

WOODMOOR WATER & SANITATION DISTRICT NO. 1

HWY 105 UTILITY RELOCATION - PHASE B

EL PASO COUNTY, COLORADO

GRADING AND EROSION CONTROL PLAN

CONTACTS

OWNER:	WOODMOOR WATER AND SANITATION DISTRICT NO. 1 1845 WOODMOOR DRIVE MONUMENT, COLORADO 80132	JESSIE SHAFFER, P.E. (719) 488-2525 JESSIES@WOODMOORWATER.COM
ENGINEER:	JVA, INC. 1675 LARIMER STREET, SUITE 550 DENVER, CO 80202	RICHARD A HOOD, P.E. (303) 444-1951 RHOO@JVAJVA.COM
SURVEYOR:	FARNSWORTH GROUP 4755 FORGE ROAD, SUITE 105 COLORADO SPRINGS, CO 80907	STEVEN PARKER, PLS (303) 692-8838 SPARKER@F-W.COM
SURVEYOR:	BARRON LAND 2790 N. ACADEMY BLVD SUITE 311 COLORADO SPRINGS, CO 80917	SPENCER BARRON, PLS (719) 360 6827 SPENCER@BARRONLAND.COM
COUNTY:	EL PASO COUNTY 3275 AKERS DRIVE COLORADO SPRINGS, CO 80922	ALISSA WERRE, P.E. (719) 520-6879 ALISSAWERRE@ELPASOCOUNTY.COM



JANUARY 2025

PREPARED UNDER THE SUPERVISION OF

JVA, Inc.

DRAWING INDEX

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QUALIFIED STORMWATER MANAGER

NAME: _____

COMPANY: _____

ADDRESS: _____

CONTRACTOR

NAME: _____

COMPANY: _____

ADDRESS: _____

ENGINEER'S STATEMENT:

THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. SAID PLAN HAS BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR GRADING AND EROSION CONTROL PLANS. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS PLAN.

ROBIN L. KRISS, COLORADO PE 36807

JANUARY 31, 2025
DATE



OWNER'S/APPLICANT'S STATEMENT:

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

Jessie J. Shaffer

2-3-2025
DATE

OWNER SIGNATURE

EL PASO COUNTY:

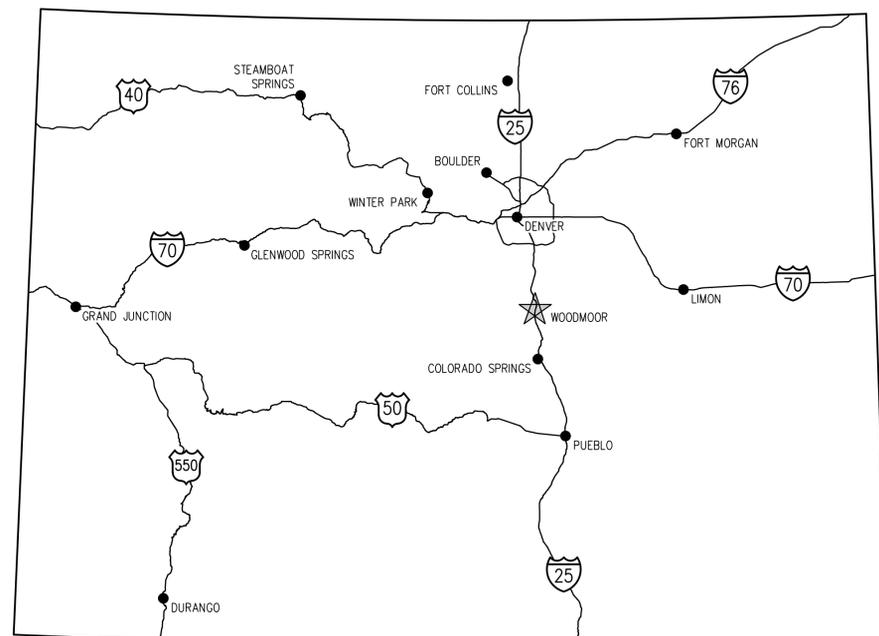
COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH THE COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY 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.

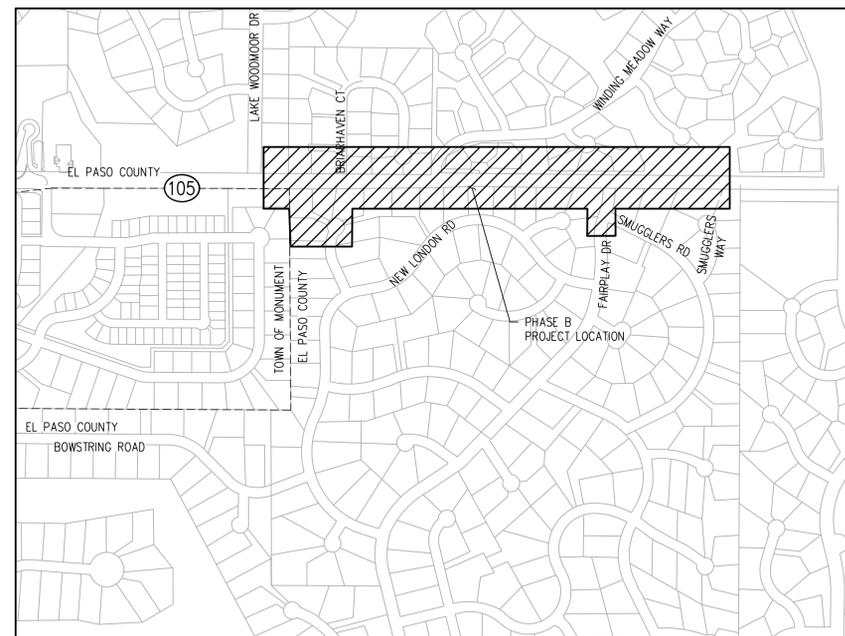
IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF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

Joshua Palmer, P.E.
County Engineer/ECM Administrator

DATE



VICINITY MAP
NTS



PROJECT LOCATION MAP
NTS



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 Denver, CO 80202 303.444.1951
 www.jvajva.com
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NO. DATE DESD DWN

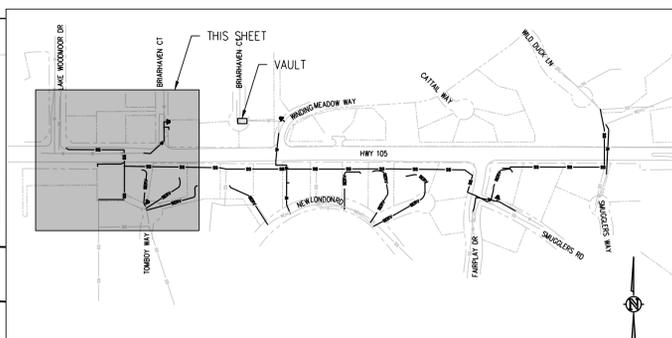
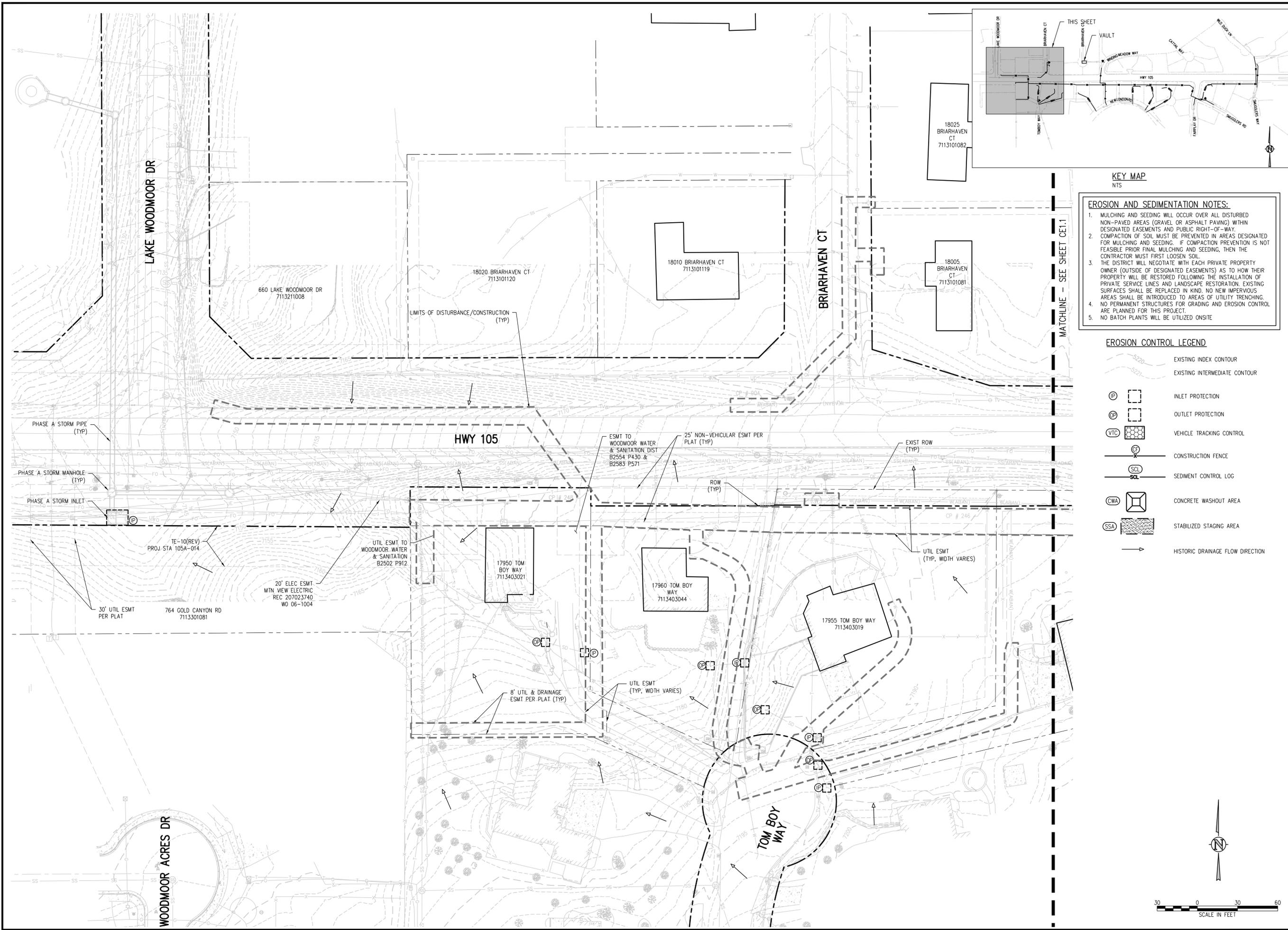
REVISION DESCRIPTION



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 CHECKED BY: RAH/JJM
 JOB #: 1051.14e
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WOODMOOR WSD NO. 1
 HWY 105 UTILITY RELOCATION - PHASE B
 EL PASO COUNTY, COLORADO
 INITIAL GRADING AND
 EROSION CONTROL PLAN

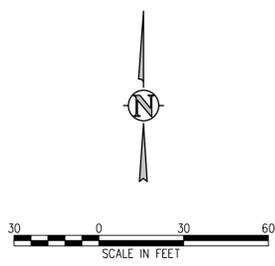
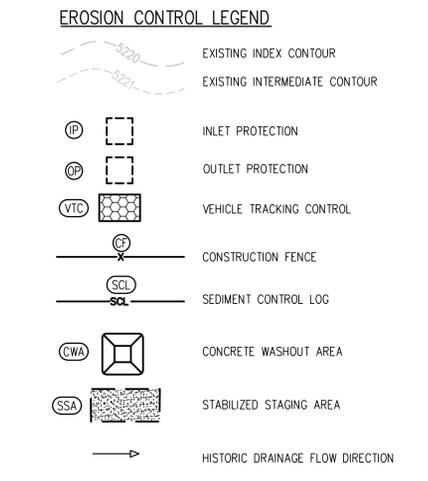
SHEET NO.
CE1.0



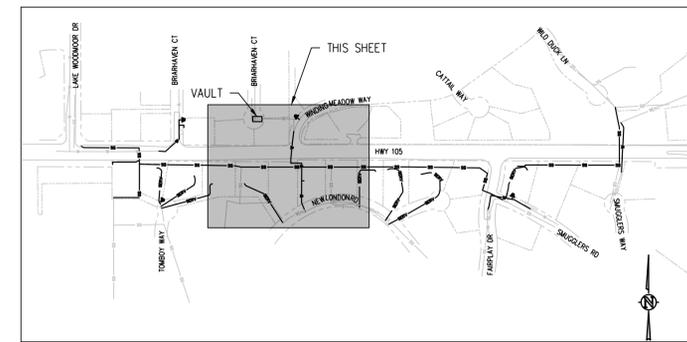
KEY MAP
 NTS

EROSION AND SEDIMENTATION NOTES:

