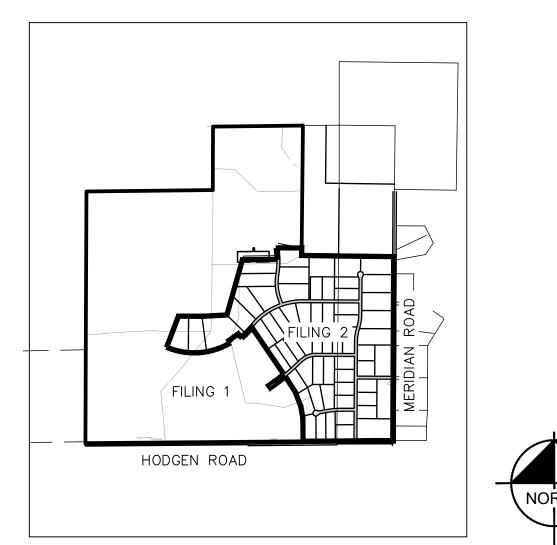
		Update Notes to match GEC Checklist Section 3.
-		PRE DEVELOF
-		A POR A PORTION OF
		EL PASO COUNTY GRADING AND CONTROL PLAN NOTES
	<b>1.</b>	STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF SITE WATERS, INCLUDING WETLANDS.
-	- <b>2.</b>	NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING
-		CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS TO REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING. A SEPARATE STORMWATER MANAGEMENT PLAN (SMWP) FOR THIS PROJECT SHALL BE COMPLETED AND
		AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. DURING CONSTRUCTION THE SWMP IS THE RESPONSIBILITY OF THE DESIGNATED STORMWATER MANAGER, SHALL BE LOCATED ON SITE AT ALL TIMES AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.
		ONCE THE ESQCP HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL BMPS AS INDICATED ON THE GEC. A PRECONSTRUCTION MEETING BETWEEN THE CONTRACTOR, ENGINEER, AND EL PASO COUNTY WILL BE HELD PRIOR TO ANY CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE APPLICANT TO COORDINATE THE MEETING TIME AND PLACE WITH COUNTY DSD INSPECTIONS STAFF.
	<b>5</b> .	SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN 21 CALENDAR DAYS AFTER FINAL GRADING, OR FINAL EARTH DISTURBANCE, HAS BEEN COMPLETED. DISTURBED AREAS AND STOCKPILES WHICH ARE NOT AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS SHALL ALSO BE MULCHED WITHIN 21
:	MITCH	DAYS AFTER INTERIM GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN 60 DAYS SHALL ALSO BE SEEDED. ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND BMPS SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND ESTABLISHED.
	6. 7.	TEMPORARY SOIL EROSION CONTROL FACILITIES SHALL BE REMOVED AND EARTH DISTURBANCE AREAS GRADED AND STABILIZED WITH PERMANENT SOIL EROSION CONTROL MEASURES PURSUANT TO STANDARDS AND SPECIFICATION PRESCRIBED IN THE DCM VOLUME II AND THE ENGINEERING CRITERIA MANUAL (ECM) APPENDIX I.
•		ALL PERSONS ENGAGED IN EARTH DISTURBANCE SHALL IMPLEMENT AND MAINTAIN ACCEPTABLE SOIL EROSION AND SEDIMENT CONTROL MEASURES INCLUDING BMPS IN CONFORMANCE WITH THE EROSION CONTROL TECHNICAL STANDARDS OF THE DRAINAGE CRITERIA MANUAL (DCM) VOLUME II AND IN ACCORDANCE WITH THE STORMWATER MANAGEMENT PLAN (SWMP).
•		ALL TEMPORARY EROSION CONTROL FACILITIES INCLUDING BMPS AND ALL PERMANENT FACILITIES INTENDED TO CONTROL EROSION OF ANY EARTH DISTURBANCE OPERATIONS, SHALL BE INSTALLED AS DEFINED IN THE APPROVED PLANS, THE SWMP AND THE DCM VOLUME II AND MAINTAINED THROUGHOUT THE DURATION OF THE EARTH DISTURBANCE OPERATION.
ן ירם	9.	ANY EARTH DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY REDUCE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST PRACTICAL PERIOD OF TIME.
010010		ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE DESIGNED TO LIMIT THE DISCHARGE TO A NON-EROSIVE VELOCITY. CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP.
()	\$	NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO RUNOFF TO STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES. EROSION CONTROL BLANKETING IS TO BE USED ON SLOPES STEEPER THAN 3:1. BUILDING, CONSTRUCTION, EXCAVATION, OR OTHER WASTE MATERIALS SHALL NOT BE TEMPORARILY
	5 5 14.	PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. BMP'S MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES. VEHICLE TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS
		TRACKED OFFSITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL WASTES FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO CONSTRUCTION DEBRIS, TREE SLASH, BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS
_	sodind 16.	SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE. THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, AND SAND THAT MAY ACCUMULATE IN THE STORM SEWER OR OTHER DRAINAGE CONVEYANCE SYSTEM AND
	17.	STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT. THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM THE WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS.
	18.	NO CHEMICALS ARE TO BE USED BY THE CONTRACTOR, WHICH HAVE THE POTENTIAL TO BE RELEASED IN STORMWATER UNLESS PERMISSION FOR THE USE OF A SPECIFIC CHEMICAL IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING THE USE OF SUCH CHEMICALS, SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
▼	19.	BULK STORAGE STRUCTURES FOR PETROLEUM PRODUCTS AND OTHER CHEMICALS SHALL HAVE ADEQUATE PROTECTION SO AS TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.
√. •	20.	. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE FLOW LINE OF THE CURB AND GUTTER OR IN THE DITCHLINE. INDIVIDUALS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE
יברא רשטי		8, CRS), AND THE "CLEAN WATER ACT" (33 USC 1344), IN ADDITION TO THE REQUIREMENTS INCLUDED IN THE DCM VOLUME II AND THE ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC.). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL, STATE, OR COUNTY AGENCIES, THE MORE RESTRICTIVE LAWS, RULES, OR REGULATIONS
		SHALL APPLY. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS. PRIOR TO ACTUAL CONSTRUCTION THE PERMITEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
	24.	A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND. THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY AND_SHALL BE CONSIDERED A PART OF THESE PLANS.
	26.	AT LEAST TEN DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB 1ACRE 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
DY. NOLLOI U		WQCD -PERMITS 4300 CHERRY CREEK DRIVE SOUTH DENVER, CO 80246-1530 ATTN: PERMITS UNIT

# WINSOME FILING NO. 2 PMENT GRADING AND EROSION CONTROL PLAN RTION OF SECTIONS 13 AND 24, TOWNSHIP 11 SOUTH, RANGE 65 SOUTH, AND

THE WEST HALF SECTON 19, TOWNSHIP 11 SOUTH, RANGE 64 WEST OF THE 6TH P.M. COUNTY OF EL PASO, STATE OF COLORADO



VICINITY MAP 1"=2,000'

### CONTACTS:

DEVELOPER: WINSOME, LLC 1864 WOODMOOR DRIVE, SUITE 100 MONUMENT, CO 80132 TEL: (719) 476-0800 CONTACT: JOSEPH DESJARDIN

PLANNER/LANDSCAPE ARCHITECT: NES. INC 619 N CASCADE AVENUE, SUITE 200 COLORADO SPRINGS, CO 80903 TEL: (719) 471-0073

CONTACT: ANDREA BARLOW ENGINEER: KIMLEY-HORN AND ASSOCIATES, INC. 4582 SOUTH ULSTER STREET, SUITE 1500 DENVER, CO 80237

TEL: (303) 471-0073 EMAIL: TÁMARA.CONNOLLY@KIMLEY-HORN.COM CONTACT: TAMARA CONNOLLY

SURVEY: EDWARD JAMES SURVEYING, INC. 926 ELKTON DRIVE COLORADO SPRINGS, CO 80907 TEL: (719) 576-1216 CONTACT: JONATHAN TESSIN

### FLOODPLAIN NOTE

FEDERAL EMERGENCY MANAGEMENT AGENCY, FLOOD INSURANCE RATE MAP. MAP NUMBER 08041C0350G, EFFECTIVE DECEMBER 7, 2018 INDICATES THE AREA IN THE VICINITY OF THIS PARCEL OF LAND TO BE IN ZONE X (AREA DETERMINED TO BE OUT OF THE 500 YEAR FLOODPLAIN). A CONDITIONAL LETTER OF MAP REVISION HAS BEEN PROCESSED AND APPROVED FOR THIS REACH OF WEST KIOWA

### TYPE SOIL

THE SOIL ON SITE IS USGS HYDROLOGIC SOIL GROUP B.

### SITE INFORMATION

TIMING ANTICIPATED STARTING AND COMPLETION TIME PERIOD OF SITE GRADING: START: JUNE 2021 END: JUNE 2022

EXPECTED DATE ON WHICH THE FINAL STABILIZATION WILL BE COMPLETE: JUNE 2022 AREAS

TOTAL DISTURBED AREA: 33 ACRES

RECEIVING WATERS: NAME OF RECEIVING WATERS: WEST KIOWA CREEK

DESCRIPTION OF EXISTING VEGETATION: THE EXISTING SITE IS CURRENTLY UNDEVELOPED AND GROUND COVER CONSISTS OF 80% WEEDS, BRUSH, GRASSES, AND TREES.

DESCRIPTION OF PERMANENT BMPS: TWO (2) FULL SPECTRUM EXTENDED DETENTION BASINS

### LEGAL DESCRIPTION

COMMENCING AT THE WEST QUARTER CORNER OF SAID SECTION 24, SAID POINT BEING THE POINT OF BEGINNING; THENCE NOO"14'25"E ON THE WEST LINE OF THE NORTHWEST QUARTER OF SAID SECTION 24, SAID LINE ALSO BEING ON THE WEST BOUNDARY OF PARCEL 4. AS RECORDED UNDER RECEPTION NUMBER 218900072. A DISTANCE OF 2636.99 FEET TO THE NORTHWEST CORNER OF SAID SECTION 24; THENCE N89'21'38'E ON THE NORTH LINE OF THE NORTHWEST QUARTER OF SAID SECTION 24, A DISTANCE OF 2633.02 FEET TO THE NORTH QUARTER CORNER OF SAID SECTION 24; THENCE NO0'10'29"E ON THE WEST LINE OF THE SOUTH HALF OF THE SOUTH EAST QUARTER OF SECTION 13, TOWNSHIP 11 SOUTH, RANGE 65 WEST, A DISTANCE OF 1321.95 FEET TO THE NORTHWEST CORNER OF THE SOUTH HALF OF THE SOUTHEAST QUARTER OF SAID SECTION 13; THENCE N89'20'26"E ON THE NORTH LINE OF THE SOUTH HALF OF THE SOUTHEAST QUARTER OF SAID SECTION 13, A DISTANCE OF 1873.37 FEET; THENCE SO0'34'43"W A DISTANCE OF 2,706.21 FEET: THENCE S89"15'17"E A DISTANCE OF 769.17 FEET TO A POINT ON THE WEST LINE OF SECTION 19 TOWNSHIP 11 SOUTH, RANGE 64 WEST; THENCE S89"15'18"E A DISTANCE OF 1,158.32 FEET TO THE EAST LINE OF THE WEST HALF OF THE WEST HALF OF SAID SECTION 19 ; THENCE SOO'17'06"W ON THE EAST LINE OF THE WEST HALF OF THE WEST HALF OF SAID SECTION 19, A DISTANCE OF 3,838.66 FEET TO A POINT 30.00 FEET NORTH OF THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 19; THENCE S89'55'06"W, ON A LINE 30.00 FEET NORTH OF AND PARALLEL WITH THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 19, ON SAID NORTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 30.00 FEET TO A POINT ON THE BOUNDARY LINE PARCEL NUMBER RW-36 AS SHOWN IN THE WARRANTY DEED AS RECORDED UNDER RECEPTION NUMBER 213096397; THENCE ON THE BOUNDARY OF SAID PARCEL THE FOLLOWING (3) THREE COURSES:

