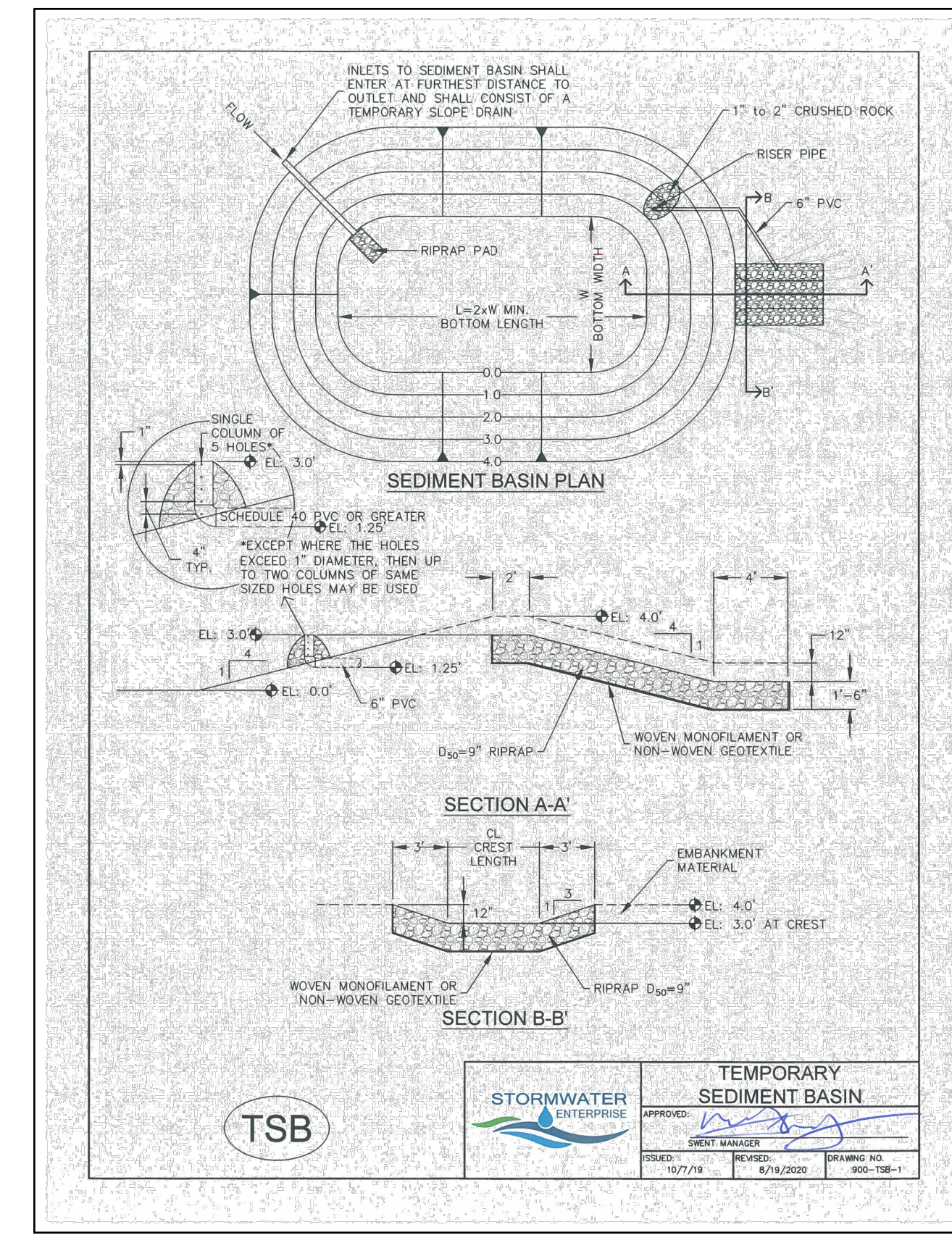
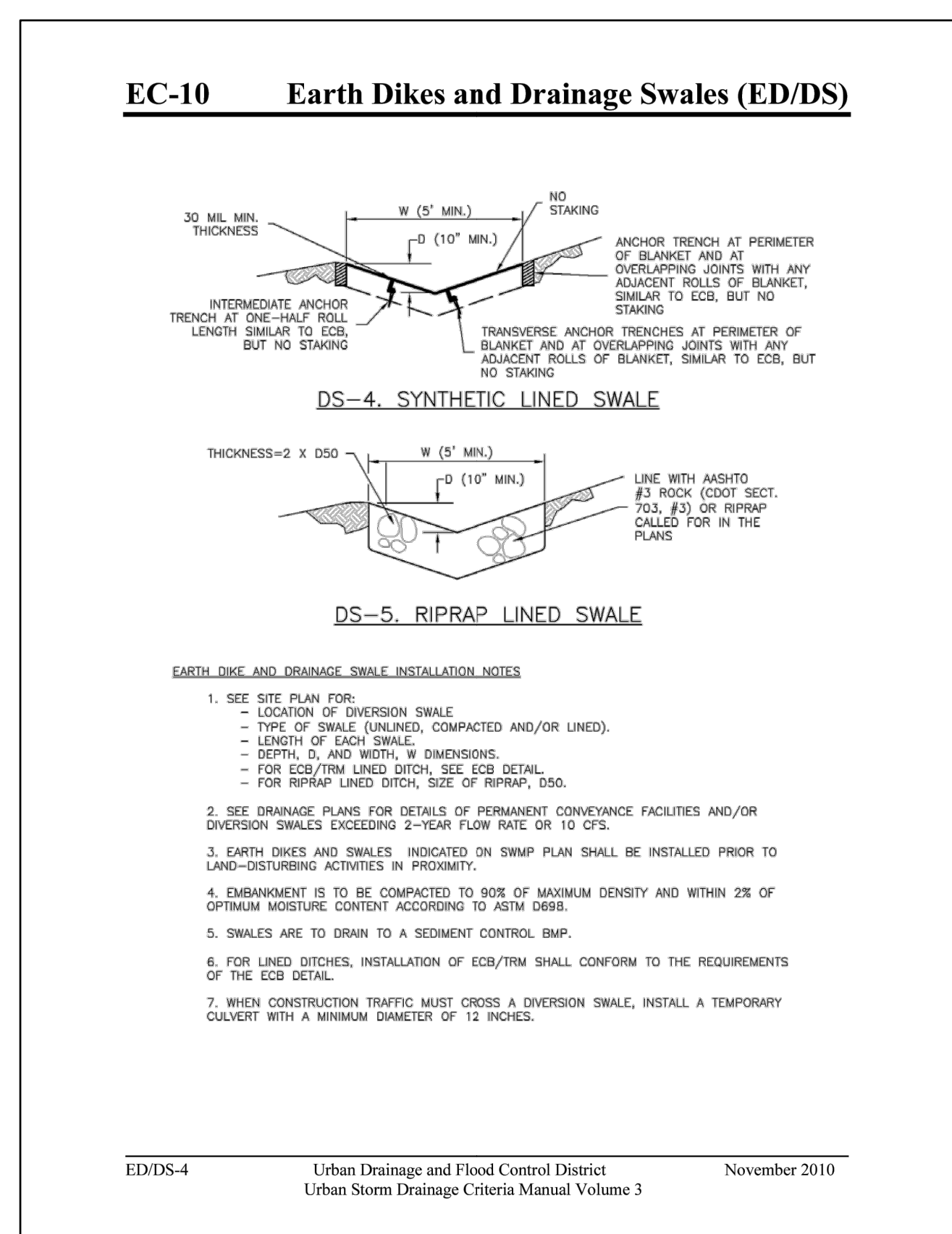
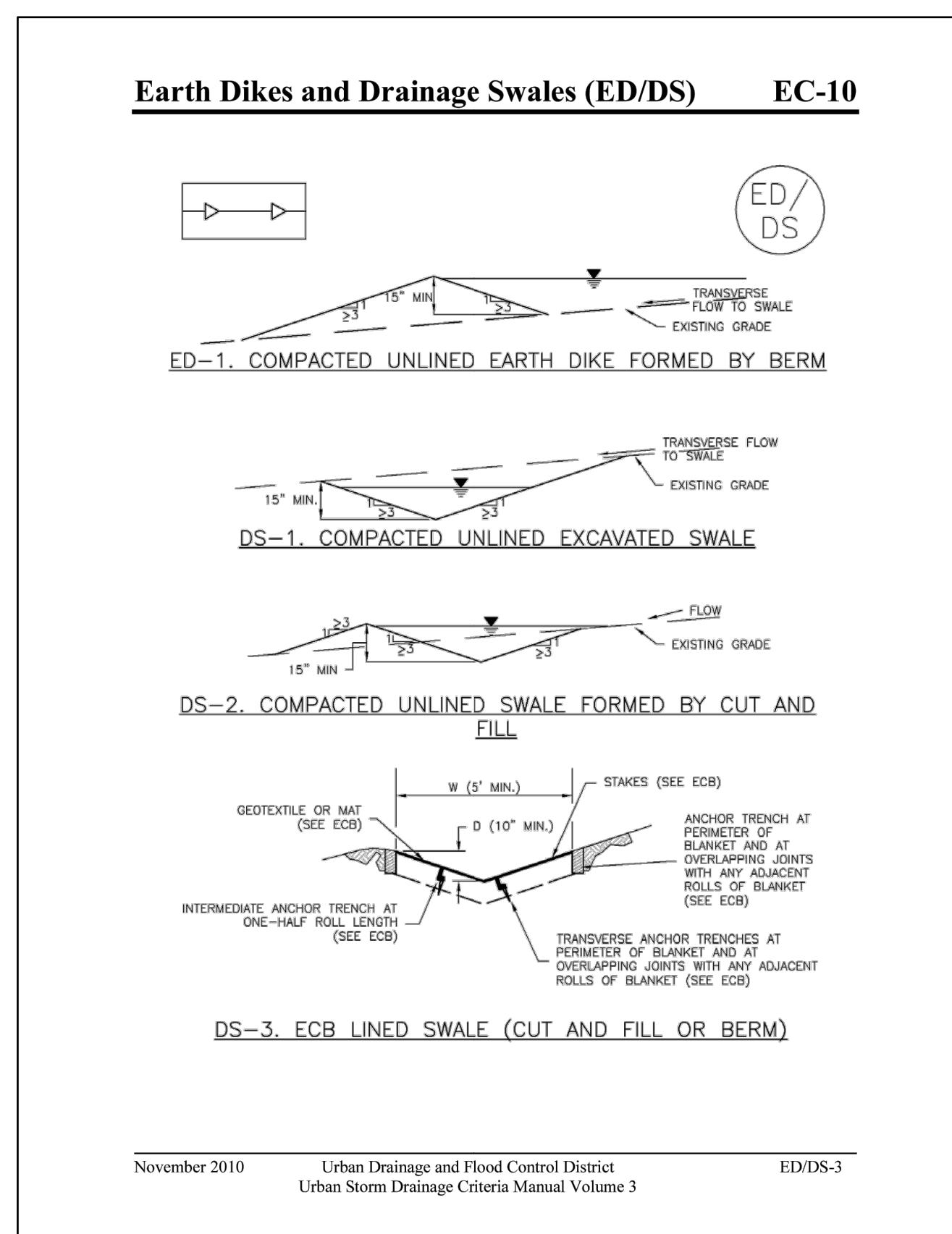
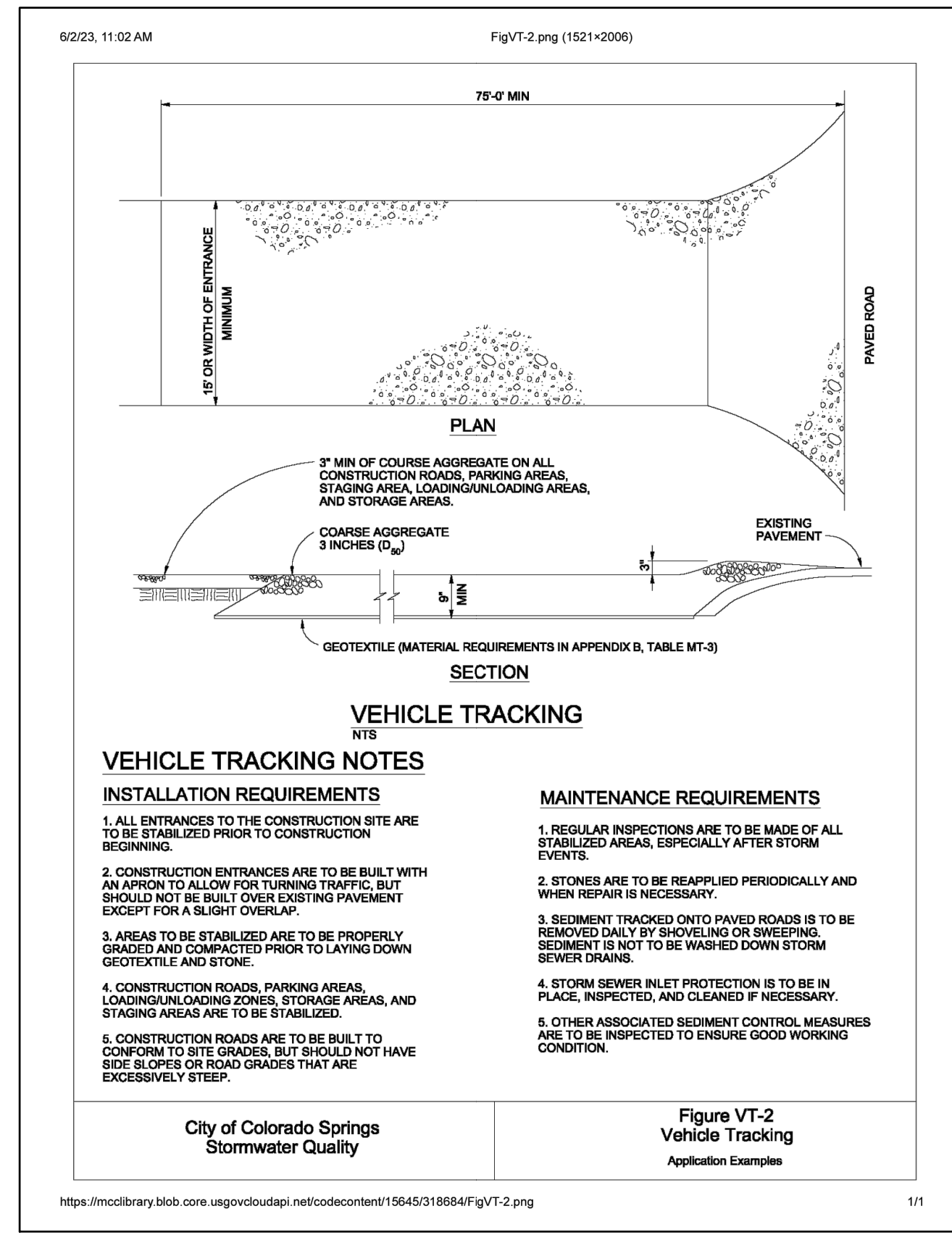
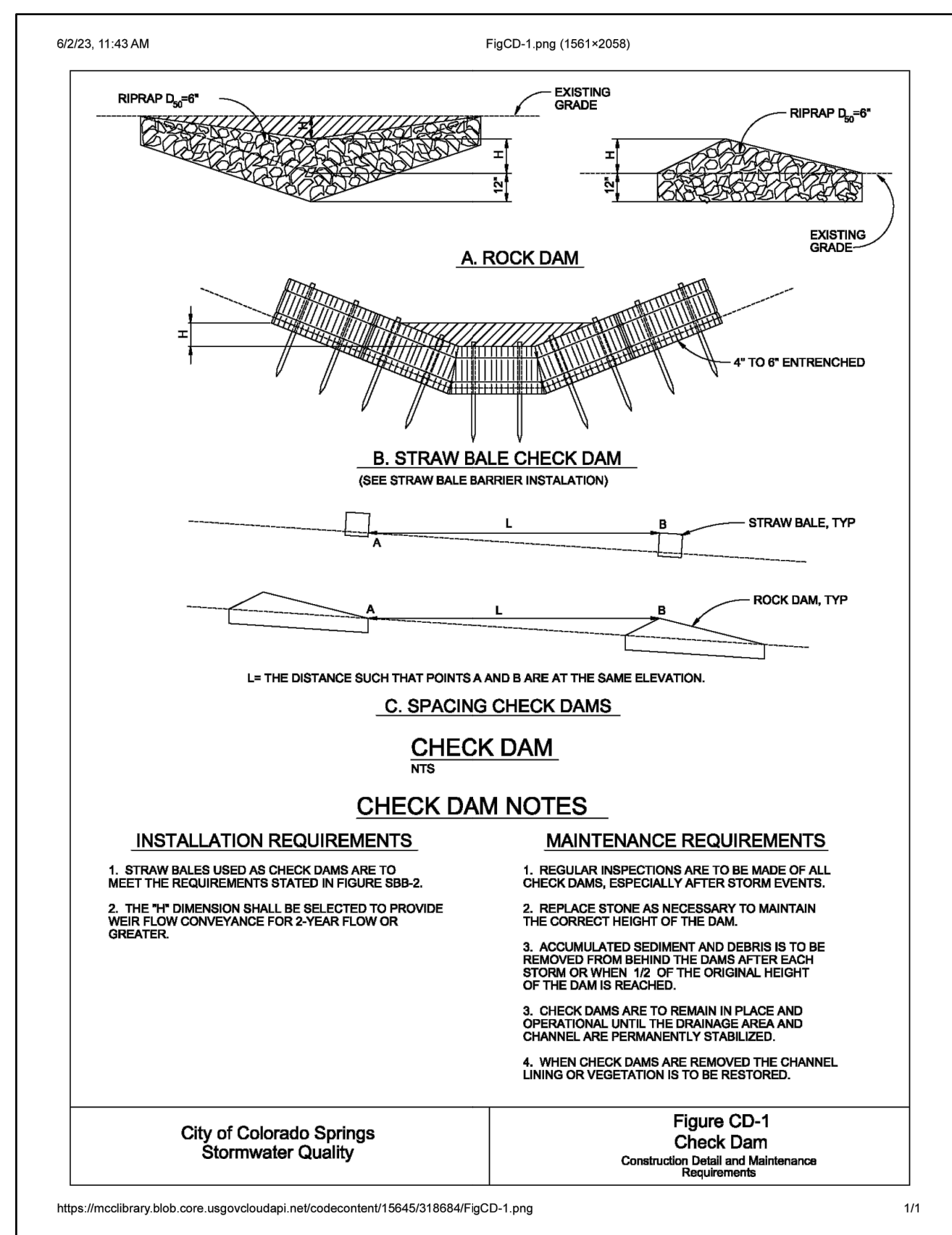
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APPROVED: RDL JOB NUMBER: 211030  
CAD DATE: 3/4/2024  
CAD FILE: J:\2021\211030\CAD\Drawings\C\Drainage\Estates\Channel\_Sections