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MATCHLINE - SEE SHEET CE1.1

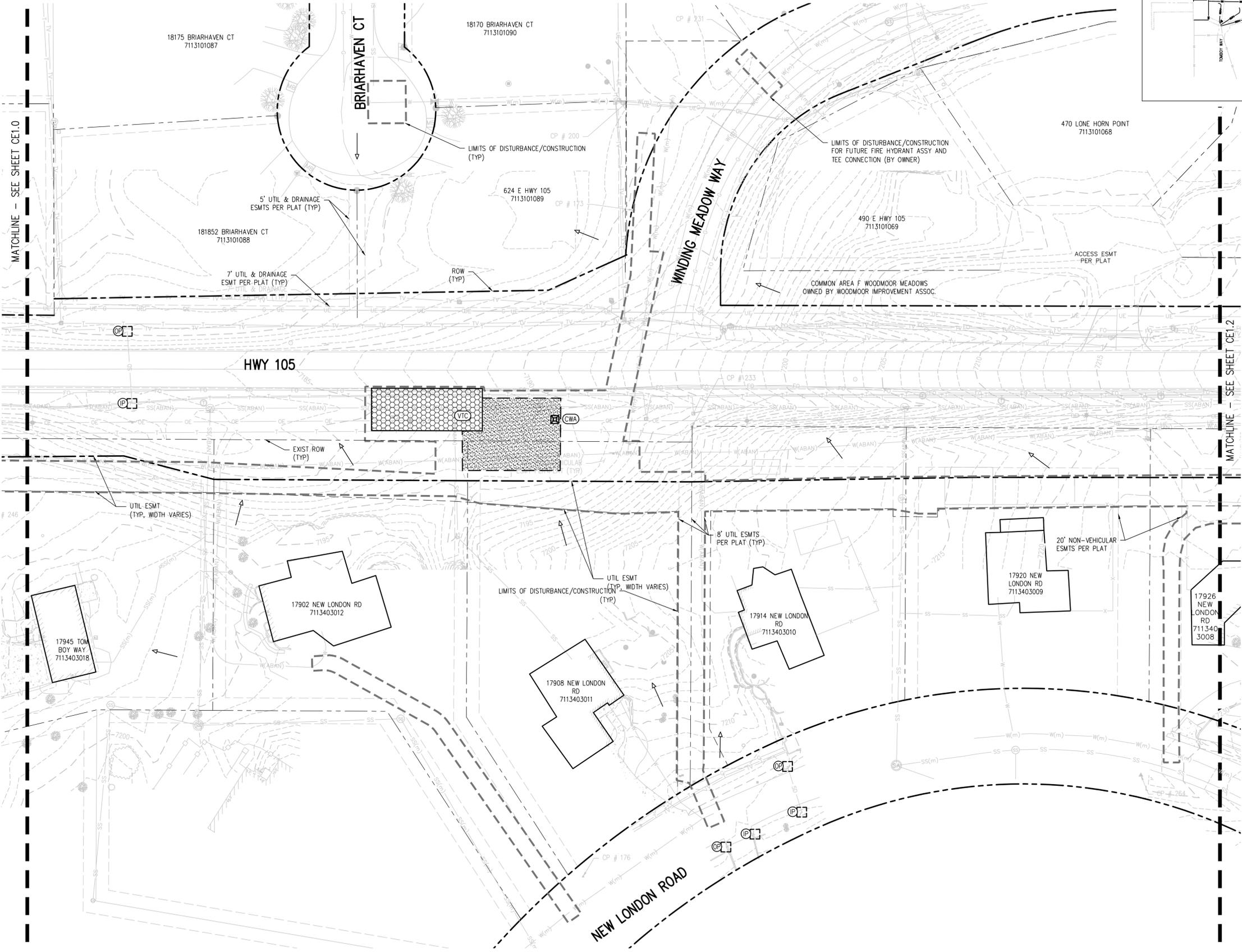


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EROSION CONTROL LEGEND

- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- INLET PROTECTION
- OUTLET PROTECTION
- VEHICLE TRACKING CONTROL
- CONSTRUCTION FENCE
- SEDIMENT CONTROL LOG
- CONCRETE WASHOUT AREA
- STABILIZED STAGING AREA
- HISTORIC DRAINAGE FLOW DIRECTION



NO.	DATE	DESIGN	DESCRIPTION



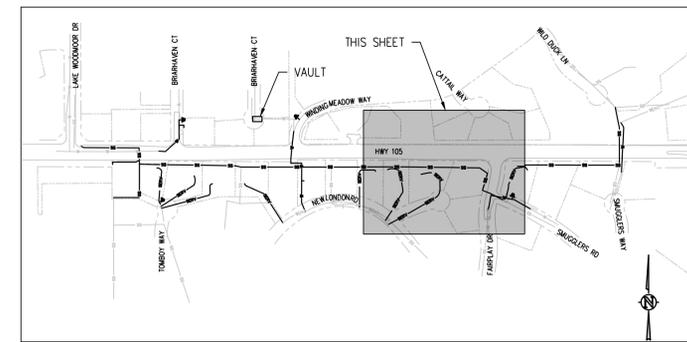
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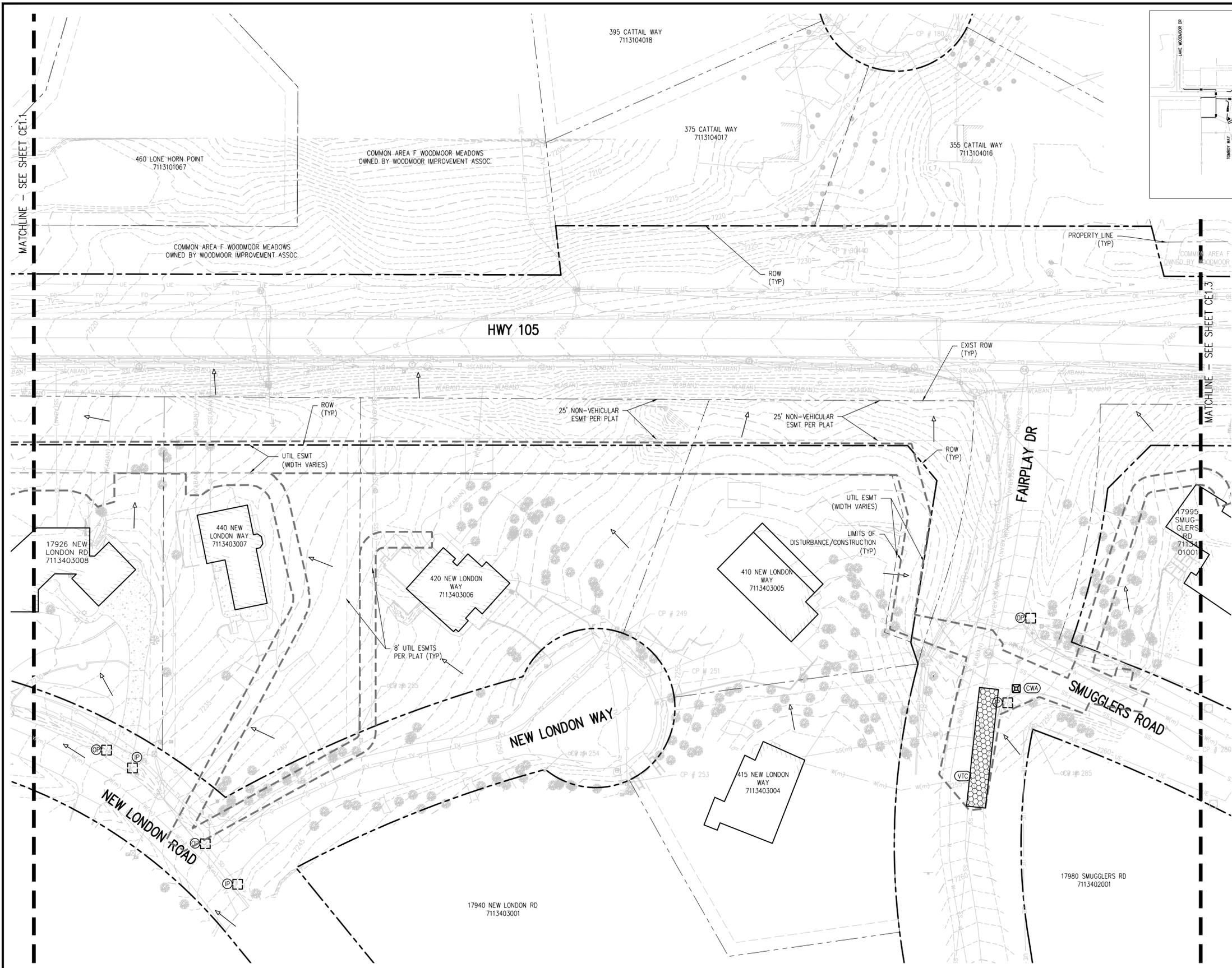


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MATCHLINE - SEE SHEET CE1.1

MATCHLINE - SEE SHEET CE1.3

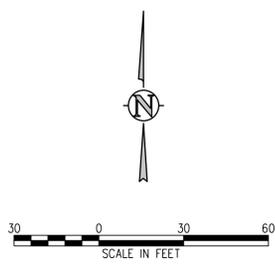
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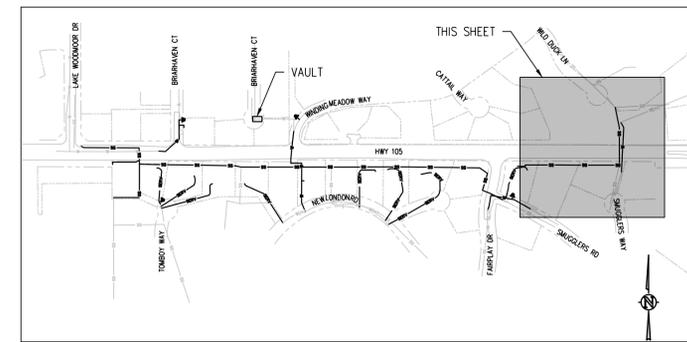