NO0°17'06"E, 30.00 WEST OF AND PARALLEL WITH THE EAST LINE OF THE WEST HALF OF THE WEST HALF OF SAID SECTION 19, A DISTANCE OF 5.25 FEET N89°47'54"W A DISTANCE OF 368.05 FEET S89'14'50"W A DISTANCE OF 603.68 FEET TO A POINT BEING 30.00 FEET NORTH OF THE SOUTH LINE OF SOUTHWEST QUARTER OF SAID SECTION 19;

THENCE S89°55'06"W ON A LINE 30.00 FEET NORTH OF AND PARALLEL WITH THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 19. ON SAID NORTHERLY RIGHT-OF-WAY LINE A DISTANCE OF 173.03 FEET TO A POINT ON THE EAST LINE OF SAID SECTION 24; THENCE S89°30'15"W ON A LINE 30.00 NORTH OF AND PARALLEL WITH THE SOUTH LINE OF SAID SECTION 24, A DISTANCE OF 5238.44 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 24; THENCE NOO"14'17"E ON THE WEST LINE OF SOUTHWEST QUARTER A DISTANCE OF 2,606.92 FEET TO THE POINT OF BEGINNING.

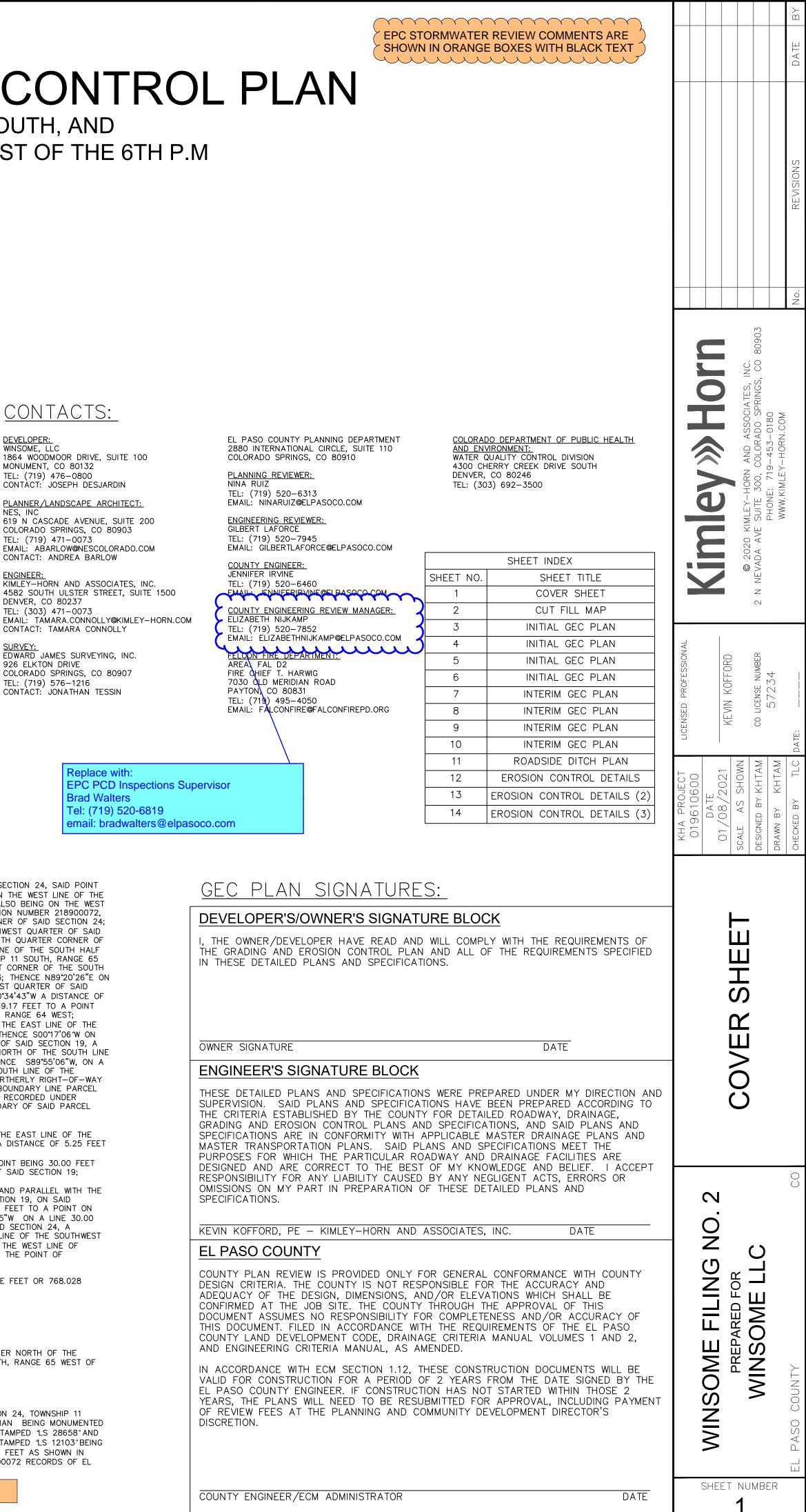
CONTAINING A CALCULATED AREA OF 33,455,315 SQUARE FEET OR 768.028 ACRES. COLORADO.