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

HR GREEN - COLORADO SPRINGS  
1975 RESEARCH PARKWAY SUITE 230  
COLORADO SPRINGS, CO 80920  
PHONE: 719.300.4140  
FAX: 713.965.0044

FLYING HORSE NORTH PHASE 2 PUD  
PRI #2, LLC.  
EL PASO COUNTY, CO

DETAILS  
CHANNEL SECTIONS



Unresolved from Submittal 1: Provide SSA typical detail. **added.**

NO.	DATE	BY	REVISION DESCRIPTION

**EROSION CONTROL BLANKET**

STAKING PATTERN PER MANUFACTURER SPECIFICATION OR 18" O.C.

16" O.C.

OVERLAPPING JOINT

36"

6" OVERLAP

6"x6" TRENCH (TYPICAL)

KEY IN EDGES

PERIMETER ANCHOR TRENCH

JOINT ANCHOR TRENCH

INTERMEDIATE CHECK SLOT

OVERLAPPING JOINT

STAPLE CHECK TO BE USED ON SLOPE EVERY 15 FEET

ECB

STORMWATER ENTERPRISE

EROSION CONTROL BLANKET

APPROVED: [Signature]

ISSUED: 10/7/19 REVISED: 8/19/2020 DRAWING NO. 900-ECB-1

**INSTALLATION NOTES**

- 100% NATURAL AND BIODEGRADABLE MATERIALS ARE REQUIRED FOR EROSION CONTROL BLANKETS. TRM PRODUCTS MAY BE USED WHERE APPROPRIATE AS DESIGNATED BY THE ENGINEER.
- IN AREAS WHERE EROSION CONTROL BLANKETS ARE SHOWN ON THE PLANS, THE PERMITTEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOST PRIOR TO EROSION CONTROL BLANKET INSTALLATION, AND THE EROSION CONTROL BLANKET SHALL BE IN FULL CONTACT WITH THE SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.
- PERIMETER ANCHOR TRENCH SHALL BE USED ALONG THE OUTSIDE PERIMETER OF ALL BLANKET AREAS.
- JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF EROSION CONTROL BLANKETS TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL EROSION CONTROL BLANKETS.
- INTERMEDIATE CHECK SLOT OR STAPLE CHECK SHALL BE INSTALLED EVERY 15' DOWN SLOPES. IN DRAINAGEWAYS, INSTALL CHECK SLOTS EVERY 25' PERPENDICULAR TO FLOW DIRECTION.
- OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF EROSION CONTROL BLANKETS TOGETHER FOR EROSION CONTROL BLANKETS ON SLOPES.
- MATERIAL SPECIFICATIONS OF EROSION CONTROL BLANKETS SHALL CONFORM TO TABLE ECB-1.
- ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING EROSION CONTROL BLANKETS SHALL BE RESEEDED AND MULCHED.
- STRAW EROSION CONTROL BLANKETS SHALL NOT BE USED WITHIN STREAMS AND DRAINAGE CHANNELS.
- COMPACT ALL TRENCHES.