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SHEET NO.
CE1.2



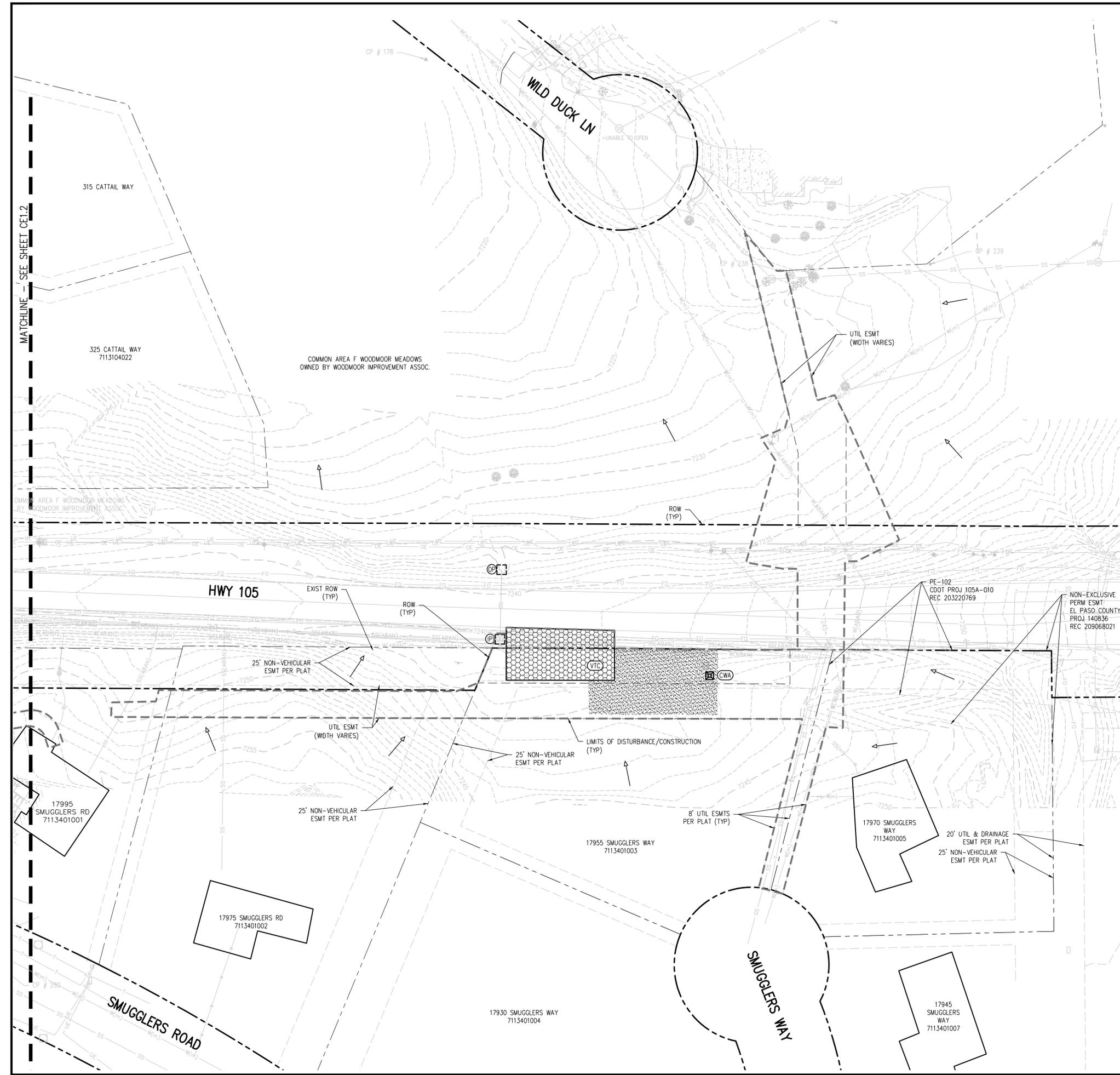


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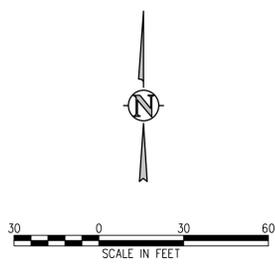
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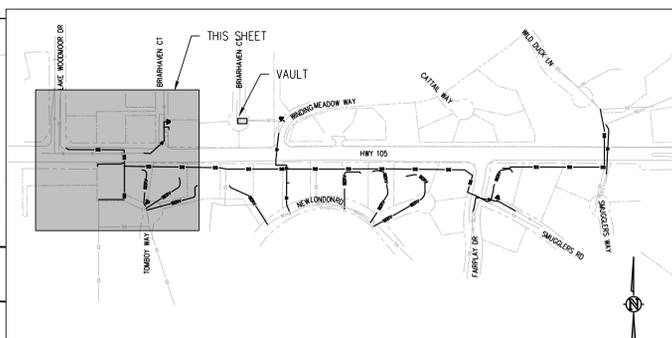
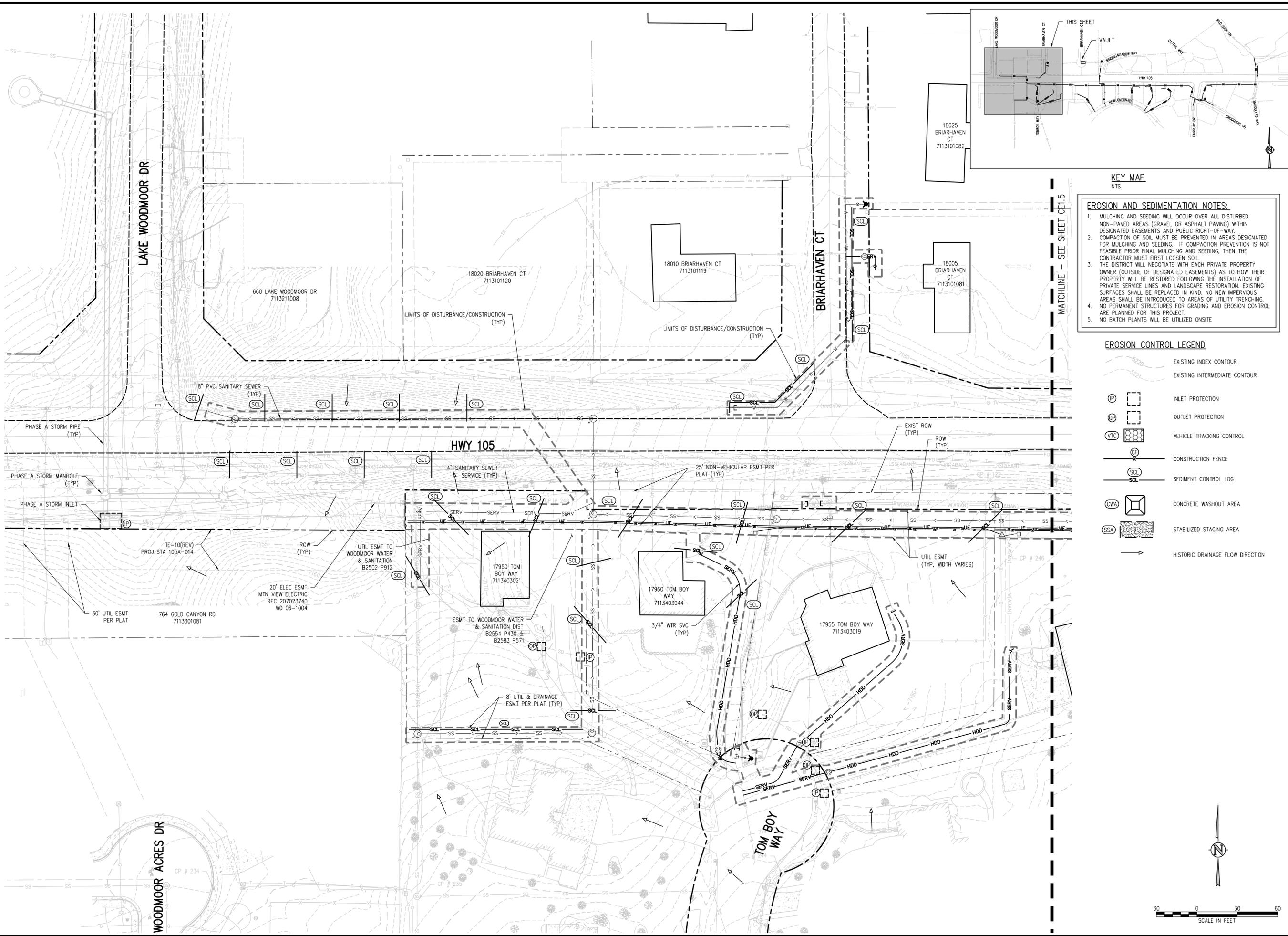


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CE1.3





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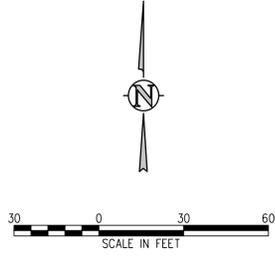
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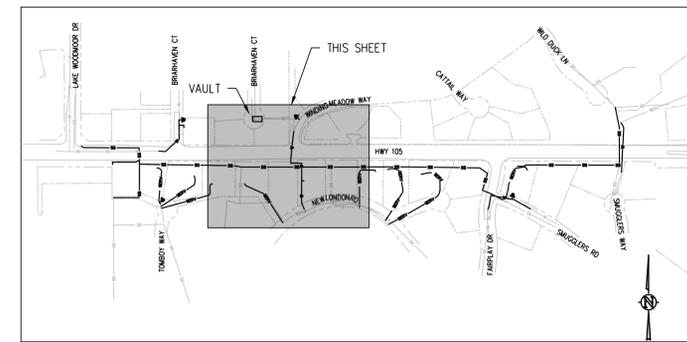


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SHEET NO.
CE1.4

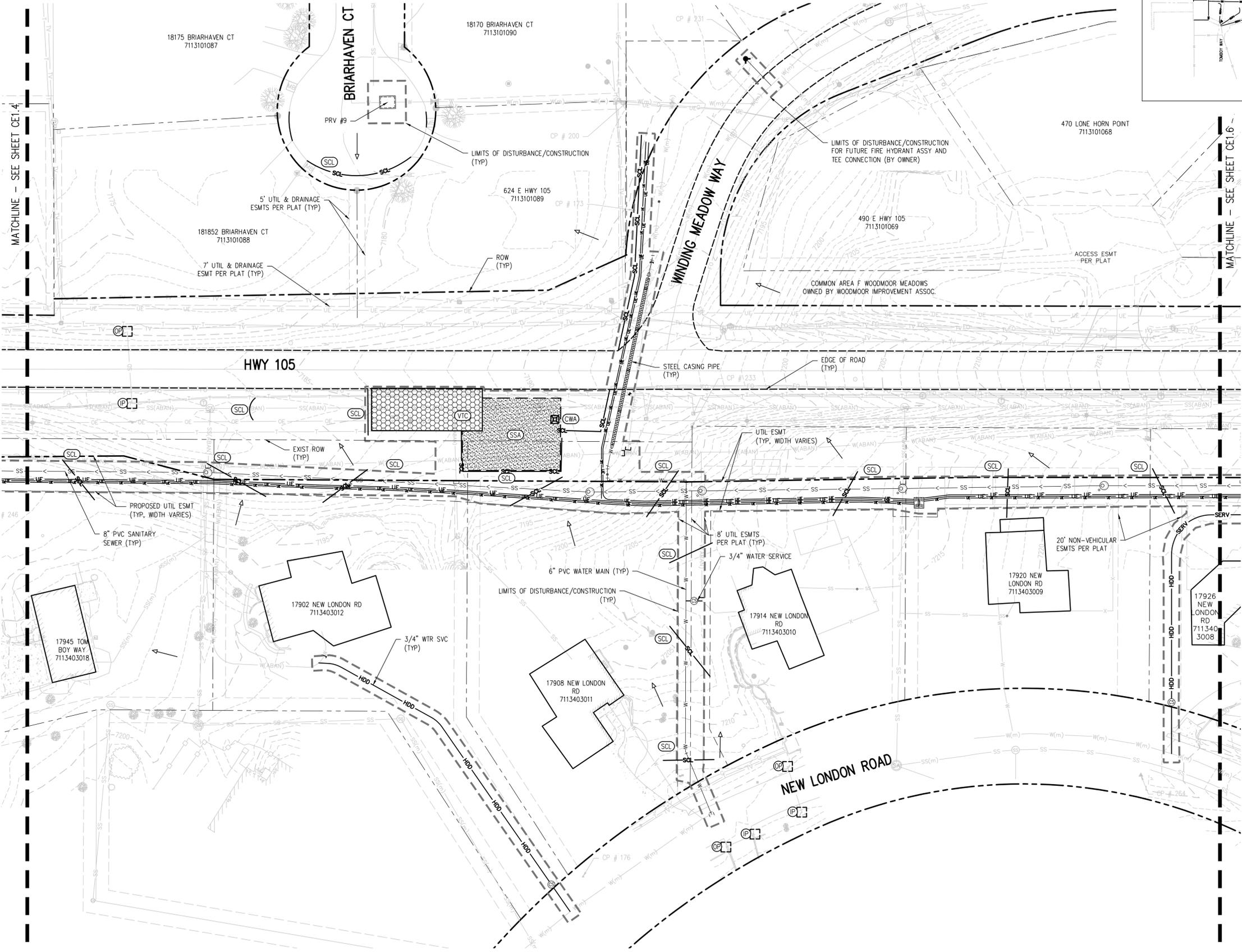
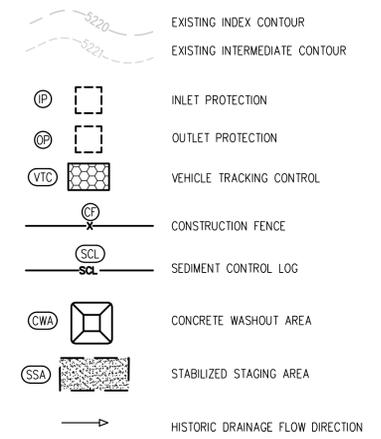




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EROSION CONTROL LEGEND



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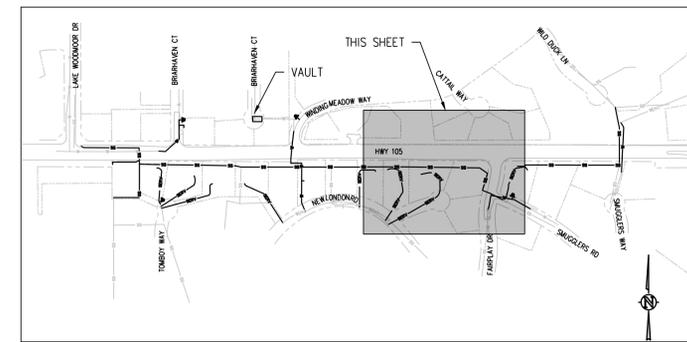
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CE1.5



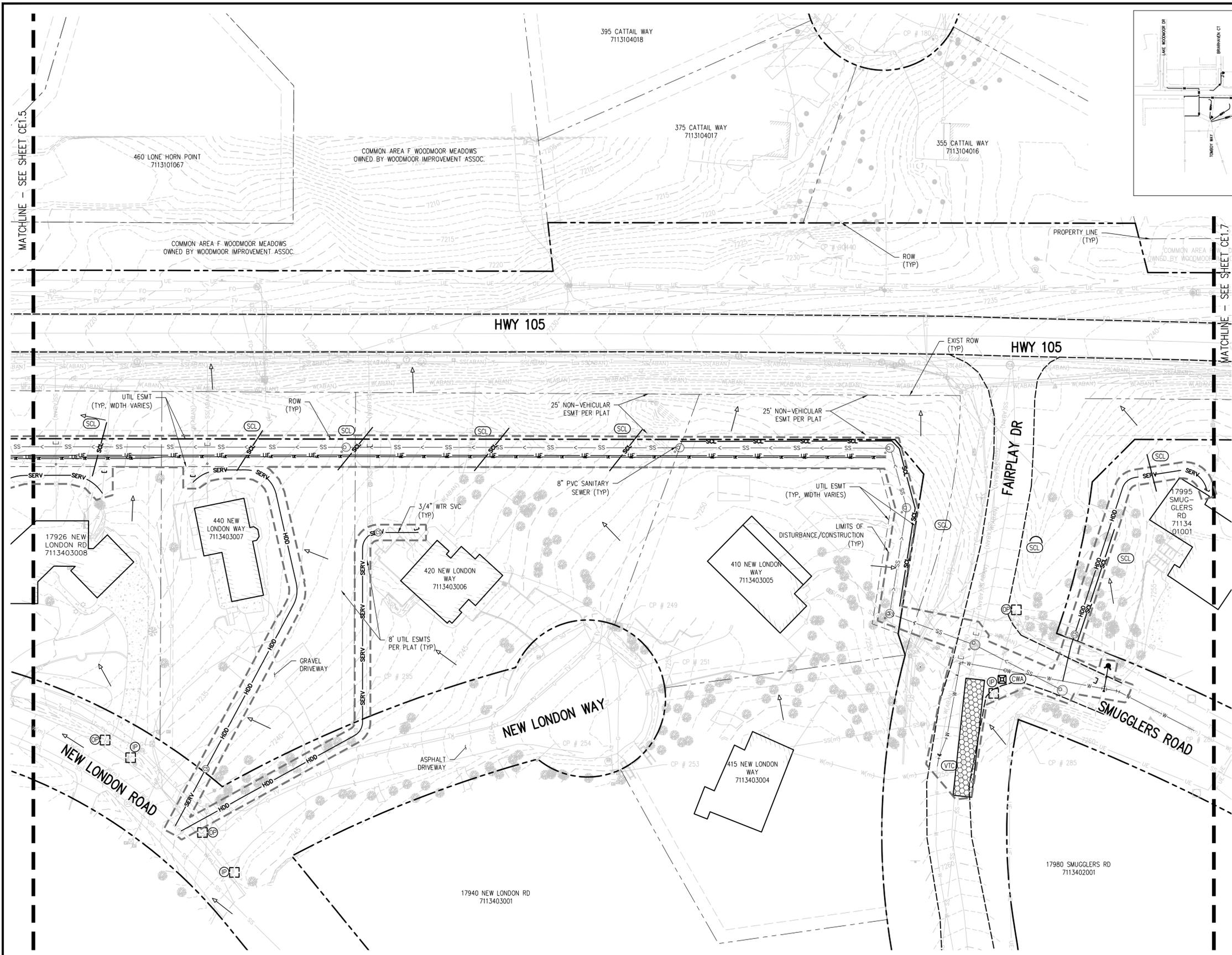
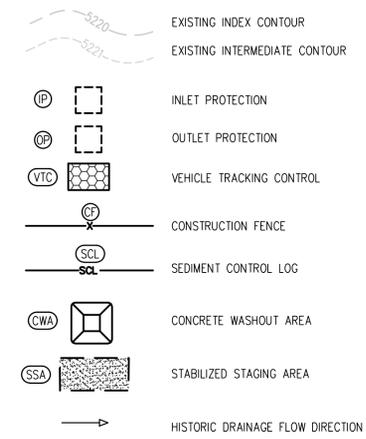
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EROSION CONTROL LEGEND