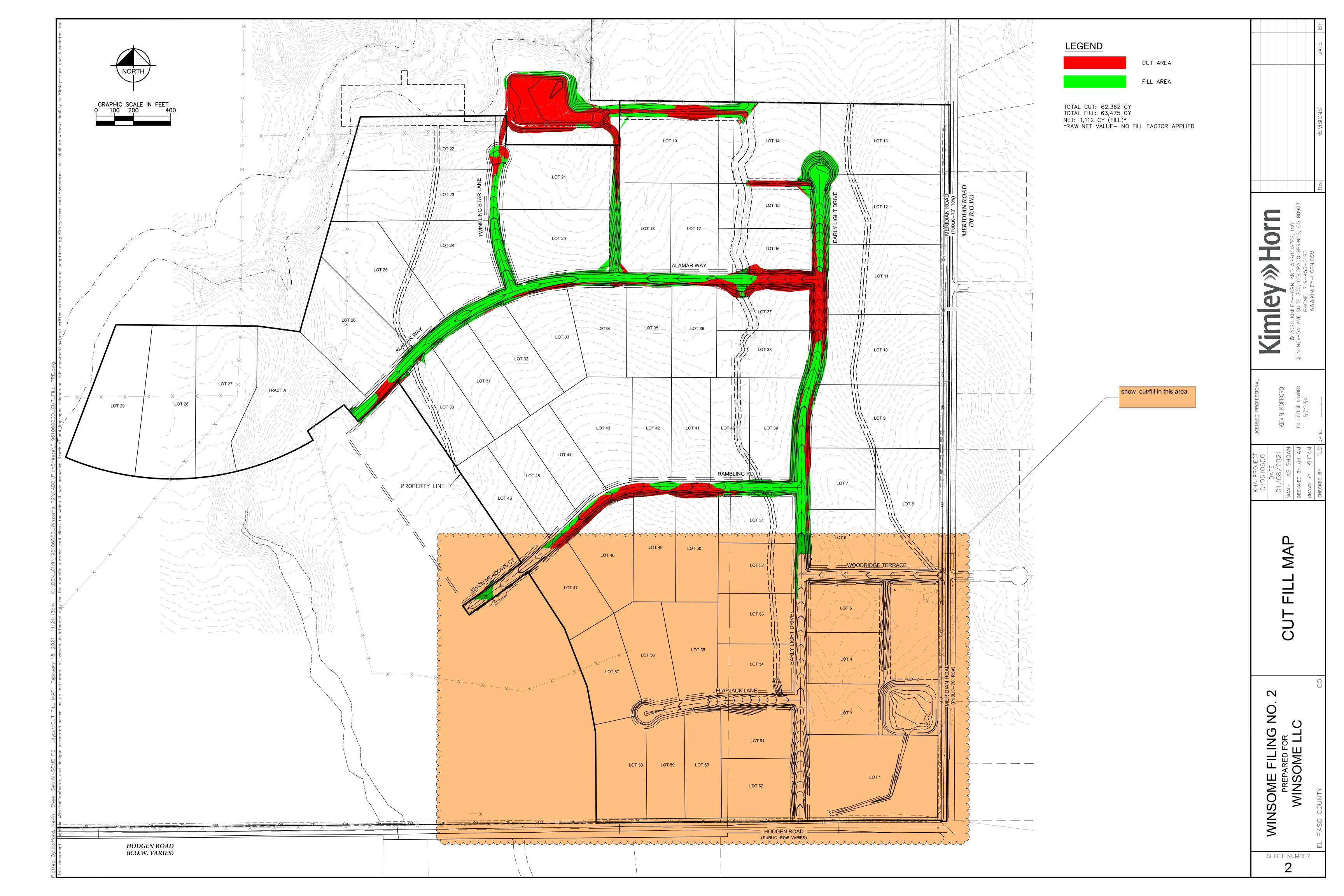
### BENCHMARK

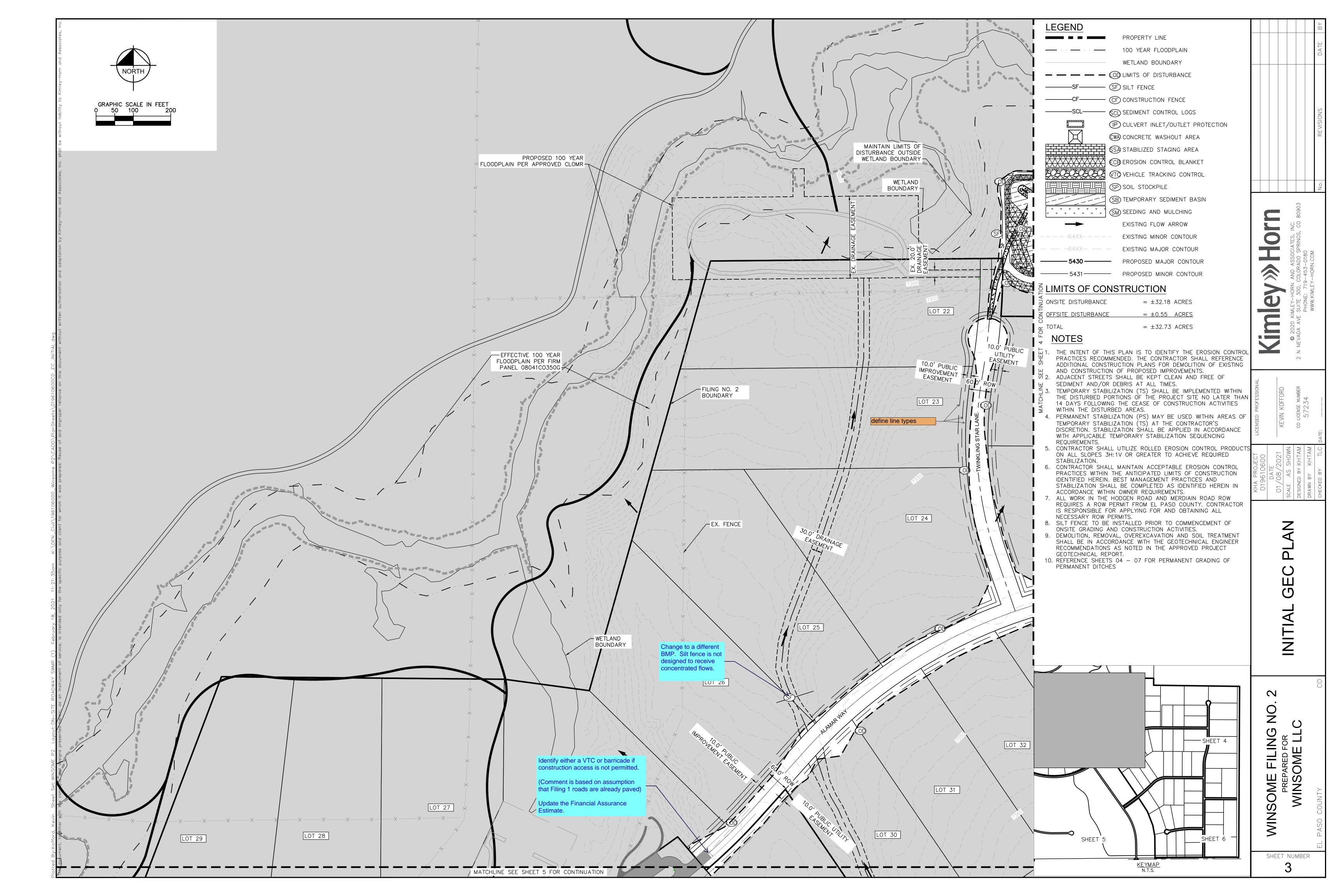
A 2.5" ALUMINUM CAP BEING A 30 FOOT WITNESS CORNER NORTH OF THE SOUTHWEST CORNER OF SECTION 24, TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN.

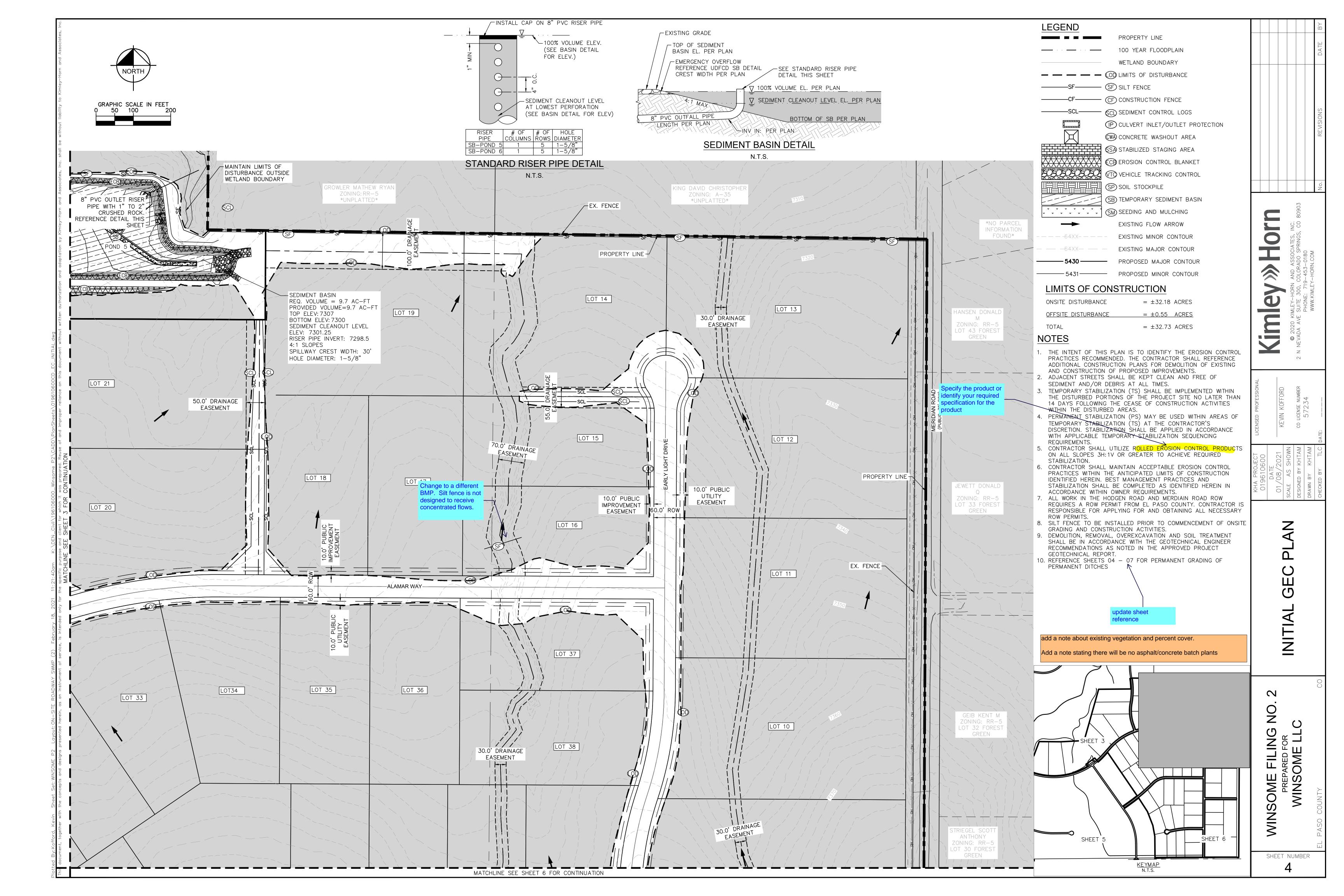
### BASIS OF BEARINGS

THE WEST LINE OF THE NORTHWEST QUARTER OF SECTION 24, TOWNSHIP 11 SOUTH. RANGE 65 WEST OF THE 6TH / PRINCIPAL MERIDIAN BEING MONUMENTED ON THE SOUTHERLY END BY A 2-1/2" ALUMINUM CAP STAMPED "LS 28658" AND AT THE NORTHERLY END BY A 3-1/2" ALUMINUM CAP STAMPED "LS 12103" BEING ASSUMED TO BEAR NOO14'25'E A DISTANCE OF 2636.99 FEET AS SHOWN IN LAND SURVEY PLAT RECORDED UNDER RECEPTION 218900072 RECORDS OF EL PASO COUNTY.