**MAINTENANCE NOTES**

- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- EROSION CONTROL BLANKETS SHALL BE LEFT IN PLACE TO EVENTUALLY BIODEGRADE. TRM MUST BE REMOVED AT THE DISCRETION OF THE GEC INSPECTOR.
- ANY EROSION CONTROL BLANKET PULLED OUT, TORN, OR OTHERWISE DAMAGED SHOULD BE REPAIRED OR REINSTALLED. ANY SUBGRADE AREAS BELOW GEOTEXTILE THAT HAVE ERODED TO CREATE A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEEDED AND MULCHED AND THE EROSION CONTROL BLANKET REINSTALLED.

TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSSOR CONTENT	RECOMMENDED NETTING
STRAW	-	100%	-	DOUBLE/NATURAL
STRAW-COCONUT	30% MIN.	70% MAX.	-	DOUBLE/NATURAL
COCONUT	100%	-	-	DOUBLE/NATURAL
EXCELSSOR	-	-	100%	DOUBLE/NATURAL

ECB

STORMWATER ENTERPRISE

EROSION CONTROL BLANKET

APPROVED: [Signature]

ISSUED: 10/7/19 REVISED: 8/19/2020 DRAWING NO. 900-ECB-2

**SILT FENCE**

10" MAX. SPACING

1/2" x 1/2" (RECOMMENDED) WOODEN FENCE POST WITH 10" MAX. SPACING

GEOTEXTILE

COMPACTED BACKFILL

FLOW

6"

36" - 48"

18" MIN.

4" MIN.

POSTS SHOULD OVERLAP SO THAT NO GAPS EXIST

JOIN FIRST THEN ROTATE

**J-HOOK INSTALLATION**

SECTION A-A'

**INSTALLATION NOTES**

- SILT FENCE MUST BE PLACED ON A FLAT SURFACE 2'-5' AWAY FROM TOE OF THE SLOPE TO ALLOW FOR PONDING AND DEPOSITION.
- COMPACT THE TRENCH USING A JUMPING JACK OR WHEEL ROLLING TO THE POINT THAT THE FENCE RESISTS BEING PULLED OUT OF THE GROUND BY HAND.
- SILT FENCE SHALL BE TAUT WITH NO SAGS AFTER IT HAS BEEN ANCHORED.
- FABRIC SHALL BE ATTACHED TO POSTS WITH 4" HEAVY DUTY STAPLES OR 1" NAILS. THESE SHOULD BE PLACED VERTICALLY DOWN THE POST, 3" APART. THE PREFERRED INSTALLATION METHOD USES A TRENCHER OR SILT FENCE INSTALLATION DEVICE.
- INSTALL SILT FENCE ALONG THE CONTOUR OF THE SLOPES OR IN A MANNER TO AVOID CREATING CONCENTRATED FLOW (SUCH AS A "J-HOOK" INSTALLATION).

**MAINTENANCE NOTES**

- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES 1/2 OF THE DESIGN HEIGHT OF THE SILT FENCE.
- SILT FENCE MUST REMAIN UNTIL THE UPSTREAM DISTURBANCE AREA IS STABILIZED.
- PERMANENTLY STABILIZE AREA AFTER SILT FENCE IS REMOVED.

SP

STORMWATER ENTERPRISE

SILT FENCE

APPROVED: [Signature]

ISSUED: 10/7/19 REVISED: 8/19/2020 DRAWING NO. 900-SF

**SEEDING & MULCHING**

ALL SOIL TESTING, SOILS AMENDMENT AND FERTILIZER DOCUMENTATION, AND SEED LOAD AND BAG TICKETS MUST BE ADDED TO THE CSWMP.

**SOIL PREPARATION**

- IN AREAS TO BE SEEDDED, THE UPPER 6 INCHES OF THE SOIL MUST NOT BE HEAVILY COMPACTED, AND SHOULD BE IN FRABLE CONDITION. LESS THAN 85% STANDARD PROCTOR DENSITY IS ACCEPTABLE. AREAS OF COMPACTION OR GENERAL CONSTRUCTION ACTIVITY MUST BE SCRUBBED TO A DEPTH OF 6 TO 12 INCHES PRIOR TO SPREADING TOPSOIL TO BREAK UP COMPACTED LAYERS AND PROVIDE A BLENDING ZONE BETWEEN DIFFERENT SOIL LAYERS.
- AREAS TO BE PLANTED SHALL HAVE AT LEAST 4 INCHES OF TOPSOIL SUITABLE TO SUPPORT PLANT GROWTH.
- THE CITY RECOMMENDS THAT EXISTING AND/OR IMPORTED TOPSOIL BE TESTED TO IDENTIFY SOIL DEFICIENCIES AND ANY SOIL AMENDMENTS NECESSARY TO ADDRESS THESE DEFICIENCIES. SOIL AMENDMENTS AND/OR FERTILIZERS SHOULD BE ADDED TO CORRECT TOPSOIL DEFICIENCIES BASED ON SOIL TESTING RESULTS.
- TOPSOIL SHALL BE PROTECTED DURING THE CONSTRUCTION PERIOD TO RETAIN ITS STRUCTURE AVOID COMPACTION, AND TO PREVENT EROSION AND CONTAMINATION. STRIPPED TOPSOIL MUST BE STORED IN AN AREA AWAY FROM MACHINERY AND CONSTRUCTION OPERATIONS, AND CARE MUST BE TAKEN TO PROTECT THE TOPSOIL AS A VALUABLE COMMODITY. TOPSOIL MUST NOT BE STRIPPED DURING UNDESIRABLE WORKING CONDITIONS (E.G. DURING WET WEATHER OR WHEN SOILS ARE SATURATED). TOPSOIL SHALL NOT BE STORED IN SWALES OR IN AREAS WITH POOR DRAINAGE.

**SEEDING**

- ALLOWABLE SEED MIXES ARE INCLUDED IN THE CITY OF COLORADO SPRINGS STORMWATER CONSTRUCTION MANUAL. ALTERNATIVE SEED MIXES ARE ACCEPTABLE IF INCLUDED IN AN APPROVED LANDSCAPING PLAN.
- SEED SHOULD BE DRILL-SEEDED WHENEVER POSSIBLE.
- SEED DEPTH MUST BE 1/4 TO 1/2 INCHES WHEN DRILL-SEEDING IS USED.
- BROADCAST SEEDING OR HYDRO-SEEDING WITH TACKIFIER MAY BE SUBSTITUTED ON SLOPES STEEPER THAN 3:1 OR ON OTHER AREAS NOT PRACTICAL TO DRILL SEED.
- SEEDING RATES MUST BE DOUBLED FOR BROADCAST SEEDING OR INCREASED BY 50% IF USING A BRILLION DRILL OR HYDRO-SEEDING.
- BROADCAST SEEDING MUST BE LIGHTLY HAND-RAKED INTO THE SOIL.

**MULCHING**

- MULCHING SHOULD BE COMPLETED AS SOON AS PRACTICABLE AFTER SEEDING, HOWEVER PLANTED AREAS MUST BE MULCHED NO LATER THAN 14 DAYS AFTER PLANTING.
- MULCHING REQUIREMENTS INCLUDE:
  - HAY OR STRAW MULCH
    - ONLY CERTIFIED WEED-FREE AND CERTIFIED SEED-FREE MULCH MAY BE USED. MULCH MUST BE APPLIED AT 2 TONS/ACRE AND ADEQUATELY SECURED BY CRIMPING AND/OR TACKIFIER.
    - CRIMPING MUST NOT BE USED ON SLOPES GREATER THAN 3:1 AND MULCH FIBERS MUST BE TUCKED INTO THE SOIL TO A DEPTH OF 3 TO 4 INCHES.
    - TACKIFIER MUST BE USED IN PLACE OF CRIMPING ON SLOPES STEEPER THAN 3:1.
  - HYDRAULIC MULCHING
    - HYDRAULIC MULCHING IS AN OPTION ON STEEP SLOPES OR WHERE ACCESS IS LIMITED.
    - IF HYDRO-SEEDING IS USED, MULCHING MUST BE APPLIED AS A SEPARATE SECOND OPERATION.
    - WOOD CELLULOSE FIBERS MIXED WITH WATER MUST BE APPLIED AT A RATE OF 2,000 TO 2,500 POUNDS/ACRE, AND TACKIFIER MUST BE APPLIED AT A RATE OF 100 POUNDS/ACRE.
- EROSION CONTROL BLANKET MAY BE USED IN PLACE OF TRADITIONAL MULCHING METHODS.