MATCHLINE - SEE SHEET CE1.5

MATCHLINE - SEE SHEET CE1.7

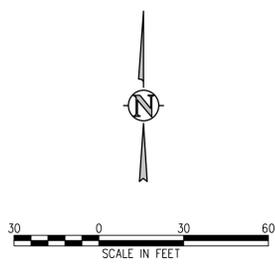
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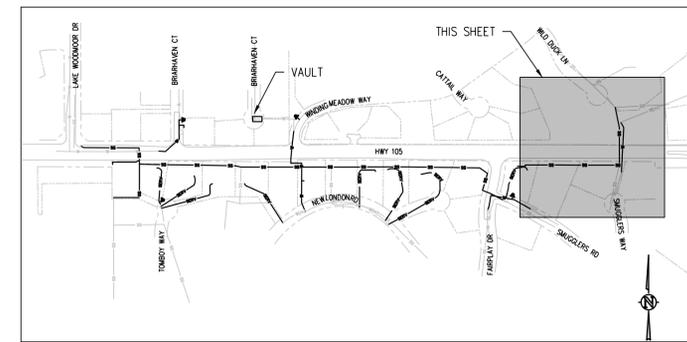
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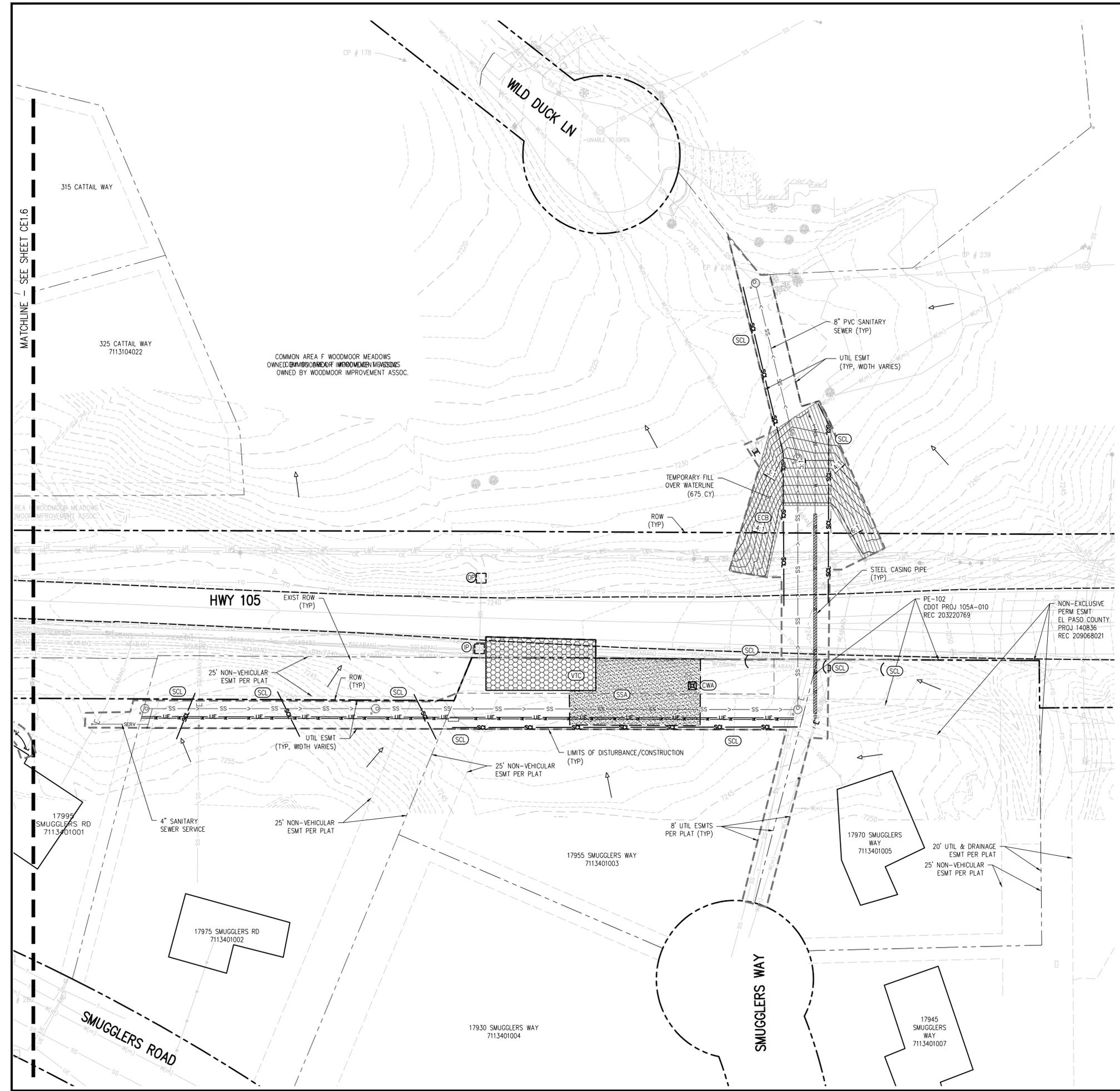
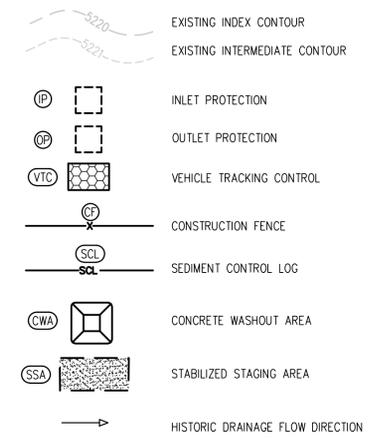
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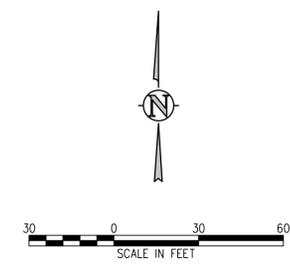


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REVISION DESCRIPTION

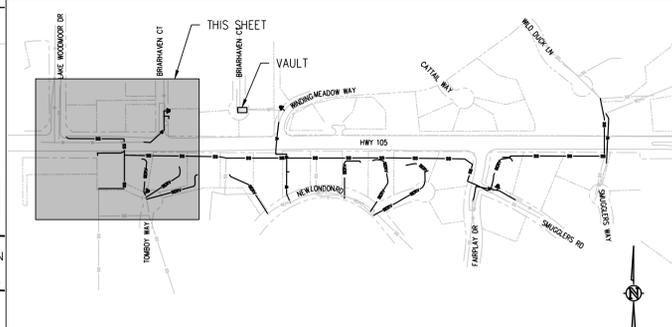
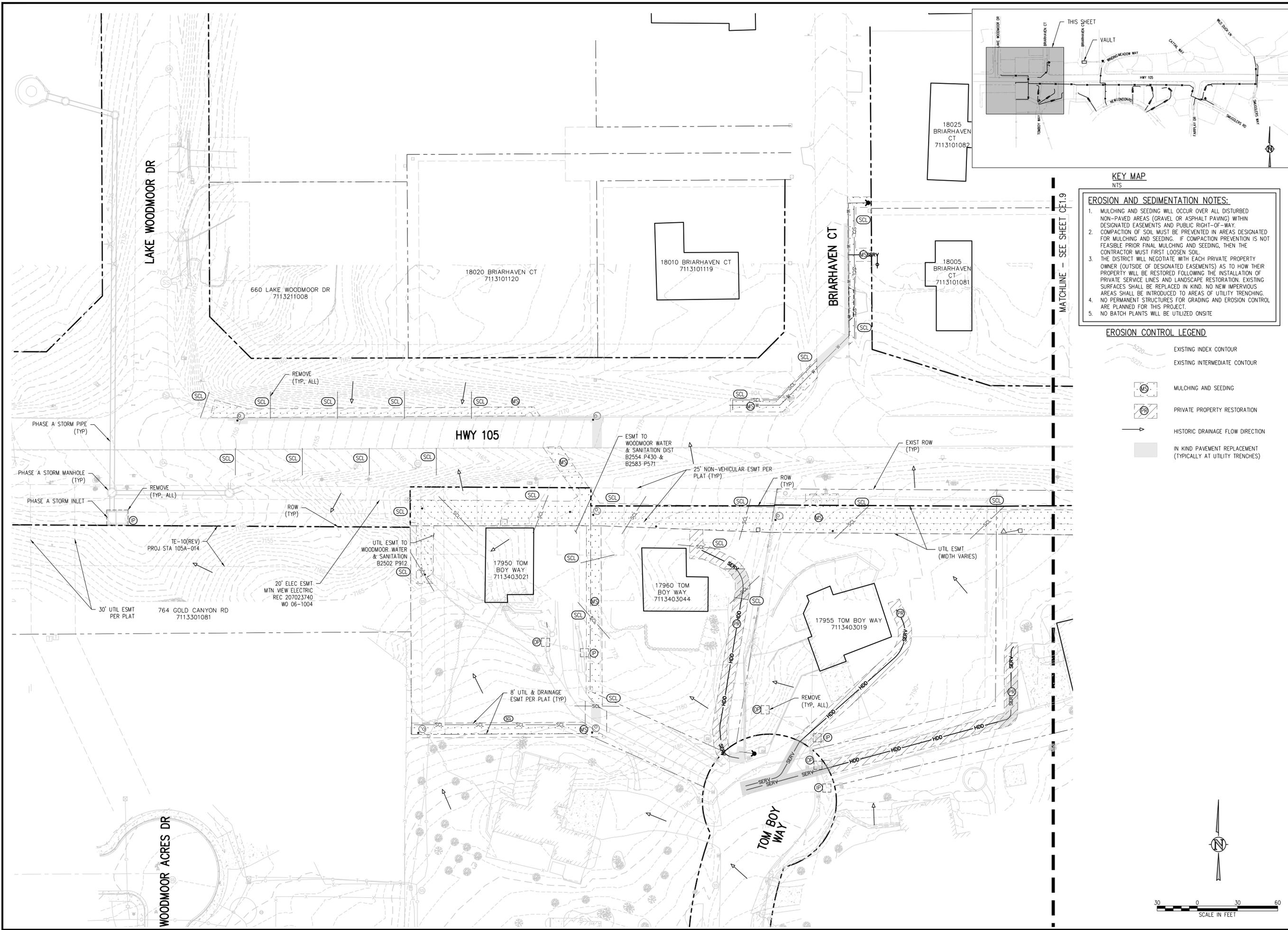
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 CHECKED BY: RAH/JJM
 JOB #: 1051.14e
 DATE: JAN 2025
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WOODMOOR WSD NO. 1
 HWY 105 UTILITY RELOCATION - PHASE B
 EL PASO COUNTY, COLORADO
 FINAL GRADING AND
 EROSION CONTROL PLAN

SHEET NO.
CE1.8



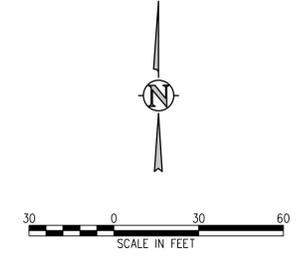
KEY MAP
 NTS

EROSION AND SEDIMENTATION NOTES:

- MULCHING AND SEEDING WILL OCCUR OVER ALL DISTURBED NON-PAVED AREAS (GRAVEL OR ASPHALT PAVING) WITHIN DESIGNATED EASEMENTS AND PUBLIC RIGHT-OF-WAY.
- COMPACTION OF SOIL MUST BE PREVENTED IN AREAS DESIGNATED FOR MULCHING AND SEEDING. IF COMPACTION PREVENTION IS NOT FEASIBLE PRIOR FINAL MULCHING AND SEEDING, THEN THE CONTRACTOR MUST FIRST LOOSEN SOIL.
- THE DISTRICT WILL NEGOTIATE WITH EACH PRIVATE PROPERTY OWNER (OUTSIDE OF DESIGNATED EASEMENTS) AS TO HOW THEIR PROPERTY WILL BE RESTORED FOLLOWING THE INSTALLATION OF PRIVATE SERVICE LINES AND LANDSCAPE RESTORATION. EXISTING SURFACES SHALL BE REPLACED IN KIND. NO NEW IMPERVIOUS AREAS SHALL BE INTRODUCED TO AREAS OF UTILITY TRENCHING.
- NO PERMANENT STRUCTURES FOR GRADING AND EROSION CONTROL ARE PLANNED FOR THIS PROJECT.
- NO BATCH PLANTS WILL BE UTILIZED ONSITE.