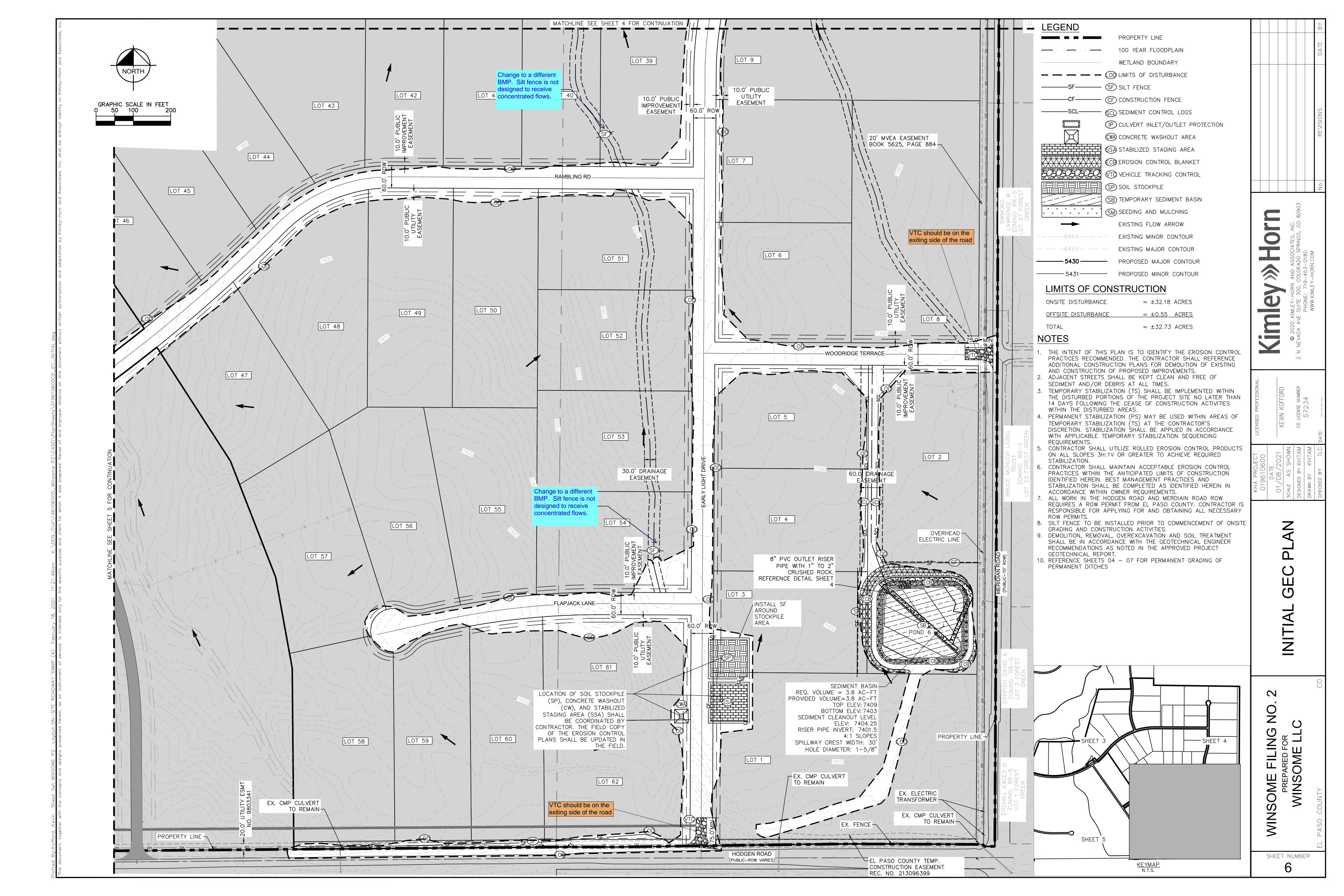


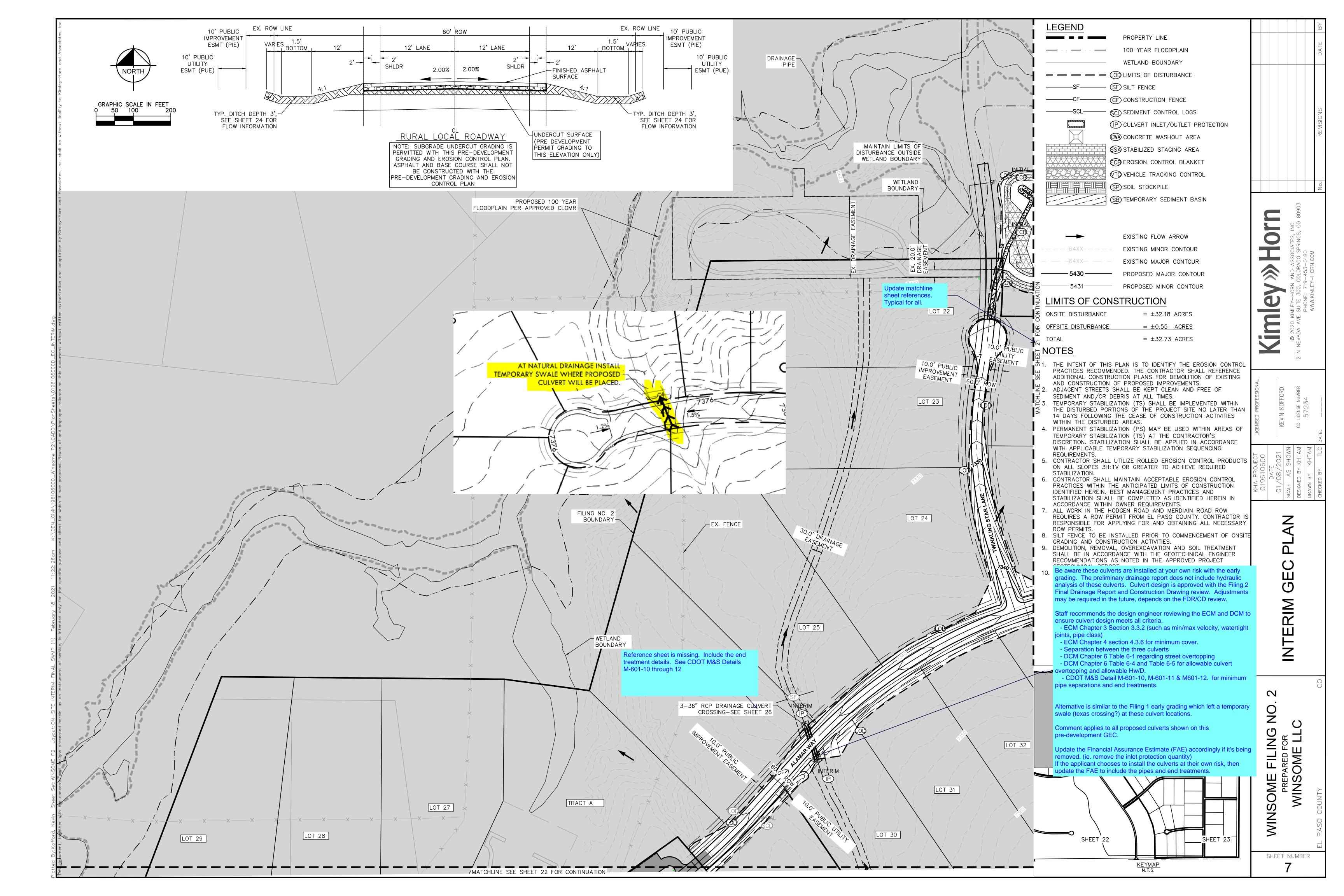


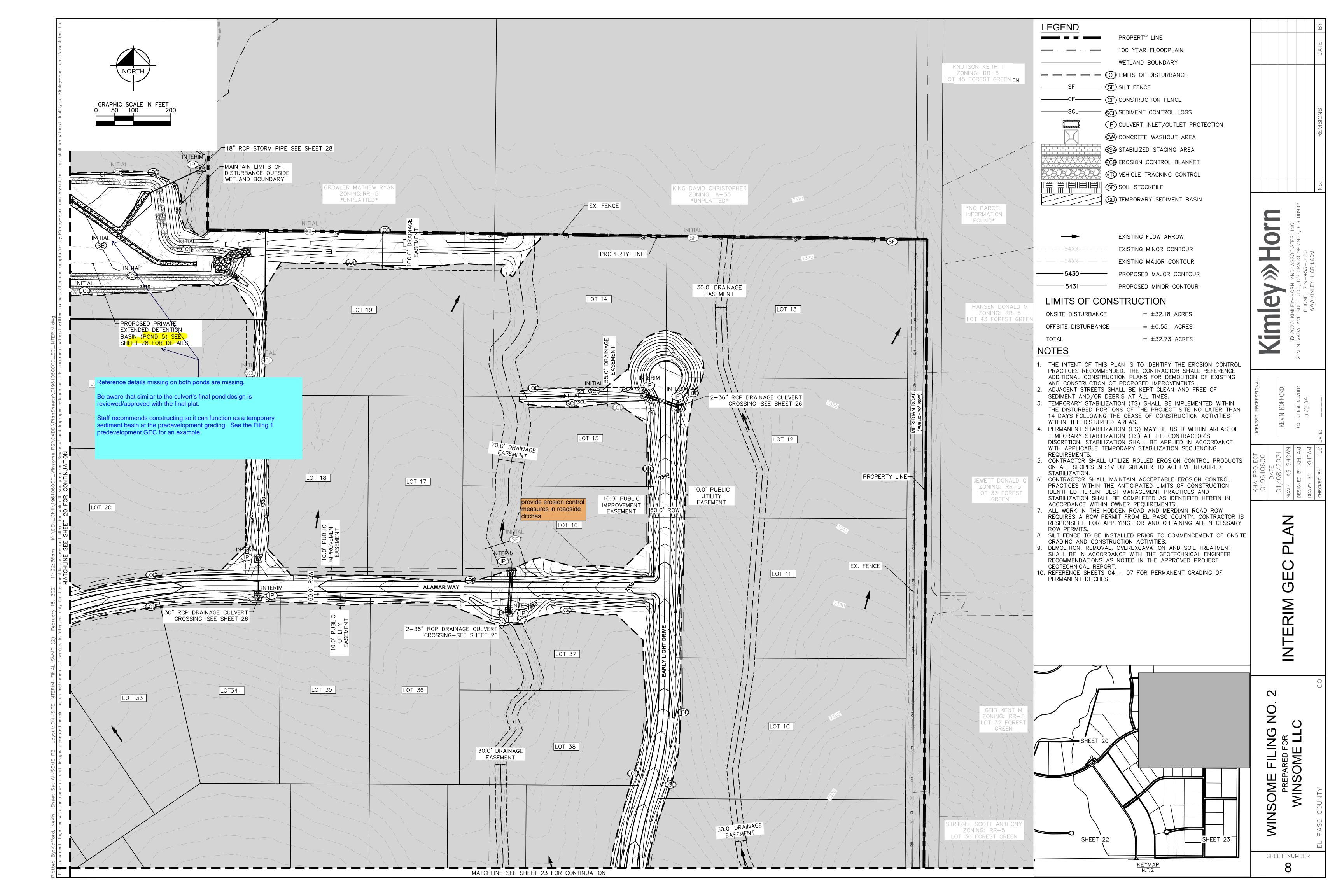


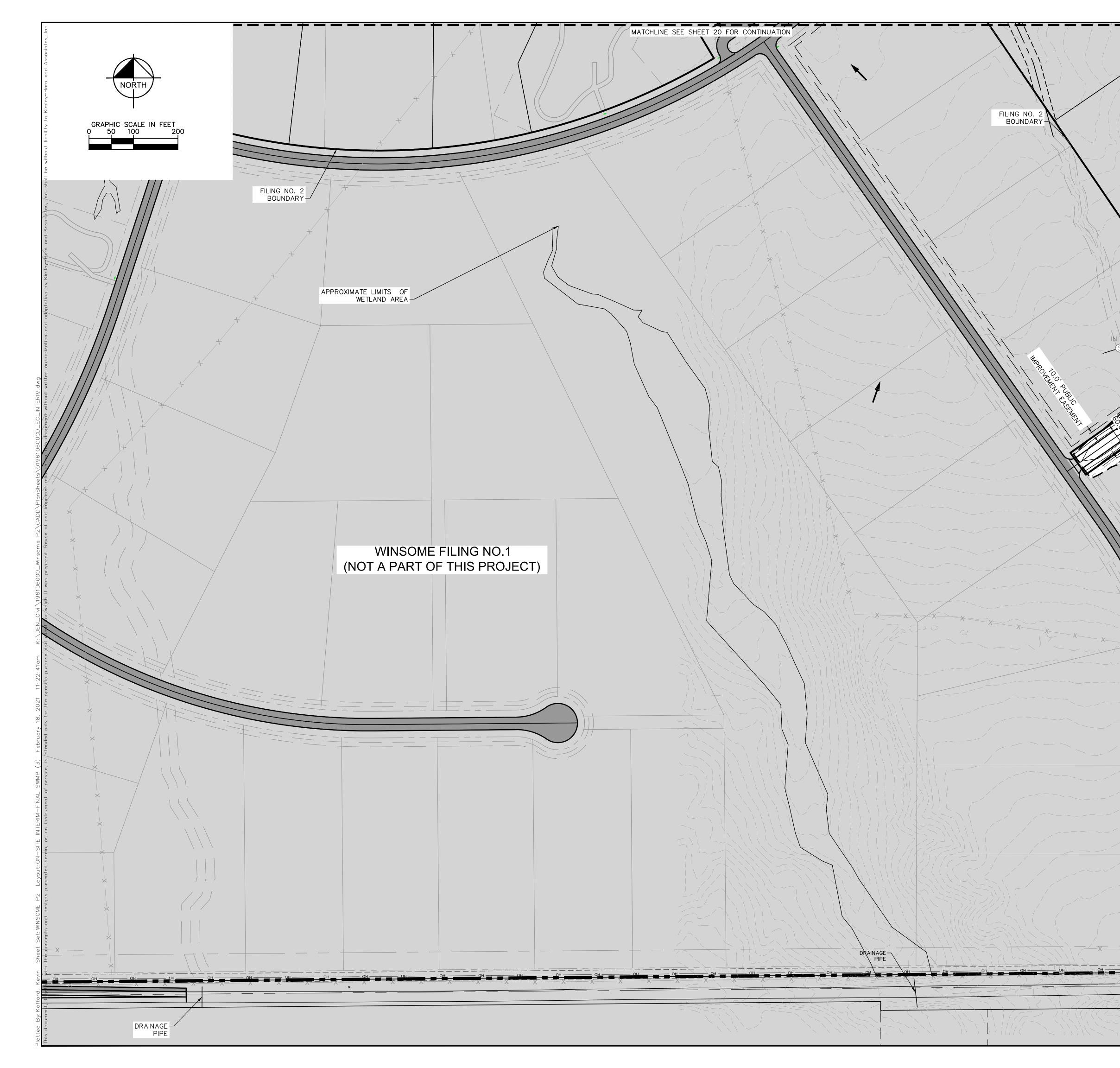




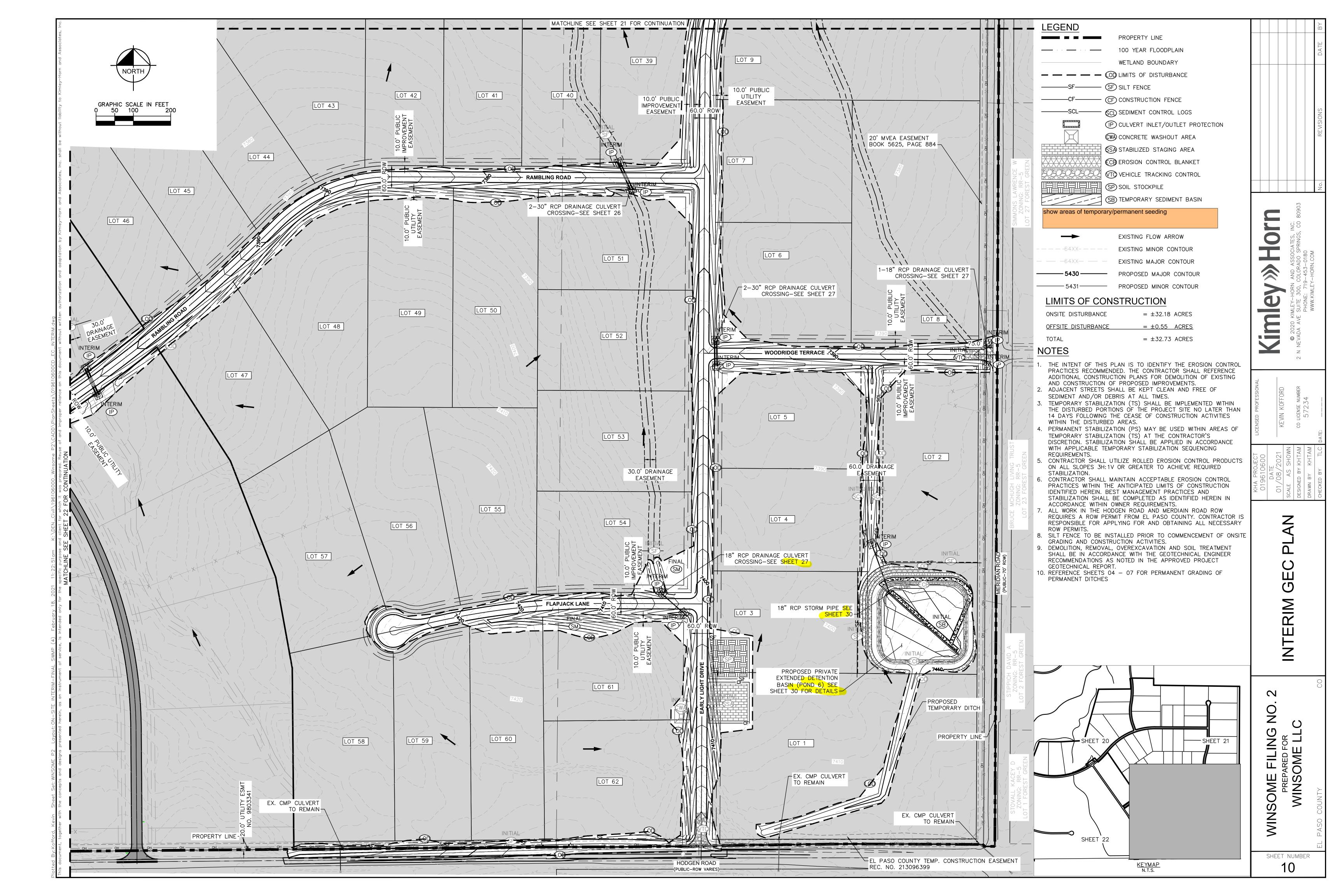


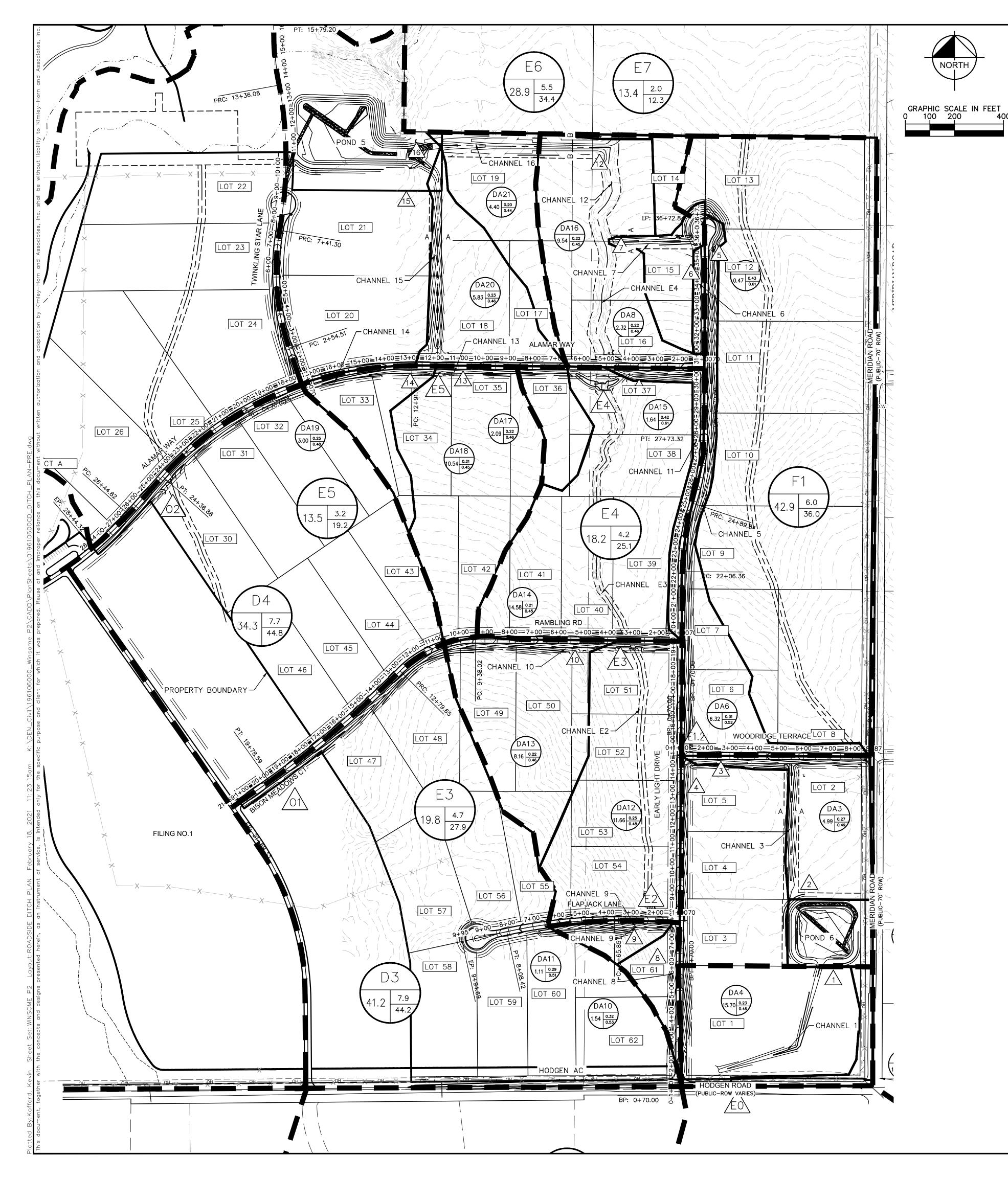






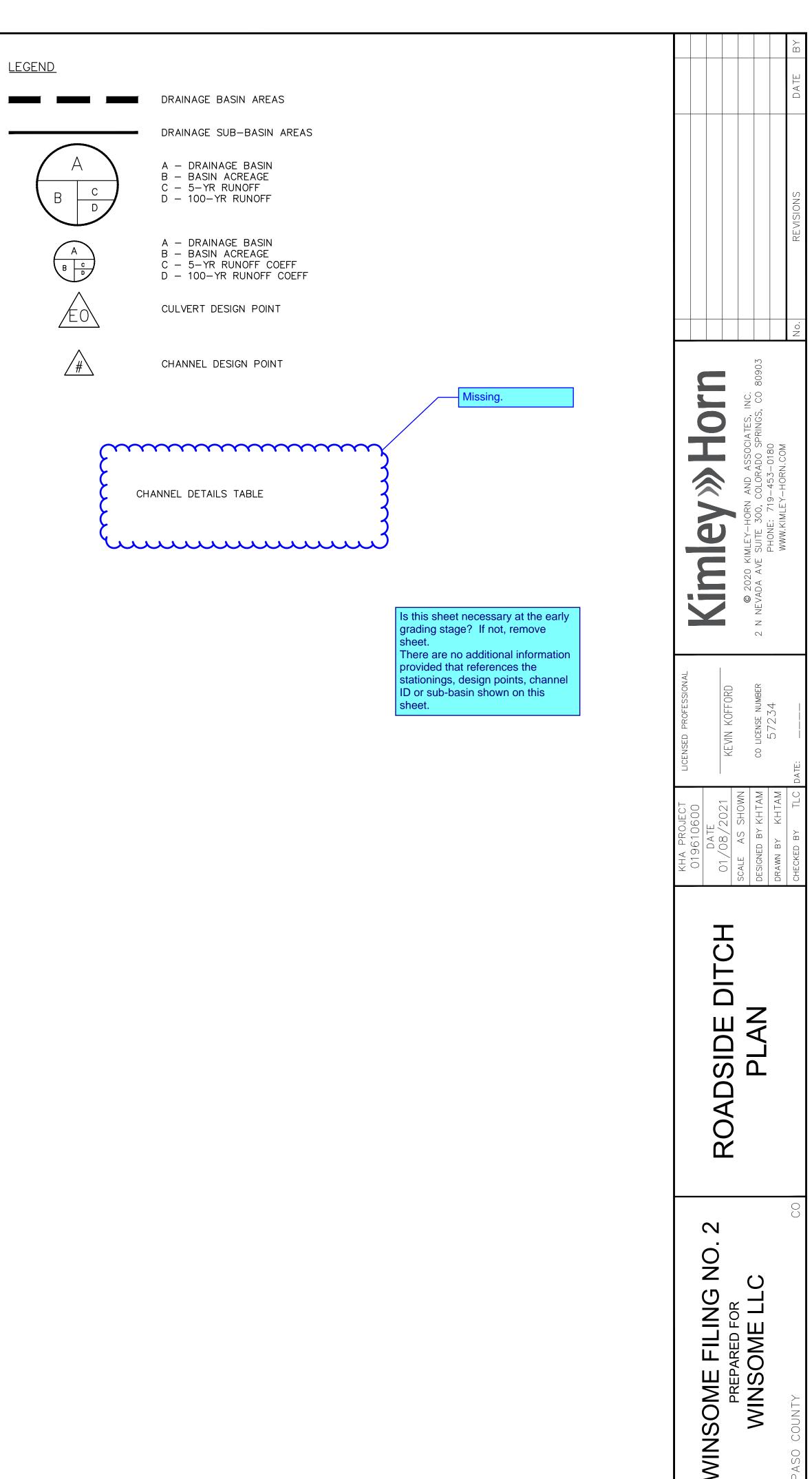






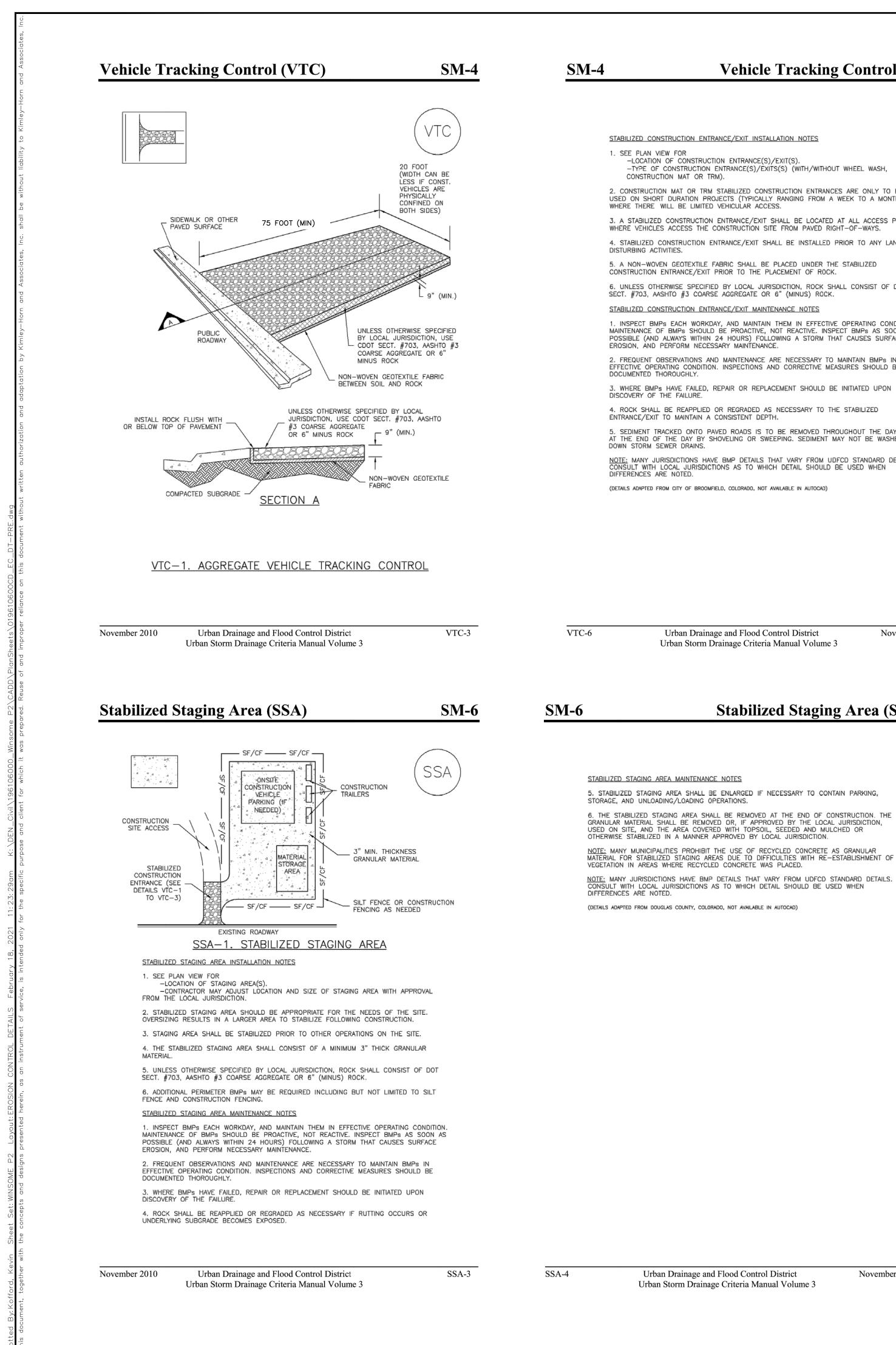
NORTH

400



SHEET NUMBER

11



### Vehicle Tracking Control (VTC)

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

-LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S). -TYPE OF CONSTRUCTION ENTRANCE(S)/EXITS(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM).

2. CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.

3. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS. 4. STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND

5. A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.

6. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK. STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES

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

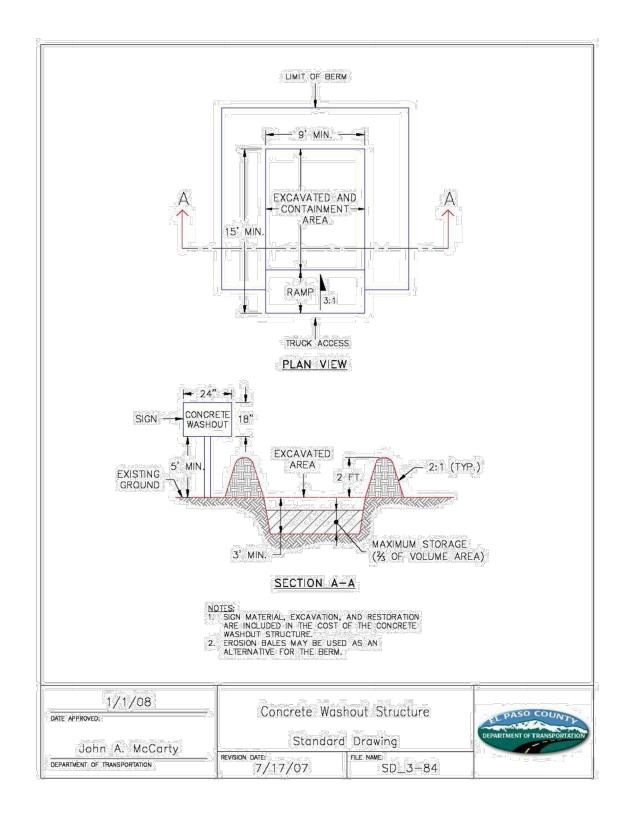
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON 4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.

5. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVELING OR SWEEPING. SEDIMENT MAY NOT BE WASHED