SM

STORMWATER ENTERPRISE

SEEDING & MULCHING

APPROVED: [Signature]

ISSUED: 10/7/19 REVISED: 8/19/2020 DRAWING NO. 900-SM

**CONCRETE WASHOUT AREA PLAN**

CONCRETE WASHOUT SIGN

8'x8' MIN.

4'

10' MIN.

COMPACTED BERM (SEE TEMPORARY COMPACTED BERM DETAIL)

**SECTION A-A'**

3' MIN.

8'x8' MIN.

2% SLOPE

6" MINUS ROCK\*

\*ROCK REQUIRED BASED ON SITE CONDITIONS AT THE DISCRETION OF THE GEC INSPECTOR

CWA

STORMWATER ENTERPRISE

CONCRETE WASHOUT AREA

APPROVED: [Signature]

ISSUED: 10/7/19 REVISED: 8/19/2020 DRAWING NO. 900-CWA-1

**INSTALLATION NOTES**

- SEE PLAN VIEW FOR:
  - LOCATION OF CONCRETE WASHOUT AREA
  - LOCATE AT LEAST 50' AWAY FROM STATE WATERS MEASURED HORIZONTALLY.
  - AN IMPERMEABLE LINER (16 MIL. MINIMUM THICKNESS) IS REQUIRED IF CONCRETE WASH AREA IS LOCATED WITHIN 400' OF STATE WATERS OR 1000' OF WELLS OR DRINKING WATER SOURCES. DO NOT LOCATE IN AREAS WHERE SHALLOW GROUNDWATER MAY BE PRESENT.
  - THE CONCRETE WASH AREA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
  - THE CONCRETE WASH AREA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8'.
  - BERM SURROUNDING SIDES AND BACK OF CONCRETE WASH AREA SHALL HAVE A MINIMUM HEIGHT OF 2 FEET.
  - CONCRETE WASH AREA ENTRANCE SHALL BE SLOPED 2% TOWARDS THE CONCRETE WASH AREA.
  - BERM SURROUNDING SIDES AND BACK OF CONCRETE WASH AREA SHALL HAVE A MINIMUM HEIGHT OF 2 FEET.
  - CONCRETE WASH AREA ENTRANCE SHALL BE SLOPED 2% TOWARDS THE CONCRETE WASH AREA.
  - USING EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

**MAINTENANCE NOTES**

- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- THE CONCRETE WASH AREA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS ACCUMULATED IN THE PIT SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 1/2 THE HEIGHT OF THE CONCRETE WASH AREA.
- CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE, AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER-TIGHT CONTAINER AND DISPOSED OF PROPERLY.
- THE CONCRETE WASH AREA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
- PERMANENTLY STABILIZE AREA AFTER CONCRETE WASH AREA IS REMOVED.

CWA

STORMWATER ENTERPRISE

CONCRETE WASHOUT AREA

APPROVED: [Signature]

ISSUED: 10/7/19 REVISED: 8/19/2020 DRAWING NO. 900-CWA-1

**STOCKPILE PROTECTION PLAN**

5' MIN.

PERIMETER CONTROL

**STOCKPILE PROTECTION ELEVATION**

FLOW

PERIMETER CONTROL

STOCKPILE

**INSTALLATION NOTES**

- INSTALL PERIMETER CONTROL AROUND STOCKPILE ON DOWNGRADIENT SIDE. PERIMETER CONTROL MUST BE SUITABLE TO SITE CONDITIONS AND INSTALLED ACCORDING TO THE RELEVANT DETAIL.
- FOR STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER PERIMETER CONTROL ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.

**MAINTENANCE NOTES**

- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- IF PERIMETER CONTROLS MUST BE MOVED TO ACCESS STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORK DAY.
- ACCUMULATED SEDIMENT MUST BE REMOVED ACCORDING TO PERIMETER CONTROL DETAIL.

SP

STORMWATER ENTERPRISE

STOCKPILE PROTECTION

APPROVED: [Signature]

ISSUED: 10/7/19 REVISED: 8/19/2020 DRAWING NO. 900-SP

**ROCK SOCK PLAN**

1 1/2" (MINUS) CRUSHED ROCK (MAX.)

3/4" CRUSHED ROCK (MIN.)

WIRE TIE ENDS OR KNOT FABRIC

6" MAX AT CURBS

GROUND SURFACE

**ROCK SOCK SECTION**

ROCK SOCK (TYPICAL)

OVERLAP ROCK SOCKS TO AVOID GAPS

**ROCK SOCK OVERLAP**

SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES
No. 4	100
1/2"	90-100
3/8"	20-55
3/4"	0-15
1"	0-5

MATCHES SPECIFICATIONS FOR No. 4 COARSE AGGREGATE FOR CONCRETE PER ASHTO M-43. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES.

**INSTALLATION NOTES**

- CRUSHED ROCK SHALL BE BETWEEN MAX. 1 1/2" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET AND MIN. 3/4" CRUSHED ROCK.
- WIRE MESH SHALL HAVE OPENINGS SMALLER THAN THE SMALLEST SIZE ROCK.
- WIRE MESH SHALL BE SECURED USING HOG RINGS OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.

**MAINTENANCE NOTES**

- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- ROCK SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED OR DAMAGED BEYOND REPAIR.
- ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN THE DEPTH REACHES 1/2 OF THE HEIGHT OF THE ROCK SOCK.
- ROCK SOCKS ARE TO REMAIN IN PLACE UNTIL DISTURBED AREA IS STABILIZED.
- PERMANENTLY STABILIZE AREA AFTER ROCK SOCKS HAVE BEEN REMOVED.