EROSION CONTROL LEGEND

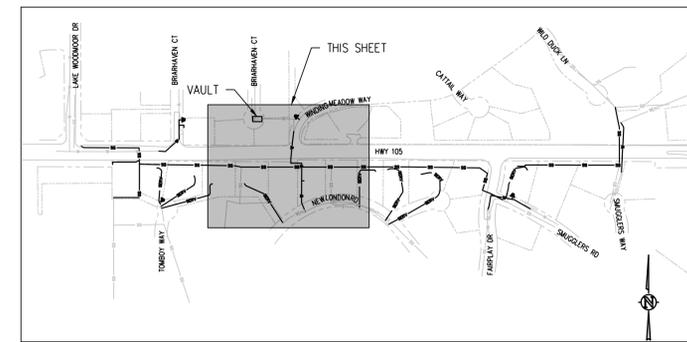
- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- MULCHING AND SEEDING
- PRIVATE PROPERTY RESTORATION
- HISTORIC DRAINAGE FLOW DIRECTION
- IN KIND PAVEMENT REPLACEMENT (TYPICALLY AT UTILITY TRENCHES)



MATCHLINE - SEE SHEET CE1.9



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 Denver, CO 80202 303.444.1951
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 Glenwood Springs • Denver

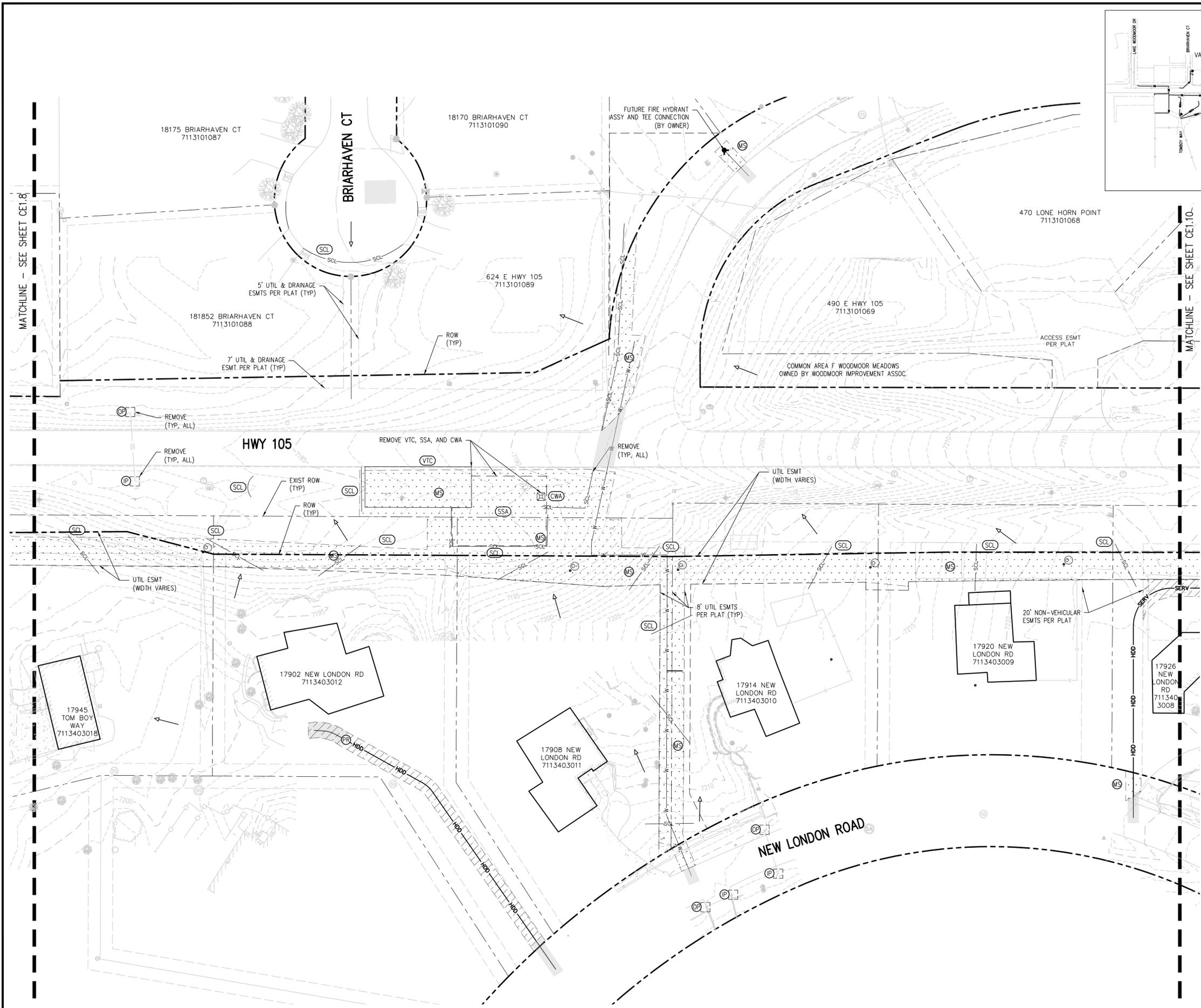


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MATCHLINE - SEE SHEET CE1.8

MATCHLINE - SEE SHEET CE1.10

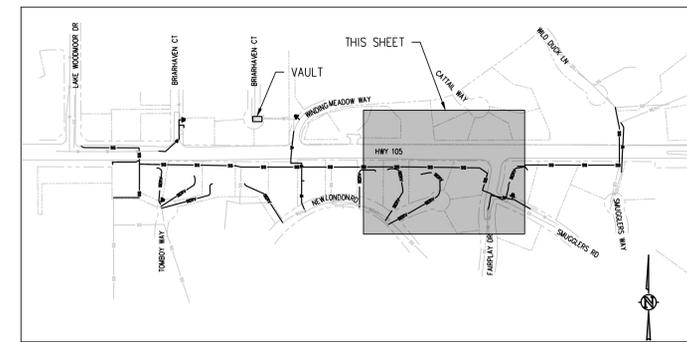
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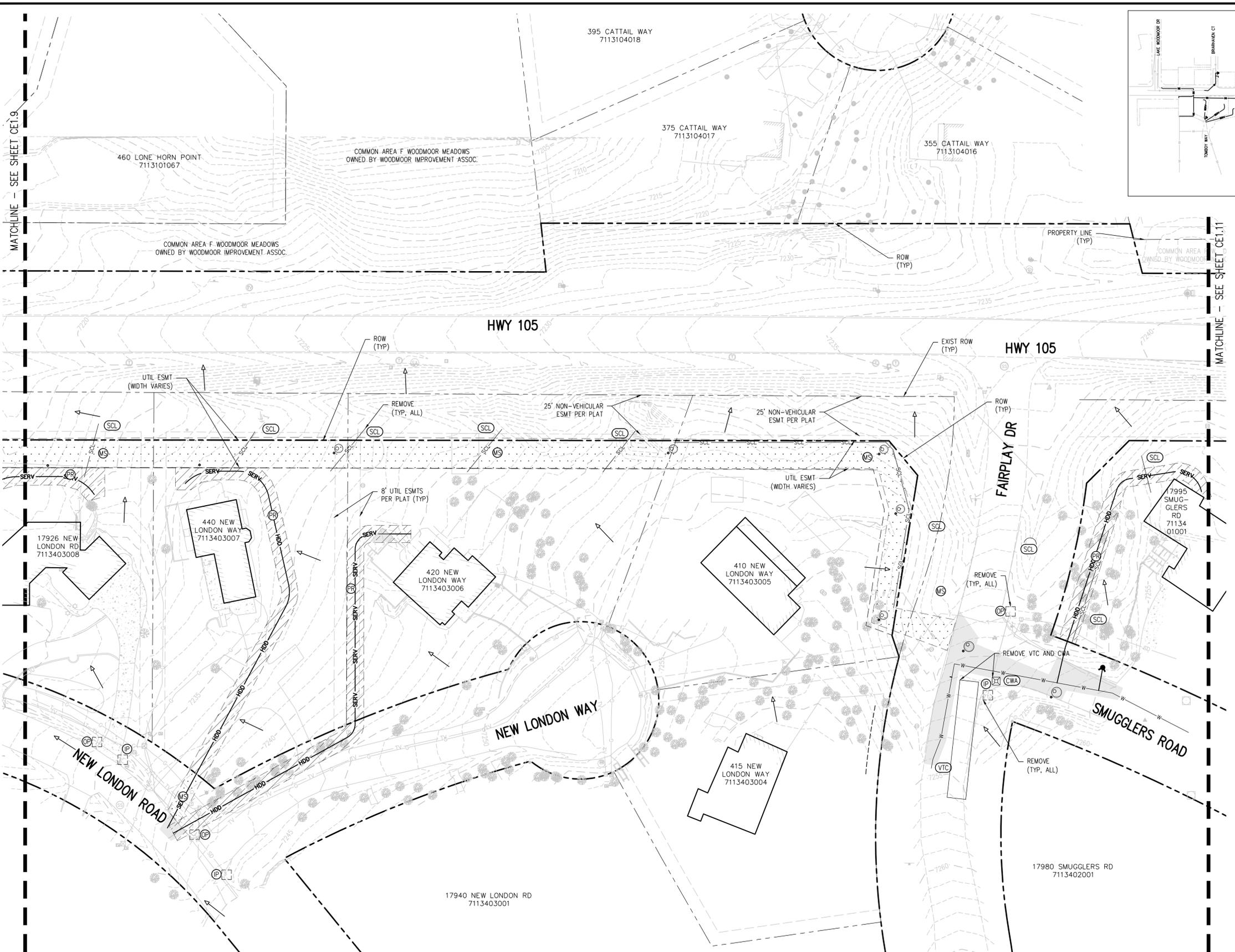
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MATCHLINE - SEE SHEET C01.9

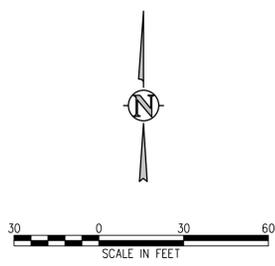
MATCHLINE - SEE SHEET C01.11

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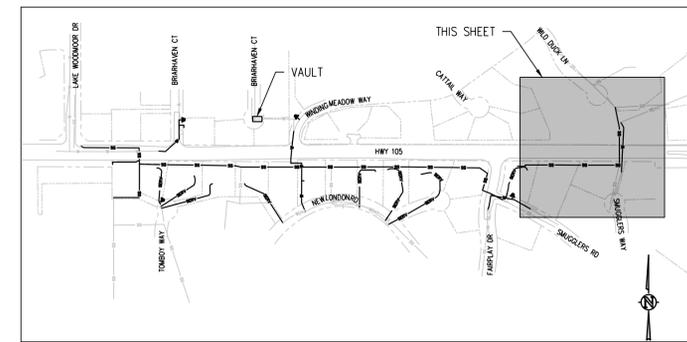


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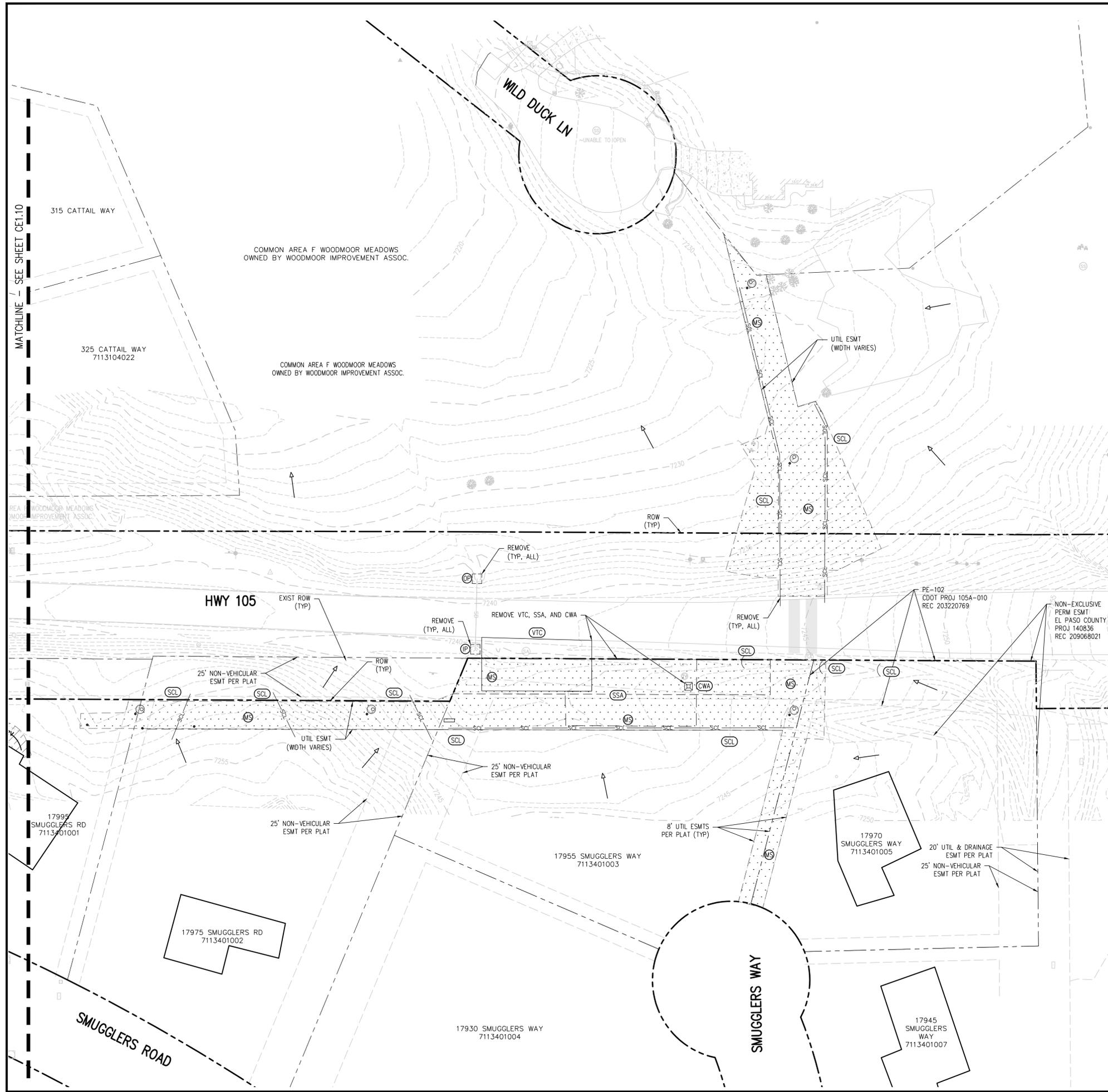