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN

(DETAILS ADAPTED FROM CITY OF BROOMFIELD, COLORADO, NOT AVAILABLE IN AUTOCAD)



Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

### Stabilized Staging Area (SSA)

November 2010

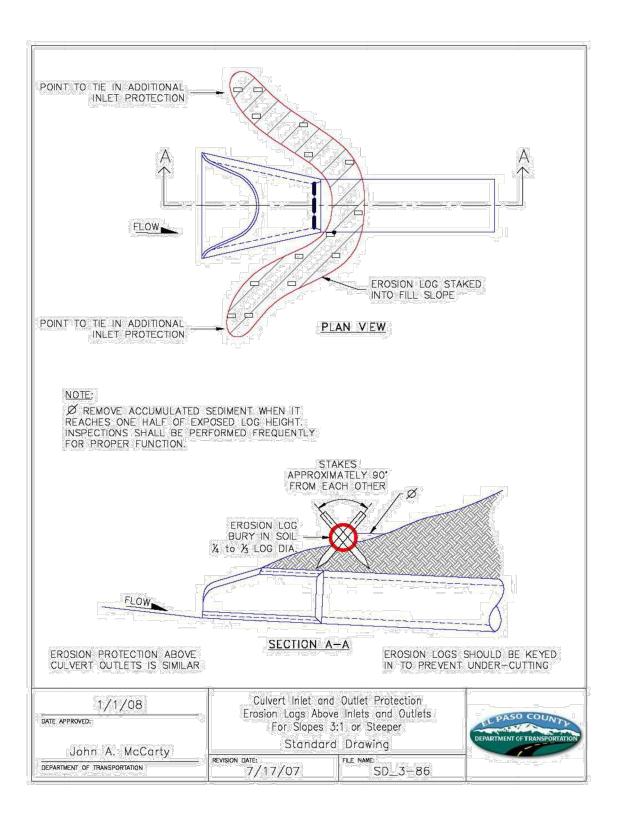
STABILIZED STAGING AREA MAINTENANCE NOTES

5. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.

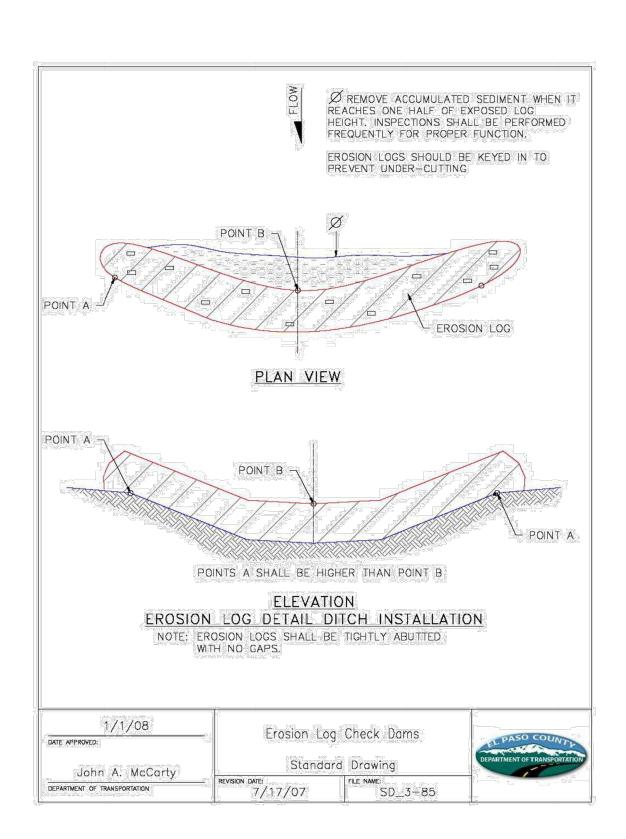
6. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

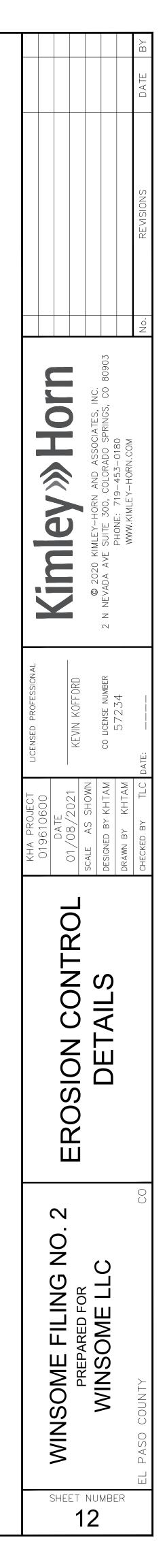
NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.