RS

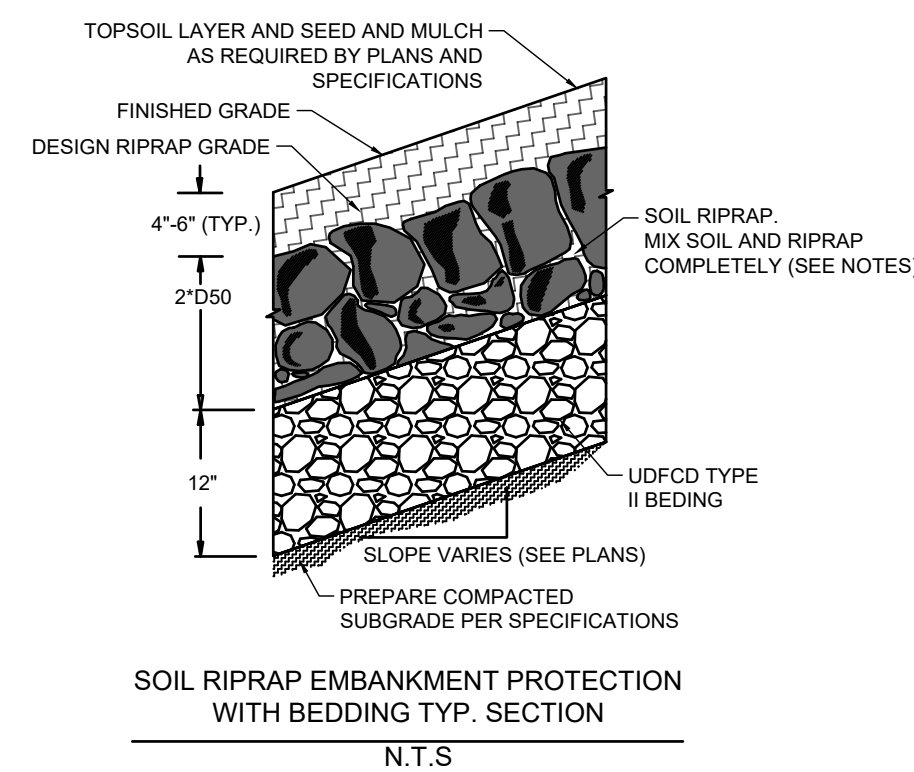
STORMWATER ENTERPRISE

ROCK SOCK

APPROVED: [Signature]

ISSUED: 10/7/19 REVISED: 8/19/2020 DRAWING NO. 900-RS

NO.	DATE	BY	REVISION DESCRIPTION



**RIPRAP NOTES.**

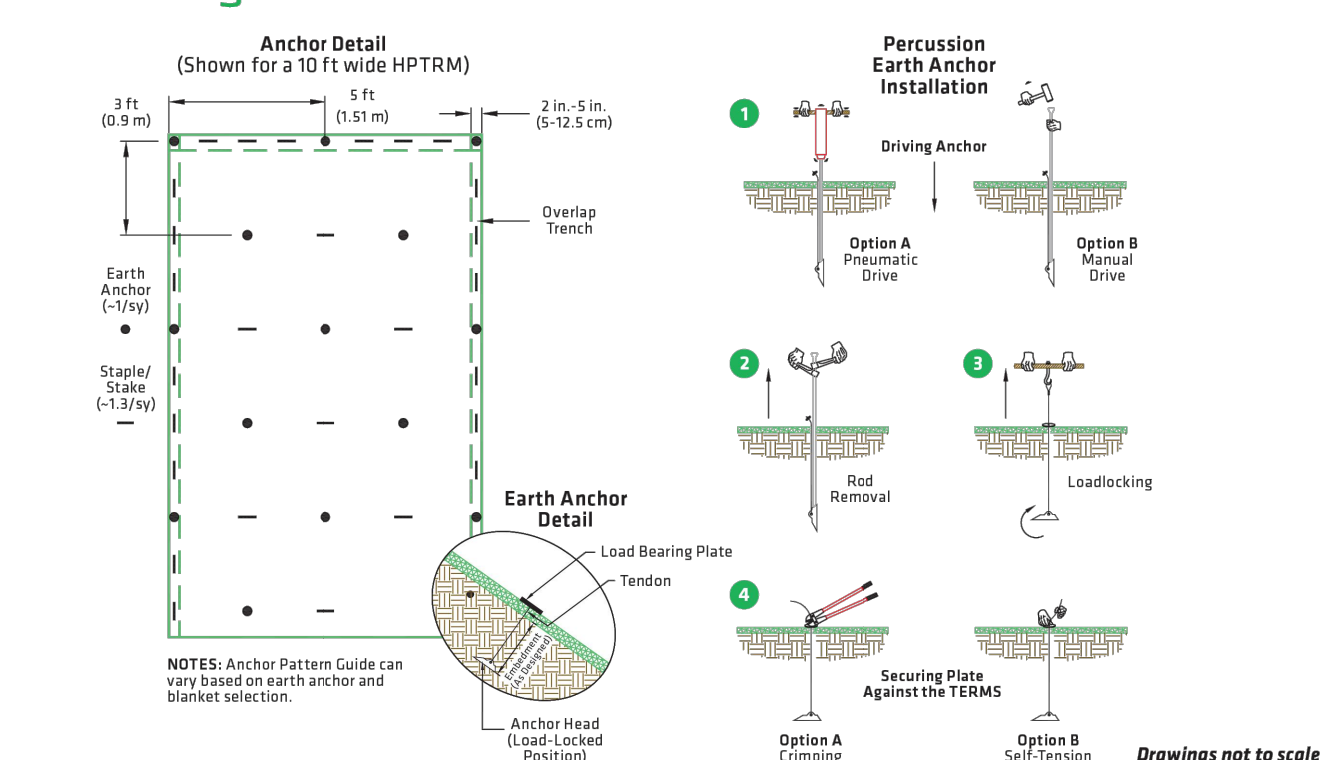
- SOIL RIPRAP DETAILS ARE APPLICABLE TO SLOPED AREAS REFER TO THE SITE PLAN ACTUAL LOCATION AND LIMITS.
- MIX UNIFORMLY 65% RIPRAP BY VOLUME WITH 35% OF APPROVED SOIL BY VOLUME PRIOR TO PLACEMENT.
- PLACE STONE-SOIL MIX TO RESULT IN SECURELY INTERLOCKED ROCK AT THE DESIGN THICKNESS AND GRADE. COMPACT AND LEVEL TO ELIMINATE ALL VOIDS AND ROCKS PROJECTING ABOVE DESIGN RIPRAP TOP GRADE. CRIMP OR TACKIFY MULCH OR USE APPROVED HYDROMULCH AS CALLED FOR IN THE PLANS AND SPECIFICATIONS.
- ROCK SHALL BE HARD, DURABLE, ANGULAR IN SHAPE, AND FREE FROM CRACKS, OVERBURDEN, SHALE, AND ORGANIC MATTER.
- NEITHER BREADTH NOR THICKNESS OF A SINGLE STONE SHOULD BE LESS THAN ONE-THIRD ITS LENGTH, AND ROUNDED STONE SHOULD BE AVOIDED.
- THE ROCK SHOULD SUSTAIN A LOSS OF NOT MORE THAN 40% AFTER 500 REVOLUTIONS IN AN ABRASION TEST (LOS ANGELES MACHINEASTM C-535-69) AND SHOULD SUSTAIN A LOSS OF NOT MORE THAN 10% AFTER 12 CYCLES OF FREEZING AND THAWING (AASHTO TEST 103 FOR LEDGE ROCK PROCEDURE A).
- ROCK HAVING A MINIMUM SPECIFIC GRAVITY OF 2.65 IS PREFERRED; HOWEVER, IN NO CASE SHOULD ROCK HAVE A SPECIFIC GRAVITY LESS THAN 2.50.

**TYPE L RIPRAP**

INTERMEDIATE ROCK DIMENSION (IN.)	PERCENT PASSING (%)
15	70-100
12	50-70
9	35-50
3	2-10

\*TYPE L RIPRAP D50=9"  
D50=MEAN PARTICLE SIZE  
(INTERMEDIATE DIMENSION) BY WEIGHT

**Anchoring Detail**



**ANCHORING DETAIL**

The performance of ground anchoring devices is highly dependent on numerous site/project specific variables. It is the sole responsibility of the project engineer and/or contractor to select the appropriate anchor type and length. Anchoring shall be selected to hold the mat in intimate contact with the soil subgrade and resist pullout in accordance with the project's design intent.