SHEET NO.
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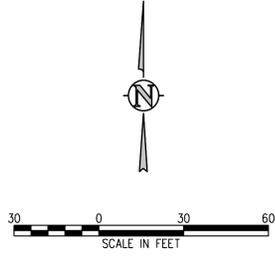


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STANDARD NOTES FOR EL PASO COUNTY GRADING AND EROSION CONTROL PLANS

- STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFFSITE WATERS, INCLUDING WETLANDS.
- NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS TO REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
- A SEPARATE STORMWATER MANAGEMENT PLAN (SWMP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. DURING CONSTRUCTION THE SWMP IS THE RESPONSIBILITY OF THE DESIGNATED QUALIFIED STORMWATER MANAGER OR CERTIFIED EROSION CONTROL INSPECTOR AND 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.
- 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 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.
- CONTROL MEASURES MUST BE INSTALLED PRIOR TO COMMENCEMENT OF ACTIVITIES THAT MAY CONTRIBUTE POLLUTANTS TO STORMWATER. TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED IMMEDIATELY UPON COMPLETION OF THE DISTURBANCE.
- ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REMAIN IN EFFECTIVE OPERATING 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 IS 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 PRIOR TO IMPLEMENTATION.
- TEMPORARY STABILIZATION SHALL BE IMPLEMENTED ON DISTURBED AREAS AND STOCKPILES WHERE GROUND DISTURBING CONSTRUCTION ACTIVITY HAS PERMANENTLY CEASED OR TEMPORARILY CEASED FOR LONGER THAN 14 DAYS. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN 60 DAYS SHALL ALSO BE STABILIZED.
- 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 PLAN 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.
- ALL PERMANENT STORMWATER MANAGEMENT FACILITIES SHALL BE INSTALLED AS DEFINED IN THE APPROVED PLANS. ANY PROPOSED CHANGES THAT EFFECT THE HYDROLOGY OR HYDRAULICS OF A PERMANENT STORMWATER MANAGEMENT STRUCTURE MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO IMPLEMENTATION.
- ANY EARTH DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER SO 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 INFEASIBLE.
- COMPACTION OF SOIL MUST BE PREVENTED IN AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES OR WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATIVE COVER. AREAS DESIGNATED FOR INFILTRATION CONTROL SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED.
- 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.
- 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. CONCRETE WASHOUT SHALL NOT BE LOCATED IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT, OR WITHIN 50 FEET OF A SURFACE WATER BODY.
- DEWATERING OPERATIONS: UNCONTAMINATED GROUND WATER MAY BE DISCHARGED ON SITE, BUT MAY NOT LEAVE THE SITE IN THE FORM OF SURFACE RUNOFF.
- EROSION CONTROL BLANKETING IS TO BE USED ON SLOPES STEEPER THAN 3:1.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL WASTES FROM CONSTRUCTION SITES FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO CONSTRUCTION DEBRIS, TREE SLASH, BUILDING MATERIAL WASTES, OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.
- 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.
- TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
- 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 ACCUMULATE IN THE STORM SEWER OR OTHER DRAINAGE CONVEYANCE SYSTEM AND STORMWATER APPEARANCES AS A RESULT OF SITE DEVELOPMENT.
- THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM THE WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS.
- NO CHEMICALS ARE TO BE USED BY THE CONTRACTOR, WHICH HAVE THE POTENTIAL TO BE RELEASED IN STORMWATER UNLESS PERMISSION FOR THE USE OF A SPECIFIC CHEMICAL IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING THE USE OF SUCH CHEMICALS, SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
- BULK STORAGE OF PETROLEUM PRODUCTS OR OTHER LIQUID CHEMICALS IN EXCESS OF 55 GALLONS SHALL HAVE ADEQUATE SECONDARY CONTAINMENT PROTECTION TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.
- NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER OR DITCH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.
- 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 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 CONSTRUCTION THE PERMITEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
- A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
- 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 OF APPLICATION MATERIALS CONTACT:

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
 WATER QUALITY CONTROL DIVISION
 WQCD - PERMITS
 4300 CHERRY CREEK DRIVE SOUTH
 DENVER, CO 80246-1530
 ATTN: PERMITS UNIT

EL PASO COUNTY SELF-MONITORING INSPECTIONS

THE PERMIT HOLDER OR AUTHORIZED AGENT SHALL CONDUCT SELF-MONITORING INSPECTIONS. THE PURPOSE OF SELF-MONITORING INSPECTIONS IS FOR THE PERMIT HOLDER TO ENSURE THAT ALL BMPs ARE INSTALLED ACCORDING TO APPROVED PLANS. THE BMPs ARE ADEQUATE AND ARE BEING PROPERLY MAINTAINED. THE SWMP IS UPDATED TO REFLECT CURRENT CONDITIONS, AND ONLY ALLOWABLE DISCHARGES ARE OCCURRING OFF THE SITE. THE PERSON PERFORMING THE INSPECTIONS MAY BE ON THE PERMIT HOLDER'S STAFF OR A CONTRACTED THIRD PARTY. THE INDIVIDUAL PERFORMING THE SELF-MONITORING INSPECTIONS SHALL BE A QUALIFIED STORMWATER MANAGER, WHICH IS AN INDIVIDUAL KNOWLEDGEABLE IN THE PRINCIPLES AND PRACTICES OF EROSION AND SEDIMENT CONTROL AND POLLUTION PREVENTION AND WITH THE SKILLS TO ASSESS CONDITIONS AT CONSTRUCTION SITES THAT COULD IMPACT STORMWATER QUALITY AND THE EFFECTIVENESS OF STORMWATER CONTROLS IMPLEMENTED TO MEET STORMWATER PERMITTING REQUIREMENTS. EXAMPLES OF A QUALIFIED STORMWATER MANAGER INCLUDE A REGISTERED PROFESSIONAL ENGINEER OR AN EROSION CONTROL INSPECTOR CERTIFIED IN A REGIONALLY RECOGNIZED EROSION AND SEDIMENT CONTROL INSPECTION TRAINING PROGRAM. THE PERSON PERFORMING INSPECTIONS SHOULD BE A PERSON WITH AUTHORITY TO EXPEND PROJECT DOLLARS ON EROSION AND STORMWATER QUALITY CONTROL. THERE ARE TWO TYPES OF SELF-MONITORING INSPECTIONS ALLOWED IN EL PASO COUNTY: ROUTINE SELF-MONITORING AND OPERATOR COMPLIANCE INSPECTIONS. THE PERMIT HOLDER OR AUTHORIZED REPRESENTATIVE MAY REQUEST AN ALTERNATIVE TO THE 14 DAY ROUTINE SELF-MONITORING INSPECTION CYCLE DISCUSSED ABOVE. SELF-MONITORING INSPECTIONS OF STORMWATER BEST MANAGEMENT PRACTICES MAY BE REQUESTED FOR AT LEAST ONCE EVERY MONTH (I.E., 30 DAYS) FOR PERMITTED CONSTRUCTION SITES WHEN:

- ALL CONSTRUCTION ACTIVITY IS COMPLETED EXCEPT FINAL STABILIZATION BECAUSE PLANTED VEGETATIVE COVER HAS NOT YET BECOME ESTABLISHED;
- ALL ACTIVITIES FOR FINAL STABILIZATION HAVE BEEN COMPLETED WITH THE EXCEPTION OF SEED APPLICATION WHICH MAY NOT HAVE OCCURRED DUE TO SEASONAL CONDITIONS OR THE NECESSITY TO REAPPLY ADDITIONAL SEED TO AUGMENT PREVIOUS EFFORTS; AND
- THE SWMP HAS BEEN UPDATED TO LOCATE THOSE AREAS SUBJECT TO THE REDUCED INSPECTION FREQUENCY. ROUTINE SELF-MONITORING INSPECTIONS AFTER PRECIPITATION EVENTS ARE NOT REQUIRED DURING AN APPROVED 30 DAY INSPECTION CYCLE.

- ROUTINE SELF-MONITORING INSPECTIONS. THE ROUTINE SELF-MONITORING INSPECTIONS ARE TO BE PERFORMED AND DOCUMENTED AT LEAST ONCE EVERY 7 CALENDAR DAYS; OR AT LEAST ONCE EVERY 14 CALENDARS, IF POST-STORM EVENT INSPECTIONS ARE CONDUCTED WITHIN 24 HOURS AFTER THE END OF A PRECIPITATION OR SNOW MELT EVENT. POST-STORM INSPECTIONS MAY BE USED TO FULFILL THE 14 DAY INSPECTION REQUIREMENT IN ADDITION TO THE BI-WEEKLY INSPECTIONS THE OWNER OR REPRESENTATIVE SHALL PERFORM POST-STORM INSPECTIONS OF ALL BMPs AFTER ANY PRECIPITATION OR SNOWMELT EVENT THAT CAUSES SURFACE EROSION TO ENSURE THAT THE BMPs HAVE OPERATED AS DESIGNED, TO DETERMINE IF MAINTENANCE IS NEEDED, AND TO LOCATE AND CLEAN UP ANY AREAS WHERE MATERIALS MAY HAVE RUN OFF SITE. FOR THOSE CHOOSING TO UTILIZE A 14-DAY AND POST-STORM INSPECTION FREQUENCY, IF NO CONSTRUCTION ACTIVITIES WILL OCCUR FOLLOWING A STORM EVENT, POST-STORM INSPECTION MUST BE CONDUCTED PRIOR TO RESUMING CONSTRUCTION ACTIVITIES BUT NO LATER THAN 72 HOURS FOLLOWING A STORM EVENT. THE DELAY OF ANY POST-STORM INSPECTION MUST BE DOCUMENTED IN THE INSPECTION RECORDS INCLUDED IN THE SWMP.

THE OWNER OR HIS REPRESENTATIVE WILL RECORD THE RESULTS OF ALL INSPECTIONS BY COMPLETING AN INSPECTION REPORT OR SIMILAR INSPECTION CHECKLIST INCLUDED IN THE SWMP. COMPLETED INSPECTION REPORTS SHALL BE KEPT ON SITE AND AVAILABLE TO COUNTY INSPECTORS. THE COUNTY MAY REQUIRE THE SUBMISSION OF THESE INSPECTION REPORTS ON A SITE-SPECIFIC BASIS.

- OPERATOR COMPLIANCE INSPECTION. WHEN A COMPLIANCE INSPECTION CONDUCTED BY A COUNTY STORMWATER INSPECTOR DOCUMENTS THE FAILURE TO IMPLEMENT CONTROL MEASURES OR IMPLEMENTATION OF INADEQUATE CONTROL MEASURES, THE COUNTY STORMWATER INSPECTOR MAY REQUIRE THE ESQCP OWNER OR THEIR REPRESENTATIVE TO INSPECT AND PROVIDE A REPORT TO THE COUNTY THAT THE CONTROL MEASURES HAVE BEEN IMPLEMENTED OR CORRECTED. THE OWNER OR THE REPRESENTATIVE MUST INCLUDE DATE AND TIME STAMPED PHOTOGRAPHS OF THE NEW, ADEQUATE CONTROL MEASURES.

MULCHING AND SEEDING NOTES FOR EL PASO COUNTY

- ALL DISTURBED AREAS MUST BE MULCHED WITHIN 21 DAY AFTER FINAL GRADE AND SEEDED AREAS ARE TO BE MULCHED WITH 24 HOURS AFTER SEEDING.
- MATERIAL USED FOR MULCH CAN BE CERTIFIED CLEAN, WEED- AND SEED-FREE LONG STEMMED FIELD OR MARSH WAY, OR STRAW OF OATS, BARLEY, WHEAT, RYE OR TRITICALE CERTIFIED BY THE COLORADO DEPARTMENT OF AGRICULTURE WEED FREE FORAGE CERTIFICATION PROGRAM.
- HYDRAULIC MULCHING MATERIAL SHALL CONSIST OF VIRGIN WOOD FIBER MANUFACTURED FORM CLEAN WHOLE WOOD CHIPS. WOOD CHIPS CANNOT CONTAIN ANY GROWTH OR GERMINATION INHIBITORS OR BE PRODUCED FROM RECYCLED WATER. GRAVEL CAN ALSO BE USED.
- MULCH IS TO BE APPLIED EVENLY AT THE RATE OF 2 TONS PER ACRE.
- MULCH TO BE ANCHORED EITHER BY CRIMPING (TUCKING MULCH FIBERS 4 INCHES INTO THE SOIL), USING NETTING (USED IN SMALL AREAS WITH STEEP SLOPES), OR WITH TACKIFIER.
- HYDRAULIC MULCHING AND TACKIFIERS ARE NOT TO BE USED IN THE PRESENCE OF FREE SURFACE WATER.