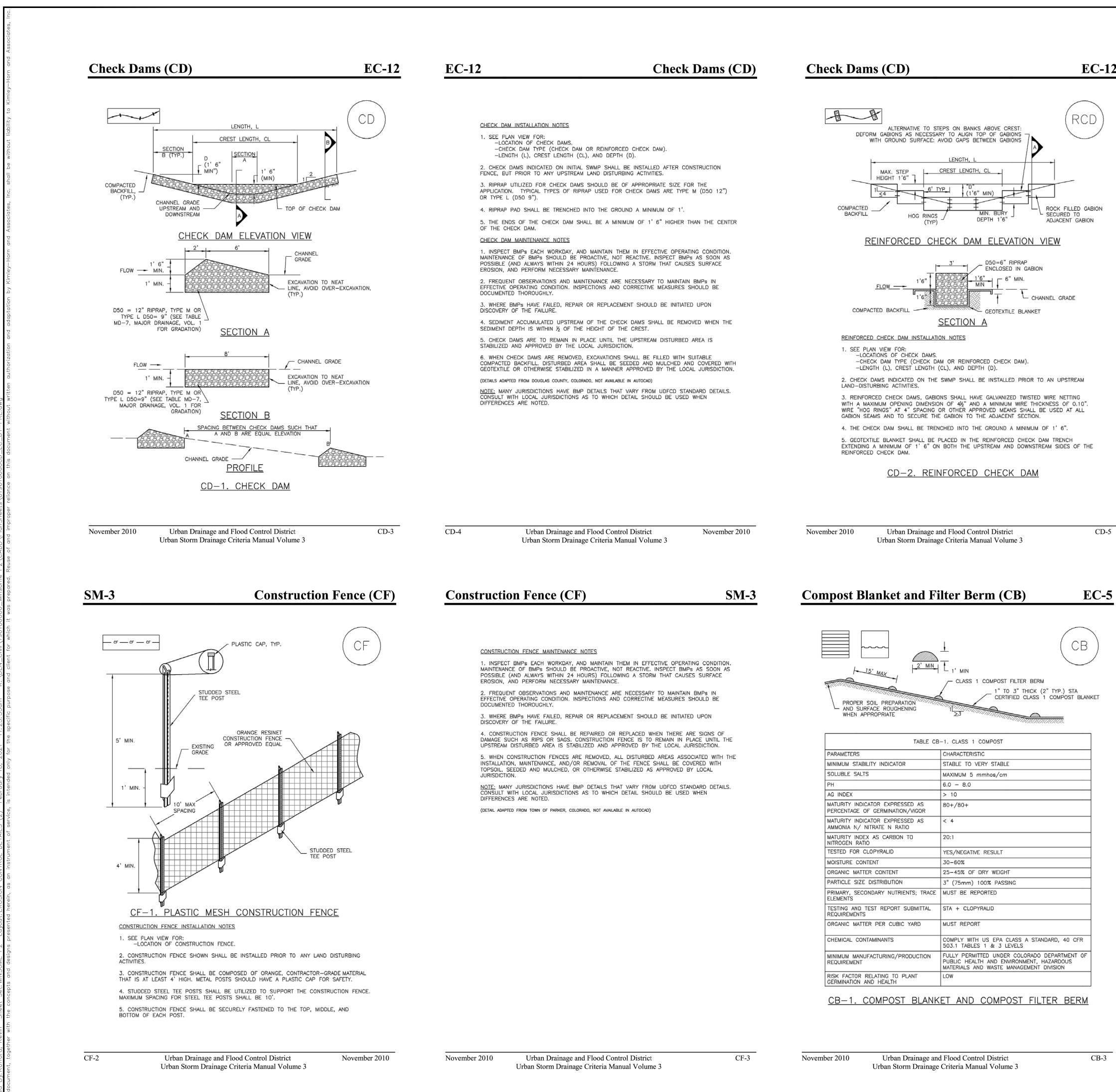
(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)



November 2010







### **Check Dams (CD)**

REINFORCED CHECK DAM MAINTENANCE NOTES

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

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

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

4. SEDIMENT ACCUMULATED UPSTREAM OF REINFORCED CHECK DAMS SHALL BE REMOVED AS NEEDED TO MAINTAIN THE EFFECTIVENESS OF BMP, TYPICALLY WHEN THE UPSTREAM SEDIMENT DEPTH IS WITHIN 1/2 THE HEIGHT OF THE CREST.

5. REPAIR OR REPLACE REINFORCED CHECK DAMS WHEN THERE ARE SIGNS OF DAMAGE SUCH AS HOLES IN THE GABION OR UNDERCUTTING. 6. REINFORCED CHECK DAMS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED

AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION. 7. WHEN REINFORCED CHECK DAMS ARE REMOVED, ALL DISTURBED AREAS SHALL BE

COVERED WITH TOPSOIL, SEEDED AND MULCHED, AND COVERED WITH A GEOTEXTILE BLANKET, OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

(DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

CD-6

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

### **Compost Blanket and Filter Berm (CB) EC-5**

COMPOST FILTER BERM AND COMPOST BLANKET INSTALLATION NOTES

1. SEE PLAN VIEW FOR -LOCATION OF COMPOST FILTER BERM(S).

-LENGTH OF COMPOST FILTER BERM(S).

2. COMPOST BERMS AND BLANKETS MAY BE USED IN PLACE OF STRAW MULCH OR GEOTEXTILE FABRIC IN AREAS WHERE ACCESS TO LANDSCAPING IS DIFFICULT DUE TO LANDSCAPING OR OTHER OBJECTS OR IN AREAS WHERE A SMOOTH TURF GRASS FINISH IS DESIRED.

3. FILTER BERMS SHALL RUN PARALLEL TO THE CONTOUR.

4. FILTER BERMS SHALL BE A MINIMUM OF 1 FEET HIGH AND 2 FEET WIDE.

5. FILTER BERMS SHALL BE APPLIED BY PNEUMATIC BLOWER OR BY HAND.

6. FILTER BERMS SHALL ONLY BE UTILIZED IN AREAS WHERE SHEET FLOW CONDITIONS PREVAIL AND NOT IN AREAS OF CONCENTRATED FLOW.

7. COMPOST BLANKETS SHALL BE APPLIED AT A DEPTH OF 1 -3 INCHES (TYPICALLY 2 INCHES). FOR AREAS WITH EXISTING VEGETATION THAT ARE TO BE SUPPLEMENTED BY COMPOST, A THIN 0.5-INCH LAYER MAY BE USED.

8. SEEDING SHALL BE PERFORMED PRIOR TO THE APPLICATION OF COMPOST. ALTERNATIVELY, SEED MAY BE COMBINED WITH COMPOST AND BLOWN WITH THE PNEUMATIC BLOWER. 9. WHEN TURF GRASS FINISH IS NOT DESIRED, SURFACE ROUGHENING ON SLOPES SHALL

TAKE PLACE PRIOR TO COMPOST APPLICATION. 10. COMPOST SHALL BE A CLASS 1 COMPOST AS DEFINED BY TABLE CB-1.

COMPOST FILTER BERM MAINTENANCE NOTES

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

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

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

4. COMPOST BERMS AND BLANKETS SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RILLING IN THE COMPOST SURFACE OCCURS. (DETAILS ADAPTED FROM ARAPAHOE COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

13

Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

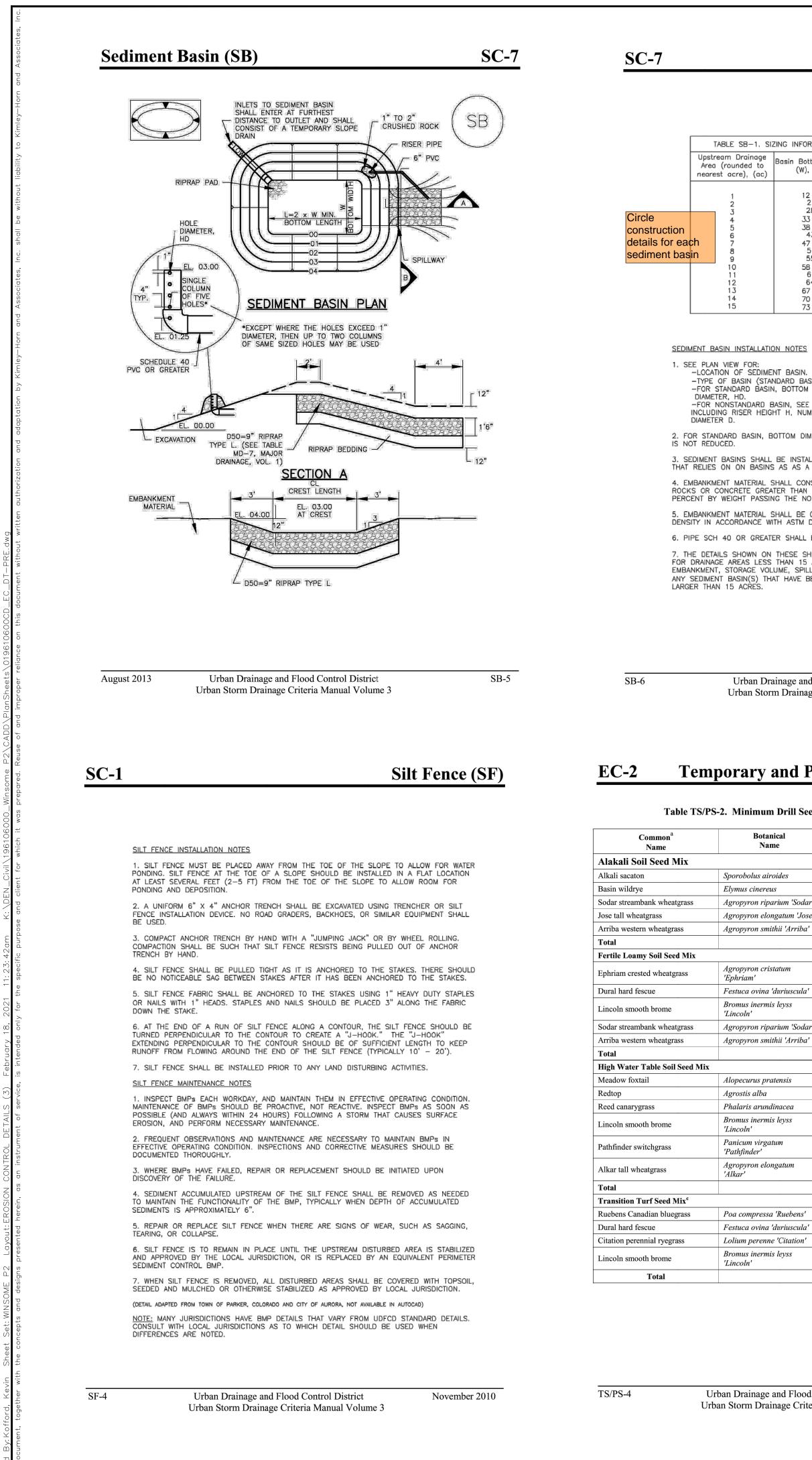


TABLE SB-1. SIZ	ZING INFORMATION FO	OR STANDARD SEDIMENT	BASIN
ream Drainage 1 (rounded to est acre), (ac)	Basin Bottom Width (W), (ft)	Spillway Crest Length (CL), (ft)	Hole Diameter (HD), (in)
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	12 ½ 21 28 33 ½ 43 47 ¼ 51 55 58 ¼ 61 64 67 ½ 70 ½ 73 ¼	2 3 5 6 8 9 11 12 13 15 16 18 19 21 22	932 1376 996 2352 2352 2352 2352 2352 2352 2352 1376 3352 1 1 36 1 36 1 36 1 36

SEDIMENT BASIN INSTALLATION NOTES

### -TYPE OF BASIN (STANDARD BASIN OR NONSTANDARD BASIN).

-FOR STANDARD BASIN, BOTTOM WIDTH W, CREST LENGTH CL, AND HOLE -FOR NONSTANDARD BASIN, SEE CONSTRUCTION DRAWINGS FOR DESIGN OF BASIN INCLUDING RISER HEIGHT H, NUMBER OF COLUMNS N, HOLE DIAMETER HD AND PIPE

2. FOR STANDARD BASIN, BOTTOM DIMENSION MAY BE MODIFIED AS LONG AS BOTTOM AREA

3. SEDIMENT BASINS SHALL BE INSTALLED PRIOR TO ANY OTHER LAND-DISTURBING ACTIVITY THAT RELIES ON ON BASINS AS AS A STORMWATER CONTROL.

4. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL FREE OF DEBRIS, ORGANIC MATERIAL, AND ROCKS OR CONCRETE GREATER THAN 3 INCHES AND SHALL HAVE A MINIMUM OF 15 PERCENT BY WEIGHT PASSING THE NO. 200 SIEVE.

5. EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D698. 6. PIPE SCH 40 OR GREATER SHALL BE USED.

7. THE DETAILS SHOWN ON THESE SHEETS PERTAIN TO STANDARD SEDIMENT BASIN(S) FOR DRAINAGE AREAS LESS THAN 15 ACRES. SEE CONSTRUCTION DRAWINGS FOR EMBANKMENT, STORAGE VOLUME, SPILLWAY, OUTLET, AND OUTLET PROTECTION DETAILS FOR ANY SEDIMENT BASIN(S) THAT HAVE BEEN INDIVIDUALLY DESIGNED FOR DRAINAGE AREAS

> Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

SEDIMENT BASIN MAINTENANCE NOTES

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

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

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

4. SEDIMENT ACCUMULATED IN BASIN SHALL BE REMOVED AS NEEDED TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN SEDIMENT DEPTH REACHES ONE FOOT (I.E., TWO FEET BELOW THE SPILLWAY CREST). 5. SEDIMENT BASINS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA

IS STABILIZED AND GRASS COVER IS ACCEPTED BY THE LOCAL JURISDICTION. 6. WHEN SEDIMENT BASINS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO) NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN

DIFFERENCES ARE NOTED.

August 2013

August 2013

Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

## **Temporary and Permanent Seeding (TS/PS)**

### Table TS/PS-2. Minimum Drill Seeding Rates for Perennial Grasses

Botanical Name	Growth Season <sup>b</sup>	Growth Form	Seeds/ Pound	Pounds of PLS/acre
Sporobolus airoides	Cool	Bunch	1,750,000	0.25
Elymus cinereus	Cool	Bunch	165,000	2.5
Agropyron riparium 'Sodar'	Cool	Sod	170,000	2.5
Agropyron elongatum 'Jose'	Cool	Bunch	79,000	7.0
Agropyron smithii 'Arriba'	Cool	Sod	110,000	5.5
				17.75
Agropyron cristatum 'Ephriam'	Cool	Sod	175,000	2.0
Festuca ovina 'duriuscula'	Cool	Bunch	565,000	1.0
Bromus inermis leyss 'Lincoln'	Cool	Sod	130,000	3.0
Agropyron riparium 'Sodar'	Cool	Sod	170,000	2.5
Agropyron smithii 'Arriba'	Cool	Sod	110,000	7.0
				15.5
Alopecurus pratensis	Cool	Sod	900,000	0.5
Agrostis alba	Warm	Open sod	5,000,000	0.25
Phalaris arundinacea	Cool	Sod	68,000	0.5
Bromus inermis leyss 'Lincoln'	Cool	Sod	130,000	3.0
Panicum virgatum 'Pathfinder'	Warm	Sod	389,000	1.0
Agropyron elongatum 'Alkar'	Cool	Bunch	79,000	5.5
				10.75
, <b>,</b>				
Poa compressa 'Ruebens'	Cool	Sod	2,500,000	0.5
Festuca ovina 'duriuscula'	Cool	Bunch	565,000	1.0
Lolium perenne 'Citation'	Cool	Sod	247,000	3.0
Bromus inermis leyss 'Lincoln'	Cool	Sod	130,000	3.0
				7.5

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

### Table TS/PS-2. Minimum Drill Seeding Rates for Perennial Grasses (cont.) Seeds/ Pounds of Botanical Growth Growth Common Name Name Season<sup>b</sup> Form Pound PLS/acre Sandy Soil Seed Mix Sod-forming Warm 825,000 Bouteloua gracilis Blue grama bunchgrass Schizachyrium scoparium Camper little bluestem Warm Bunch 240,000 'Camper' Prairie sandreed Calamovilfa longifolia Warm 274.000 Open sod Cool 5.298.000 Sporobolus cryptandrus Bunch Sand dropseed Bouteloua curtipendula 191,000 Vaughn sideoats grama Warm Sod 'Vaughn' Arriba western wheatgrass Agropyron smithii 'Arriba' Cool Sod 110,000 Total Heavy Clay, Rocky Foothill Seed Mix Agropyron cristatum 175,000 Cool Sod Ephriam crested wheatgrass<sup>a</sup> 'Ephriam' Agropyron intermedium Oahe Intermediate wheatgrass Cool Sod 115,000 'Oahe' Bouteloua curtipendula Sod 191,000 2.0Vaughn sideoats grama<sup>e</sup> Warm 'Vaughn' Bromus inermis leyss 130,000 Cool Sod 3.0 Lincoln smooth brome 'Lincoln' Agropyron smithii 'Arriba' Cool Sod 110,000 5.5 Arriba western wheatgrass 17.5 Total

All of the above seeding mixes and rates are based on drill seeding followed by crimped straw mulch. These rates should be doubled if seed is broadcast and should be increased by 50 percent if the seeding is done using a Brillion Drill or is applied through hydraulic seeding. Hydraulic seeding may be substituted for drilling only where slopes are steeper than 3:1. If hydraulic seeding is used, hydraulic mulching should be done as a separate operation.

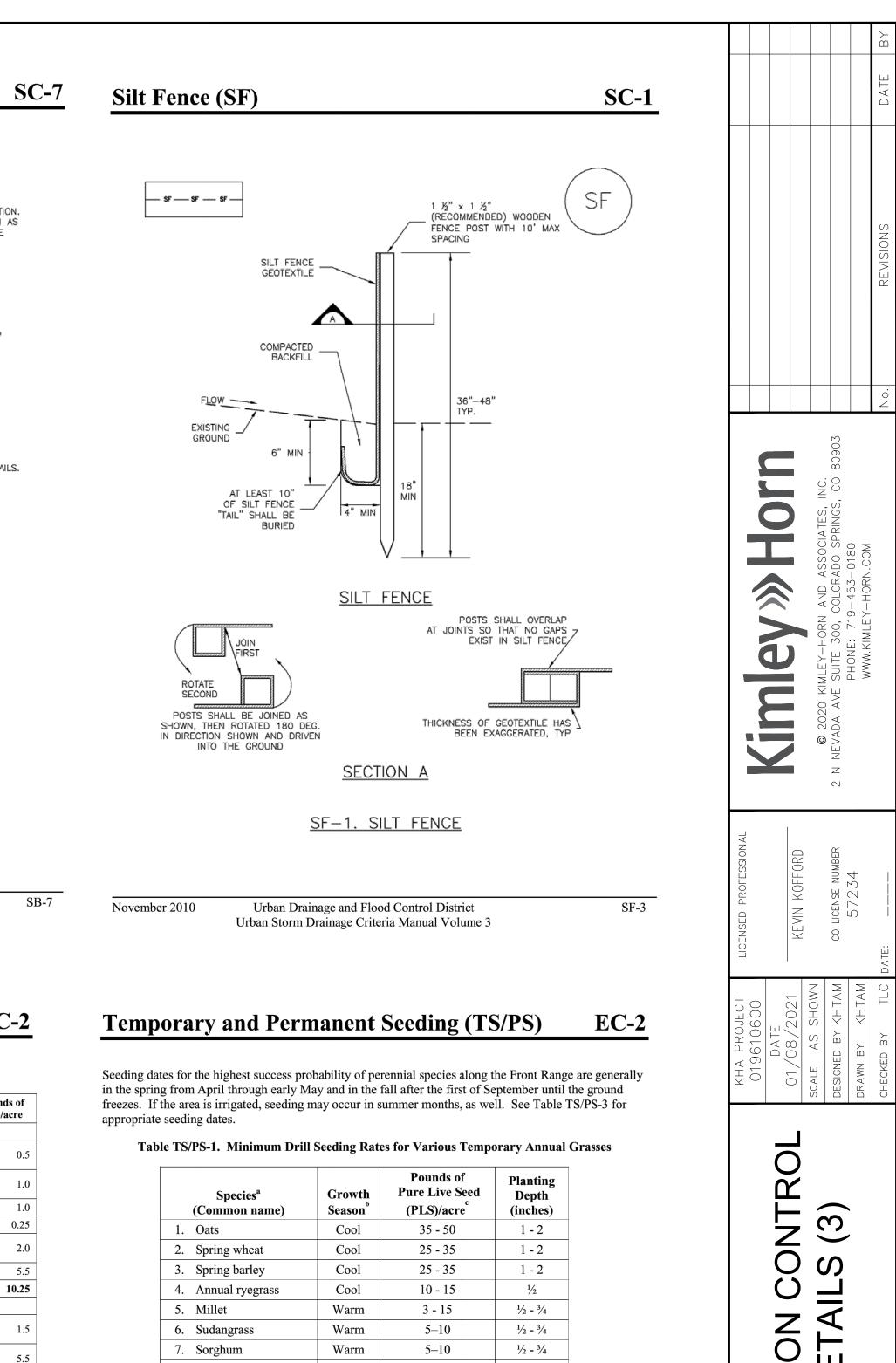
See Table TS/PS-3 for seeding dates.

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

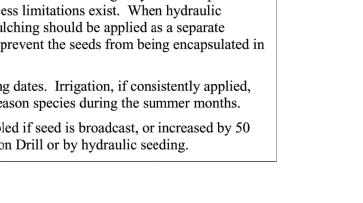
<sup>1</sup> Crested wheatgrass should not be used on slopes steeper than 6H to 1V. Can substitute 0.5 lbs PLS of blue grama for the 2.0 lbs PLS of Vaughn sideoats grama.

Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 June 2012

TS/PS-5



Species <sup>a</sup> (Common name)	Growth Season <sup>b</sup>	Pounds of Pure Live Seed (PLS)/acre <sup>°</sup>	Planting Depth (inches)
1. Oats	Cool	35 - 50	1 - 2
2. Spring wheat	Cool	25 - 35	1 - 2
3. Spring barley	Cool	25 - 35	1 - 2
4. Annual ryegrass	Cool	10 - 15	1/2
5. Millet	Warm	3 - 15	1/2 - 3/4
6. Sudangrass	Warm	5–10	1/2 - 3/4
7. Sorghum	Warm	5–10	1/2 - 3/4
8. Winter wheat	Cool	20–35	1 - 2
9. Winter barley	Cool	20–35	1 - 2
10. Winter rye	Cool	20–35	1 - 2
4.4	G 1		
11. Triticale <sup>a</sup> Successful seeding of annu	Cool	25–40	1 - 2
<ul> <li><sup>a</sup> Successful seeding of annu usually produce enough de wind and water erosion for is not disturbed or mowed disturbed or mowed disturbed or mowed disterept than 3:1 or where a seeding is used, hydraulic roperation, when practical, the mulch.</li> </ul>	al grass resu ad-plant resid an additiona closer than 8 substituted fo ccess limitat nulching sho	Iting in adequate plant due to provide protect l year. This assumes inches. or drilling only where ions exist. When hydr ould be applied as a se	t growth will ion from that the cove slopes are raulic parate
<ul> <li><sup>a</sup> Successful seeding of annuusually produce enough de wind and water erosion for is not disturbed or mowed of Hydraulic seeding may be a steeper than 3:1 or where a seeding is used, hydraulic roperation, when practical, for the seeding is used.</li> </ul>	al grass resu ad-plant resid an additiona closer than 8 substituted fo ccess limitat nulching sho to prevent the ling dates. In	Iting in adequate plant due to provide protect l year. This assumes inches. or drilling only where ions exist. When hydr ould be applied as a se e seeds from being end	t growth will ion from that the cove slopes are raulic parate capsulated in ly applied,



June 2012

Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 TS/PS-3

SHEET NUMBER 14

\_

S

N

Ш

 $\sim$ 

 $\bigcirc$ 

Ζ

\_

\_\_\_\_

LL

 $\geq$ 

Ο S

\_\_\_\_

 $\square$ 

LL

Σ

 $\mathbf{O}$ 

ဟ

Ζ

2