- Staples and/or stakes should be at least 6 in. (15 cm) in length and with sufficient ground penetration to resist pullout. Longer staples and/or stakes may be needed in looser soils.
- The percussion earth anchor assembly consists of an anchor head, a tendon, a faceplate, and an end-piece device. See North American Green® Earth Anchor specification for detailed information on assembly components and associated pull-out strength.

**PERCUSSION EARTH ANCHOR INSTALLATION**

- Insert the drive rod into the assembly's anchor head then use either a sledge hammer or vibratory hammer to drive the anchor to their desired depth.
- After the desired anchor depth is achieved, retract the drive rod.
- Lock the anchor assembly by swiftly pulling the cable upwards until the anchor head rotates as signaled by sudden resistance to pulling. A hooked setting tool may be used to aid in this step.

**NOTE:** Larger anchors may require more force to set the anchor. This can be achieved through using simple mechanical equipment for greater leverage, such as a fulcrum, manual or hydraulic jack, winch, or post puller.

- Secure the faceplate to the High-performance Turf Reinforcement Mat (HPTRM) surface by locking the end-piece. If using a copper or aluminum stop, crimp the ferrule to

secure. If using a self-tensioning end-piece (grip or wedge grip) set by simply tightening the end-piece against the faceplate. If desired, cut the remaining cable assembly, above end-piece, to desired length.

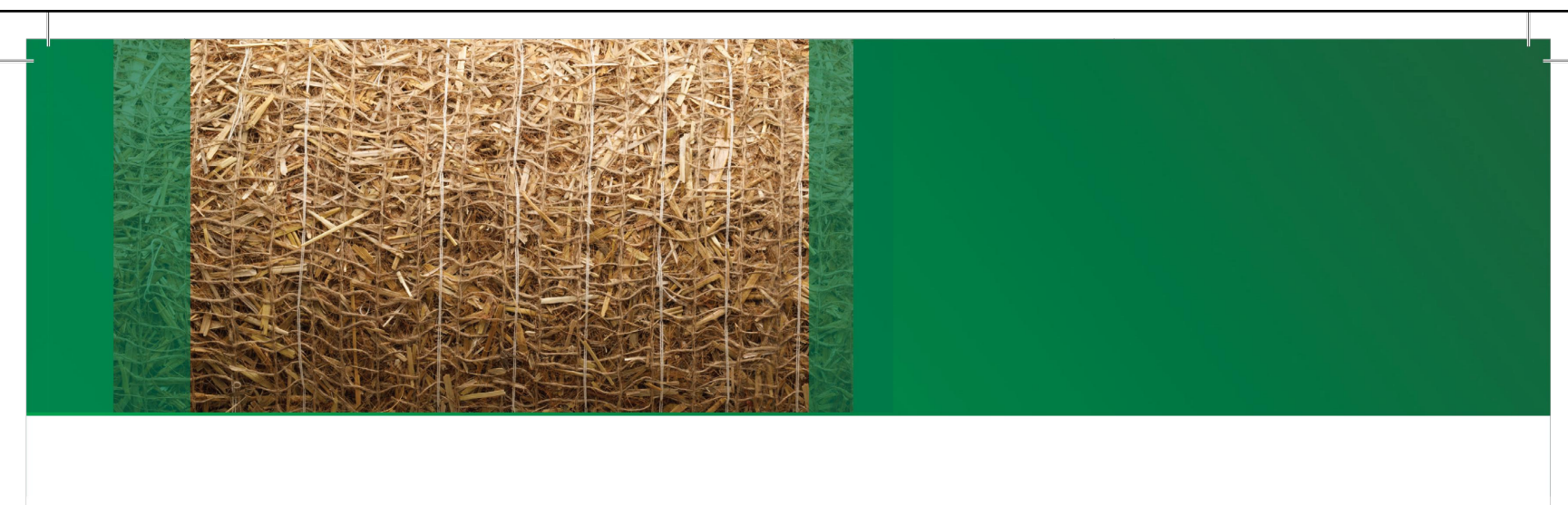
**SEEDING AND VEGETATING**

**When using a Composite Turf Reinforcement Mat (C-TRM) with fiber components:**

- Pre-seed prepared soils prior to the installation of the C-TRM. Install matting as directed. C-TRM does not require soil infill or a top dressing of seed. Overseeding may be done as a secondary form of seeding.
- Sod may be installed in place of seeding on top of the C-TRM. Additional staking of sod is recommended in high-flow conditions. Sodded areas should be irrigated until rooting through the mat and into subgrade occurs.