EL PASO COUNTY CONSERVATION DISTRICT SHOTGUN MIX

COMMON NAME	RECOMMENDED VARIETY	% OF SEED MIX	PLS/ACRE
BLUESTEM, BIG	KAW, BISON, CHAMP	20	1.08
LITTLE BLUESTEM	SCHIZACHYRIUM SCOPARIUM	10	0.12
GREEN NEEDLEGRASS	LOODROM	10	0.48
WHEATGRASS, WESTERN	ARRIBA, BARTON	20	1.60
GRAMA, SIDEOLDS	VAUGHN, BUTTE, EL RENO, NINER	10	0.46
SWITCHGRASS	BLACKWELL, GREENVILLE	10	0.20
PRAIRIE SANDREED	GOSHEN, PRONGHORN	10	0.32
YELLOW INDIANGRASS	CHEYENNE, HOLT, LLANO	10	0.51

STORMWATER MANAGEMENT PLAN (SWMP)

THIS STORMWATER MANAGEMENT PLAN IS TO BE RETAINED AND MAINTAINED ONSITE INCLUDING FINAL LANDSCAPING PLANS AND ANY OTHER EROSION CONTROL DOCUMENTATION. A SWMP ADMINISTRATOR WILL BE DESIGNATED BY THE CONTRACTOR AND IS RESPONSIBLE FOR DEVELOPING, IMPLEMENTING, MAINTAINING, AND REVISING THIS SWMP. THE SWMP ADMINISTRATOR IS THE CONTACT FOR ALL SWMP-RELATED ISSUES AND IS RESPONSIBLE FOR ITS ACCURACY, COMPLETENESS, AND IMPLEMENTATION. THE FOLLOWING HAS BEEN DESIGNATED AS THE SWMP ADMINISTRATOR FOR THIS PROJECT:

NAME: _____
 CONTACT INFO: _____

THE SWMP SHOULD BE VIEWED AS A "LIVING DOCUMENT" THAT IS CONTINUOUSLY BEING REVIEWED AND MODIFIED AS A PART OF THE OVERALL PROCESS OF EVALUATING AND MANAGING STORMWATER QUALITY ISSUES AT THE SITE. THE SWMP ADMINISTRATOR SHALL AMEND THE SWMP WHEN THERE IS A CHANGE IN DESIGN, CONSTRUCTION, O&M OF THE SITE WHICH WOULD REQUIRE THE IMPLEMENTATION OF NEW AND REVISED BMP'S OR IF A SWMP PROVES TO BE INEFFECTIVE IN ACHIEVING THE GENERAL OBJECTIVES OF THE CONTROLLING POLLUTANTS IN STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITY OR WHEN BMP'S ARE NO LONGER NECESSARY AND ARE REMOVED. THE SWMP ADMINISTRATOR SHALL MAINTAIN A RECORD OF AMENDMENTS MADE TO THE SWMP THAT INCLUDES THE DATE AND IDENTIFICATION OF CHANGES. THIS PROJECT DOES NOT RELY ON CONTROL MEASURES OWNED OR OPERATED BY ANOTHER ENTITY.

THE SITE IS LOCATED WITHIN AND ADJACENT TO HIGHWAY 105 FROM LAKE WOODMOOR DRIVE TO WILD DUCK LANE, AND AT APPROXIMATELY 39° 05' 35" LATITUDE, 104° 50' 25" LONGITUDE. THE PROPOSED PROJECT CONSISTS OF WATER AND SEWER INFRASTRUCTURE: ASPHALT PATCHING, CONCRETE REPLACEMENT, VEGETATIVE COVER REPLACEMENT, AND ELECTRICAL LINE CONSTRUCTION IN EL PASO COUNTY. THE TOTAL SITE AREA IS APPROXIMATELY 2.65 ACRES WITH AT TOTAL DISTURBANCE OF 2.52 ACRES. NO AREAS GREATER THAN 40 ACRES SHALL BE DISTURBED AT ANY GIVEN TIME. NO CONSTRUCTION ACTIVITIES SHALL OCCUR OFFSITE OR OUTSIDE OF THE CONSTRUCTION LIMITS SHOWN ON THE CONSTRUCTION DOCUMENTS, THE SEQUENCE OF CONSTRUCTION STARTS IS AS FOLLOWS:

PHASE	ESTIMATED START	ACTUAL
CONSTRUCTION START	APRIL, 2025	_____
INITIAL EROSION CONTROL	APRIL, 2025	_____
INTERM EROSION CONTROL/UTILITY INSTALLATION	MAY, 2025	_____
SEED AND MULCH APPLICATION	OCTOBER, 2025	_____
FINAL STABILIZATION/REMOVAL TEMPORARY BMP'S**	MAY, 2026	_____
**ASSUMES THERE WILL BE AT LEAST 70% COVERAGE IN RESEEDED AREAS		

THE EXISTING SITE CONSISTS OF DEVELOPED LAND, NATIVE GRASSLAND, AND VEGETATION AND IS APPROXIMATELY 80% COVERED WITH VEGETATIVE GROUND COVER. THIS WAS CALCULATED USING SATELLITE IMAGERY. ANY AREAS USING VEGETATIVE COVER FOR FINAL STABILIZATION MUST BE EQUAL TO 70% OF PRE-EXISTING COVER FOR REMOVAL OF TEMPORARY BMP'S.

THE NATIONAL RESOURCE CONSERVATION SERVICE (NRCS) WEB SOIL SURVEY (WSS) WAS USED TO DETERMINE THE SOIL TYPES OF THE PROJECT SITE. BELOW IS A LIST OF THE SOILS:

SOIL TYPE	% OF TOTAL		HYDROLOGIC SOIL GROUP	RUNOFF CLASS	KSAT (IN/HR)*
	PROJECT AREA				
ALAMOSA LOAM	6.7%	D		VERY HIGH	MODERATELY HIGH (0.20 TO 0.60)
KETLE GRVELLY LOAMY SANDS	41.7%	B		MEDIUM	HIGH (2.00 TO 6.00)
TOMAH-CRAWFOOT LOAMY SANDS	51.6%	B		MEDIUM	MODERATELY HIGH TO HIGH (0.60 TO 2.00)

*THE EROSION K FACTOR OF A SOIL DESCRIBES THE SUSCEPTIBILITY OF A SOIL TO SHEET AND RILL EROSION BY WATER. ESTIMATES FOR K FACTOR ARE BASED PRIMARILY ON PERCENTAGE OF SILT, SAND, AND ORGANIC MATTER AND ON SOIL STRUCTURE AND SATURATED HYDRAULIC CONDUCTIVITY (KSAT). HIGHER VALUES INDICATE HIGHER SUSCEPTIBILITY TO SHEET AND RILL EROSION BY WATER.

OFFSITE RUNOFF FLOWS ONTO THE PROJECT SITE FROM SOUTH OF HIGHWAY 105. ONSITE RUNOFF FLOWS ARE TO THE NORTH AND WEST AND IMMEDIATE OUTFALL IS TO EPC M54 ULTIMATELY DIRTY WOMAN CREEK. NO WATER IS DETAINED ON SITE AND ALL RUNOFF LEAVES THE SITE TO THE NORTH AND WEST. NO STREAMS CROSS THE PROJECT AREA.

MANY POTENTIAL POLLUTANTS OTHER THAN SEDIMENT ARE ASSOCIATED WITH CONSTRUCTION SITE ACTIVITIES. THESE POLLUTANTS INCLUDE, BUT ARE NOT LIMITED TO, DISTURBED AND STORED SOILS,VEHICLE TRACKING OF SEDIMENT; PESTICIDES; FERTILIZERS USED FOR VEGETATIVE STABILIZATION; PETROCHEMICALS; CONSTRUCTION CHEMICALS SUCH AS CONCRETE PRODUCTS, SEALERS, AND PAINTS; WASH WATER ASSOCIATED WITH THESE PRODUCTS; TRASH; PAPER; WOOD; GARBAGE; DETERGENTS AND SOLVENTS; AND SANITARY WASTES. RESPONSIBLE HANDLING AND ADEQUATE DISPOSAL FACILITIES SHALL BE UTILIZED FOR SOLID WASTE, INCLUDING EXCESS ASPHALT, CONCRETE, WOOD, REBAR, AND OTHER CONSTRUCTION WASTES PRODUCED DURING CONSTRUCTION. WASHING OF EQUIPMENT AND MACHINERY SHALL NOT BE ALLOWED ON SITE. APPROPRIATELY STORE, COVER, AND/OR ISOLATE ALL ONSITE POTENTIAL CONSTRUCTION-ASSOCIATED WASTE POLLUTANTS TO PREVENT RUNOFF OF POLLUTANTS AND CONTAMINATION OF GROUND WATER. THE QUALIFIED STORMWATER MANAGER IS RESPONSIBLE FOR BOTH THE MANAGEMENT AND CLEANUP OF POTENTIAL CONSTRUCTION WASTE. OUTDOOR STORAGE OF BULK LIQUIDS IS REQUIRED TO HAVE SECONDARY CONTAINMENT OR EQUIVALENT PROTECTIVE MEASURES IN PLACE. OUTDOOR STORAGE OR ANY OF THE ABOVE ITEMS SHALL NOT BE STORED WITHIN THE FLOODPLAIN.

EQUIPMENT MAINTENANCE IS TO BE CONDUCTED IN THE DESIGNATED LOCATION WITHIN THE LIMITS OF CONSTRUCTION. TWO STABILIZED STAGING AREAS LOCATED ON THE SOUTH SIDE OF HIGHWAY 105 B NEAR WINDING MEADOW WAY AND SMUGGLERS WAY. MAINTENANCE SHOULD NOT BE CONDUCTED WITHIN 50 FEET OF A CONVEYANCE SWALE, DRAINAGEWAY, AND/OR STORM SEWER INLETS.

BEST MANAGEMENT PRACTICES FOR STORMWATER MANAGEMENT

NON STRUCTURAL BMPs WILL BE IMPLEMENTED TO THE MAXIMUM EXTENT POSSIBLE. THE UTILIZATION OF NON STRUCTURAL BMPs WILL BE AN ONGOING PROCESS DIRECTED AT PREVENTING EROSION. THE NON STRUCTURAL BMPs WILL RECEIVE CONTINUOUS EMPHASIS THROUGHOUT CONSTRUCTION BECAUSE THEY AVERT PROBLEMS BEFORE THEY OCCUR AND REDUCE THE NEED FOR STRUCTURAL BMPs. NON STRUCTURAL BMPs WILL CONSIST PRIMARILY OF PRESERVATION OF EXISTING MATURE VEGETATION AND TREES, STREET SWEEPING, PLANNING AND SCHEDULING CONSTRUCTION ACTIVITIES AIMED AT ACHIEVING THE GOAL OF MINIMIZING EROSION. AREAS WHERE CONSTRUCTION ACTIVITY HAS BEEN COMPLETED AND FINAL GRADING ACHIEVED CAN BE SEEDED AND MULCHED. FURTHERMORE, CONSTRUCTION PERSONNEL WILL BE INSTRUCTED AND SUPERVISED IN CONSTRUCTION METHODS CONSISTENT WITH EROSION PREVENTION PRACTICES.

PLANNED STRUCTURAL BMPs FOR EROSION AND SEDIMENT CONTROL ARE SHOWN ON THE GRADING, EROSION AND SEDIMENTATION CONTROL PLAN. IMPLEMENTING THESE MEASURES SHOULD MINIMIZE NUISANCE SILT AND SEDIMENTATION EXITING THE SITE AND PREVENT CLOGGING EXISTING STORM SEWERS AND STREET GUTTERS.

APPLICATION OF THESE BMPs FOR STORMWATER MANAGEMENT ARE FOR CONSTRUCTION PERIODS AND ARE CONSIDERED TEMPORARY. POST-DEVELOPMENT STORMWATER MANAGEMENT IS PROVIDED THROUGH VEGETATED LANDSCAPED AREAS, GRASSED SWALES, RIPRAP PROTECTION, AND THE EXISTING STORM COLLECTION SYSTEM.

VEHICLE TRACKING CONTROL (VTC):

VEHICLE TRACKING CONTROL WILL BE INSTALLED PRIOR TO ANY LAND DISTURBANCE/GRADING. STABILIZED CONSTRUCTION ENTRANCES WILL BE PROVIDED AT FAIRPLAY DRIVE AND HIGHWAY 105 NEAR WINDING MEADOW WAY AND NEAR SMUGGLERS WAY. THE CONSTRUCTION ACCESS AND PARKING WILL BE GRADED AND COVERED WITH A CRUSHED STONE BASE COURSE DURING CONSTRUCTION. THE VEHICLE TRACKING CONTROL WILL BE RELOCATED WITH THE CONSTRUCTION ACCESS AS NECESSARY.

SILT FENCING (SF) AND SEDIMENT CONTROL LOGS (SCL):

SILT FENCING AND SEDIMENT CONTROL LOGS SHALL BE INSTALLED WITH RESPECT TO PROPOSED DRAINAGE PATTERNS. SILT FENCE AND SEDIMENT CONTROL LOGS SHALL BE CONSTRUCTED ALONG THE DOWNSTREAM SIDE OF OPEN TRENCHES AND ALONG ANY DRAINAGE AREAS SUBJECT TO EROSION. THE SILT FENCING AND SEDIMENT CONTROL LOGS SHALL BE INSTALLED AT THE DOWNHILL SIDE OF THE EXISTING SLOPES ACROSS THE SITE AND AT ALL POINT DISCHARGE AREAS WHETHER SHOWN OR NOT. SILT FENCE AND SEDIMENT CONTROL LOGS SHALL BE MAINTAINED AS NEEDED THROUGHOUT THE CONSTRUCTION PROCESS. THE TEMPORARY SILT FENCE AND SEDIMENT CONTROL LOGS WILL REMAIN UNTIL FINAL STABILIZATION IS ARCHIVED.

INLET PROTECTION (IP):

INLET PROTECTION WILL BE INSTALLED PRIOR TO ANY LAND DISTURBANCE/GRADING.THE INLET PROTECTION WILL BE INSTALLED AS THE STORM SEWER STRUCTURES ARE CONSTRUCTED. EACH INLET ON THE PROPOSED STORM SEWER SYSTEM WILL HAVE A TEMPORARY INLET SEDIMENT TRAP CONSTRUCTED AROUND IT. IN PAVED AREAS, THIS TRAP CONSISTS OF WIRE MESH SOCKS AND CONCRETE BLOCKS TO FILTER THE STORM RUNOFF AND ALLOW ANY SILT TO SETTLE OUT. IN FIELDS OR LANDSCAPED AREAS THIS TRAP CONSISTS OF WIRE MESH SOCKS.