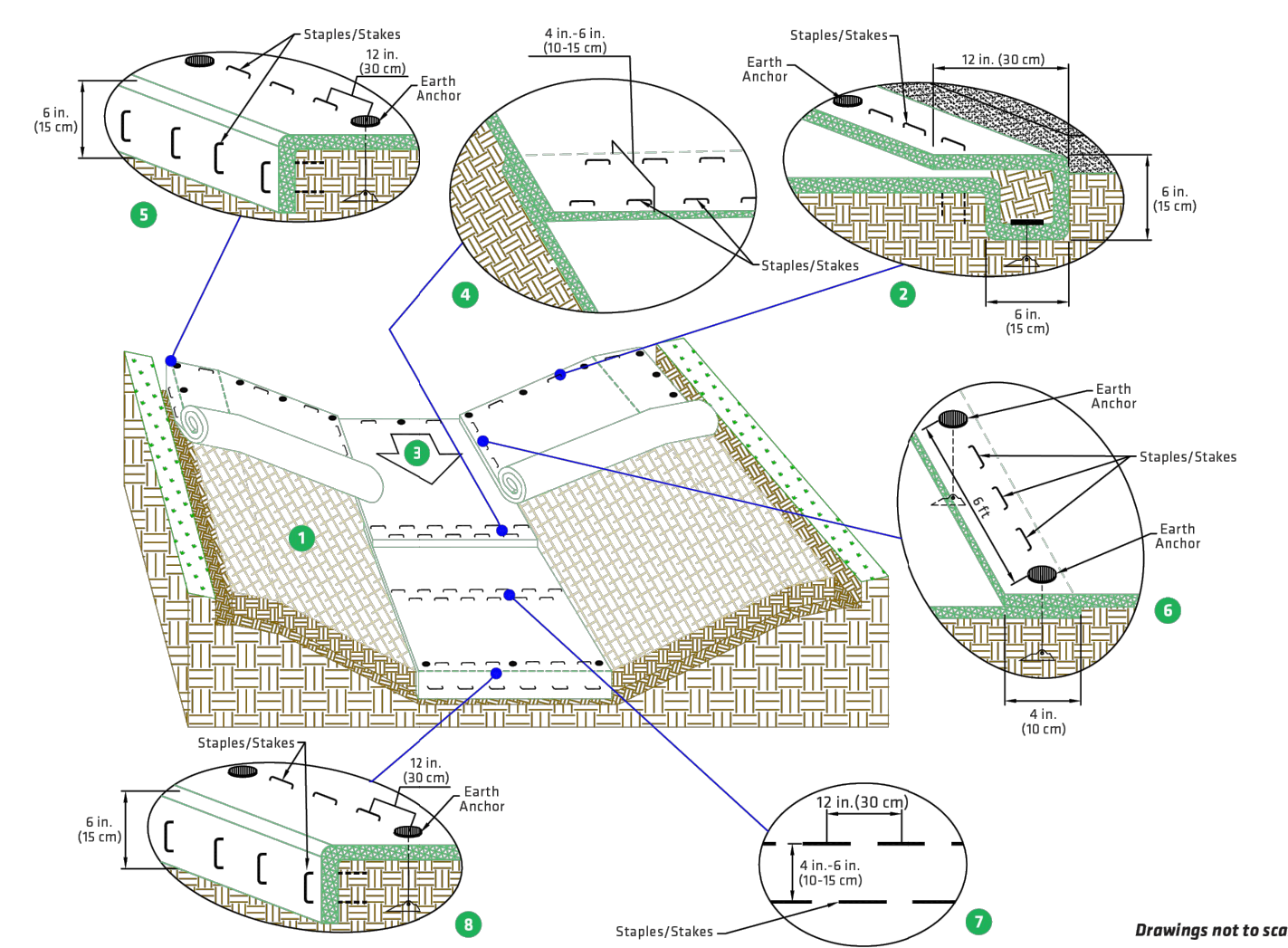
**When using a woven HPTRM:**

- Install the HPTRM as directed prior to seed and soil filling.
- Place seed into the installed HPTRM. After seeding, spread a layer of fine soil into the mat. Using the flat side of a rake, broom or other tool, completely fill the voids. Smooth soil-fill in order to just expose the top of the HPTRM matrix. Do not place excessive soil above the mat.
- Additional seed, hydraulic mulching or the use of a temporary Erosion Control Blanket (ECB) can be applied over the soil-filled mat for increased protection.
- Sod may be installed in place of seeding. Install HPTRM, and soil-fill as outlined above. Place sod directly onto the soil-filled HPTRM. Additional staking of sod is recommended in high-flow conditions. Sodded areas should be irrigated until rooting through the mat and into subgrade occurs.
- Consult with a manufacturer's technical representative for installation assistance if unique conditions apply.



TEMPORARY					
	Product Description	Longevity	Applications	Design Permissible Shear Stress lbs/ft <sup>2</sup> (Pa)	Design Permissible Velocity ft/s (m/s)
<b>BIONET com</b>					
C105BN	8.3 lb., woven biodegradable jute top net, 100% coconut fiber matrix, 7.7 lb., woven biodegradable jute bottom net	24 mo.	High Flow Channels 11 and Greater Slopes	Unvegetated 2.35 (112)	Unvegetated 10.0 (3.03)
C105BN	14.0 lb., (700 g) woven biodegradable coir top net, 100% coconut fiber matrix, 7.7 lb., woven biodegradable jute bottom net	36 mo.	High Flow Channels 11 and Greater Slopes	Unvegetated 2.35 (112)	Unvegetated 10.0 (3.03)
<b>PERMANENT</b>					
<b>ERONET</b>					
P300	5.0 lb., UV-stable polypropylene top net, 100% polypropylene fiber matrix, 3.0 lb., UV-stable polypropylene bottom net	Permanent	High Flow Channels 11 Slopes	Unvegetated 3.0 (144) Vegetated 6.0 (283)	Unvegetated 9.0 (2.7) Vegetated 16.0 (4.9)
<b>VMAX</b>					
SC250	5.0 lb., UV-stable polypropylene top & bottom nets, 24.0 lb., UV-stable polypropylene corrugated center net, 70% straw/30% coconut fiber matrix	Permanent	High Flow Channels 11 and Greater Slopes	Unvegetated 3.0 (144) Vegetated 10.0 (460)	Unvegetated 9.0 (2.7) Vegetated 16.0 (4.9)
C150	8.0 lb., UV-stable polypropylene top & bottom nets, 24.0 lb., UV-stable polypropylene corrugated center net, 100% coconut fiber matrix	Permanent	High Flow Channels 11 and Greater Slopes	Unvegetated 3.2 (153) Vegetated 12.0 (574)	Unvegetated 10.0 (3.0) Vegetated 20.0 (6.0)
PS50	24.0 lb., UV-stable polypropylene top & bottom nets, 24.0 lb., UV-stable polypropylene corrugated center net, 100% polypropylene fiber matrix	Permanent	Extreme High Flow Channels 11 and Greater Slopes	Unvegetated 4.0 (191) Vegetated 16.0 (737)	Unvegetated 12.0 (3.6) Vegetated 25.0 (7.6)
TMax	100% UV-stable polypropylene monofilament yarn, woven into a 3-D structure	Permanent	Extreme High Flow Channels 11 and Greater Slopes	Vegetated 16.0 (736)	Vegetated 25.0 (7.6)
W1000	100% UV-stable polypropylene monofilament yarn, woven into a 3-D structure	Permanent	Extreme High Flow Channels 11 and Greater Slopes	Vegetated 16.0 (736)	Vegetated 25.0 (7.6)

**Channel Installation Detail**



**GENERAL INSTALLATION**

- Prepare soil before installing the HPTRM, including any necessary application of soil amendments such as lime or fertilizer. See seeding and vegetating section for details regarding pre-seeding, overseeding or use with sod.
- Begin at the top of the channel by anchoring the HPTRM in a 6 in. (15 cm) deep x 6 in. (15 cm) wide trench with approximately 12 in. (30 cm) of HPTRM extended beyond the upslope portion of the trench. Anchor the HPTRM with a row of anchors/staples/stakes spaced approximately 12 in. (30 cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Compact soil and fold remaining 12 in. (30 cm) portion of HPTRM back over compacted soil. Secure HPTRM over soil with a row of anchors/staples/stakes spaced approximately 12 in. (30 cm) across the width of the HPTRM.
- Roll center HPTRM in direction of water flow in bottom of channel. HPTRMs will unroll with appropriate side against the soil surface. All HPTRMs must be securely fastened to soil surface by placing anchors/staples/stakes in appropriate locations as shown in the anchoring detail.
- Place consecutive HPTRMs end over end (shingle style) with a 4 in. x 6 in. (10 cm x 15 cm) overlap. Use a double row of staples/stakes staggered 12 in. (30 cm) apart and 12 in. (30 cm) on center to secure HPTRMs.
- Full length edge of HPTRMs at top of side slopes must be anchored with a row of staples/stakes approximately 12 in. (30 cm) apart in a 6 in. (15 cm) deep x 6 in. (15 cm) wide trench. Backfill and compact the trench after stapling.
- Adjacent HPTRMs must be overlapped approximately 4 in. (10 cm) and fastened.
- In high flow channel applications, a staple/stake check slot is recommended at 30 ft to 40 ft (9 m-12 m) intervals. Use a double row of staples/stakes staggered 4 in. (10 cm) apart and 12 in. (30 cm) on center over entire width of the channel.
- The terminal end of the HPTRMs must be anchored with a row of staples/stakes approximately 12 in. (30 cm) apart in a 6 in. (15 cm) deep x 6 in. (15 cm) wide trench. Backfill and compact the trench after stapling.

DRAWN BY: AXB	JOB DATE: 3/1/2024	BAR IS ONE INCH ON OFFICIAL DRAWINGS.
APPROVED: KMH	JOB NUMBER: 211030	0
CAD DATE: 3/4/2024		IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY.
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NO.	DATE	BY	REVISION DESCRIPTION

**HRGreen**  
 HR GREEN - COLORADO SPRINGS  
 1975 RESEARCH PARKWAY SUITE 230  
 COLORADO SPRINGS, CO 80920  
 PHONE: 719.300.4140  
 FAX: 713.965.0044

**FLYING HORSE NORTH FILING NO. 3**  
**PRI #2, LLC**  
 EL PASO COUNTY, CO

**GRADING & EROSION CONTROL PLAN**  
 DETAILS

**SHEET**  
**DT**  
**13**