CONCRETE WASHOUT AREA (CWA):

CONCRETE WASHOUT AREAS TYPICALLY CONSIST OF A SHALLOW PREFABRICATED HAIL-AWAY CONTAINER USED TO ISOLATE CONCRETE TRUCK WASHOUT OPERATIONS. CWAS CAN ALSO BE CREATED BY EXCAVATING A PIT IN THE GROUND OR USING AN ABOVE GROUND STORAGE AREA. THE CWA IS STRATEGICALLY PLACED IN THE STABILIZED STAGING AREA. SURFACE DISCHARGE OF CONCRETE WASHOUT WATER FROM CONSTRUCTION THE SITE IS PROHIBITED.

STRAW BALE DROP STRUCTURES DAMS (SB):

STRAW BALE BARRIERS WILL BE INSTALLED TO PROTECT THE PROPOSED SWALE(S) PRIOR TO LANDSCAPING THE SITE. THESE BARRIERS WILL REDUCE THE FLOW VELOCITY IN THE SWALE(S) AND ALLOW THE DISTURBED SOIL TO SETTLE OUT.

OUTLET PROTECTION (OP):

THE STORM SEWER OUTLETS WILL BE PROTECTED WITH RIPRAP. PLACING RIPRAP AT PIPE OUTFALLS REDUCES EXIT VELOCITIES AND REDUCES SCOUR. THIS RIPRAP WILL BE LEFT IN PLACE AS PART OF THE PERMANENT STORMWATER MANAGEMENT PLAN.

EROSION CONTROL BLANKET (ECB):

EROSION CONTROL BLANKETS WILL BE INSTALLED TO MITIGATE EROSION ON AREAS WHERE GRADING IS ADDED AND THE SLOPE IS STEEPER THAN 3:1.

OVERLOT GRADING:

ALL OPEN AREAS WILL BE TREATED WITHIN 14 DAYS OF COMPLETION OF THE OVERLOT GRADING. ALL OVERLOT GRADING IN THE NON-IRRIGATED AREAS WILL HAVE THE SURFACE ROUGHENED AND WILL BE PERMANENTLY LANDSCAPED OR TEMPORARILY SEEDDED UNTIL THE PLANNED INSTALLATIONS ARE COMPLETED. AT THE COMPLETION OF THE MASS GRADING, ALL EXPOSED SOIL AREAS WILL HAVE THE SURFACE ROUGHENED AND PLANTED WITH A REVEGETATION SEED MIX. VEGETATION IS TO BE MAINTAINED THROUGHOUT CONSTRUCTION BY THE CONTRACTOR UNTIL AREAS ARE PERMANENTLY LANDSCAPED. ALTERNATELY, ROUGH-CUT DRIVEWAYS OR PROPOSED PAVED AREAS CAN BE COVERED WITH A LAYER OF AGGREGATE, ROAD BASE OR ASPHALT PAVING.

DUST CONTROL MEASURES:

DISTURBED AREAS NOT YET READY TO BE SEEDDED, LANDSCAPED, PAVED, OR OTHERWISE STABILIZED SHALL BE WATERED, OR RIPPED AS NECESSARY TO PRECLUDE VISIBLE DUST EMISSIONS. WATER USED FOR DUST SUPPRESSION MAY NOT BE ALLOWED TO DISCHARGE OFF-SITE.

ITEMS ARE SCHEDULED TO BE IMPLEMENTED ACCORDING TO THE CONSTRUCTION SCHEDULE. AS WORK PROCEEDS, IMPLEMENTATION OF INDIVIDUAL BMPs IS TO COINCIDE WITH THE CONSTRUCTION THEREBY MINIMIZING THE EXPOSURE OF UNPROTECTED AREAS. THE SILT FENCE, INLET PROTECTION (FOR EXISTING INLETS), AND GRAVELING OF THE CONSTRUCTION ENTRANCE WILL BE PERFORMED PRIOR GRADING/LAND DISTURBANCE BEGINS. THE INLET PROTECTION WILL BE INSTALLED AS THE STORM SEWER STRUCTURES ARE CONSTRUCTED. THE RIPRAP PROTECTION WILL BE INSTALLED AS THE STORM SEWER OUTFALLS OR CULVERTS ARE CONSTRUCTED. THE STRUCTURAL BMPs THAT DO NOT BECOME PART OF THE PERMANENT STORMWATER MANAGEMENT PLAN ARE NOT TO BE REMOVED UNTIL FINAL STABILIZATION HAS BEEN ACHIEVED. FUGITIVE DUST EMISSIONS RESULTING FROM GRADING ACTIVITIES AND/OR WIND SHALL BE CONTROLLED USING THE BEST AVAILABLE CONTROL TECHNOLOGY AS DEFINED BY THE COLORADO DEPARTMENT OF HEALTH AT THE TIME OF GRADING. THE GRAVELING IS TO BE MAINTAINED AND EXTENDED CONSTRUCTION PROGRESSES ESPECIALLY AROUND THE BUILDING SITE. THE STRUCTURAL BMPs ARE TO BE REMOVED, AS THE PERMANENT LANDSCAPING INSTALLATIONS ARE COMPLETED.

MATERIALS AND SPILL PREVENTION:

A. SPILL PREVENTION

- THE CONTRACTOR SHALL PROVIDE THE FOLLOWING SPILL PREVENTION MEASURES:
- TRAIN ALL EMPLOYEES ON POTENTIAL SOURCES OF POLLUTION THROUGHOUT THE SITE AND PROVIDED CLEAR AND COMMON-SENSE SPILL PREVENTION PRACTICES. THE CONTRACTOR SHALL REQUIRE THAT THESE PRACTICES ARE STRICTLY ADHERED TO.
 - PERFORM REGULAR INSPECTION AND PREVENTATIVE MAINTENANCE OF EQUIPMENT TO ENSURE PROPER OPERATION AND TO CHECK FOR LEAKS AND/OR EVIDENCE OF POLLUTANT DISCHARGE. PERFORM ROUTINE MAINTENANCE IN DESIGNATED AREAS AWAY FROM STORM SEWER INLETS AND COLLECT AND DISPOSE OF USED FLUIDS APPROPRIATELY. NEVER DISPOSE OF USED FLUIDS IN THE STORM SEWER OR SANITARY SEWER.
 - IMPLEMENT THE USE OF STANDARD EQUIPMENT MAINTENANCE PROCEDURES, SUCH AS THE USE OF DRIP PANS, TO CONTAIN PETROLEUM PRODUCTS.
 - REGULARLY INSPECT DISPOSAL BINS FOR LEAKS AND OVERFLOWING CAPACITY. THEY SHOULD BE EMPTIED BEFORE THEY ARE OVERFLOWING OR BEFORE BINS CAN NO LONGER PROPERLY CONTAIN THE WASTE AS DESIGNED.
 - PORTABLE TOILETS WILL BE PLACED IN AREAS AWAY FROM STORMWATER CONVEYANCES AND WILL BE SECURED FROM ACCIDENTAL TIPPING. THESE UNITS WILL BE SERVICED ON A REGULAR BASIS PER THE SUPPLIERS RECOMMENDED SERVICE SCHEDULE.
 - IN FUELING AREAS, CLEAN UP SPILLS WITH DRY METHODS (ABSORBENTS) AND USE DAMP CLOTHS ON GAS PUMPS AND DAMP MOPS ON PAVED SURFACES. NEVER USE A HOSE TO WASH DOWN A FUEL SPILL.
 - CONSTRUCT AN EARTHEN DIKE OR OTHER BARRIER AROUND THE PERIMETER OF THE FUEL STORAGE AREA TO PREVENT MATERIALS AND POLLUTANTS FROM CONTACT WITH SURFACE RUNOFF.
 - STORE CONSTRUCTION MATERIALS AND EQUIPMENT IN CONFINED AREAS ON SITE FROM WHICH RUNOFF WILL BE CONTAINED AND FILTERED. STORE MATERIALS OFF THE GROUND AND PROTECT FROM WEATHER BY COVERING OR STORING IN A CONTAINER. WHEN PRACTICAL, STORE MATERIALS ON IMPERMEABLE SURFACES.
 - STORE HAZARDOUS MATERIALS ACCORDING TO FEDERAL, STATE, AND LOCAL HAZARDOUS MATERIALS REQUIREMENTS.
 - DEVELOP PROCEDURES AND LOCATIONS FOR CONTAINING AND STORING LEAKING CONTAINERS.
 - STORE CONTAINERS THAT ARE EASILY PUNCTURED OR DAMAGED AWAY FROM HIGH TRAFFIC AREAS. UTILIZE SECONDARY CAPTURE CONTAINERS TO CONTAIN MATERIALS THAT HAVE THE POTENTIAL TO LEAK.
 - ANY OTHER SPILL PREVENTION MEASURES AS NEEDED.

B. SPILL CONTAINMENT AND CONTROL

- THE CONTRACTOR SHALL FOLLOW THE FOLLOWING GENERAL SPILL CONTAINMENT AND CONTROL MEASURES. SPILL CONTAINMENT AND CONTROL MEASURES SHALL BE TAILORED TO THE SITE-SPECIFIC CONDITIONS AS NECESSARY.
- IMMEDIATELY BEGIN CONTAINMENT, CONTROL, AND CLEANUP OF THE SPILL
 - SWEEP US SMALL QUANTITIES OF DRY CONTAMINANTS OR SOLIDS TO REDUCE EXPOSURE TO RUNOFF. SHOVELING MAY BE USED FOR LARGER QUANTITIES OF SPILLED MATERIALS.
 - HAVE ABSORBENTS READILY AVAILABLE IN FUELING AREAS OR OTHER AREAS SUSCEPTIBLE TO SPILLS.
 - QUICKLY WIPE UP SMALL SPILLS WITH DRY, CLEAN RAGS AND STORE USED RAGS IN AN APPROPRIATE CONTAINER. PROPERLY DISPOSE OF ALL USED RAGS.
 - CONTAIN MEDIUM-SIZED SPILLS WITH ABSORBENTS (I.E., KITTY LITTER, SAND/ST, OR OTHER) AND USE INFLATABLE BERMS OR ABSORBENT "SNAKES" AS TEMPORARY BOOMS FOR THE SPILL. STORE AND DISPOSE OF ABSORBENTS PROPERLY. WET/DRY VACUUMS MAY BE USED BUT NOT FOR VOLATILE FLUIDS.
 - FOR LARGE SPILLS, FIRST CONTAIN THE SPILL AND PLUG STORM DRAIN INLETS WHERE THE SPILL MAY MIGRATE TO, THEN CLEAN UP THE SPILL. EXCAVATION OF SPILL AREAS TO REMOVE CONTAMINATED MATERIAL MAY BE REQUIRED WHERE LARGE LIQUID SPILLS HAVE OCCURRED ON UNPAVED SURFACES.
 - KEEP AND MAINTAIN AN INVENTORY OF CLEANUP MATERIALS ONSITE AND STRATEGICALLY LOCATED BASED ON SITE CONDITIONS.

C. RESPONSE PLAN

THE QUALIFIED STORMWATER MANAGER(S) SHALL BE NOTIFIED OF ALL SPILLS. THE SPILL AND ITS CLEAN-UP EFFORTS WILL BE DOCUMENTED. AT A MINIMUM THIS DOCUMENTATION SHALL INCLUDE NATURE OF SPILL, QUANTITY OF SPILL, DATE AND TIME SPILL OCCURRED, AGENCY NOTIFICATION (IF NECESSARY), CLEAN UP PROCEDURES USED, DAILY MONITORING FOR 7 DAYS AFTER SPILL, PHOTOGRAPHS, AND INTERVIEWS OF ANY WITNESSES TO THE SPILL.

CDPHE REQUIRES THAT ANY HAZARDOUS MATERIAL SPILL BE REPORTED WITH ANY OF THE FOLLOWING OCCUR:

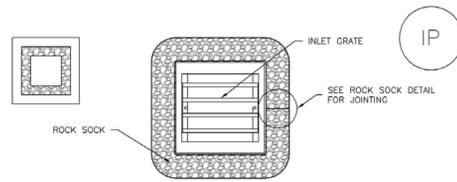
- SPILL OF OVER 25 GALLONS OF PETROLEUM
- SPILL OF 5 CCS OF MERCURY
- ANY RAW SEWAGE WATERS
- ANY STATE WATERS IMPACTED

IF ANY OF THE ABOVE CRITERIA ARE MET OR EXCEEDED, THE CDPHE, LOCAL EMERGENCY PLANNING COMMITTEE, DOWNSTREAM USERS AND ALL OTHER APPROPRIATE AGENCIES WILL BE NOTIFIED. THE CDPHE WILL BE NOTIFIED BY PONE WITHIN 24 HOURS. IN ADDITION, WRITTEN NOTIFICATION DESCRIBING THE SPILL AND THE CLEAN UP EFFORTS UTILIZED WILL BE SENT TO THE AGENCIES 5 DAYS FOLLOWING THE SPILL. IF THE SPILL DOES NOT MEET ANY OF THE CRITERIA ABOVE, REPORTING IN NOT MANDATORY.

INSPECTION AND MAINTENANCE:

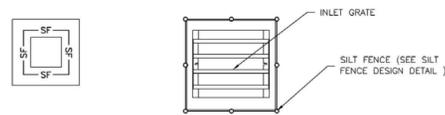
THE EROSION CONTROL MEASURES WILL BE INSPECTED DAILY DURING CONSTRUCTION BY THE CONTRACTOR AND AFTER EACH RAIN EVENT. ALL INSPECTIONS SHALL BE DOCUMENTED AND SHALL INCLUDE THE DATE OF INSPECTION, ANY INCIDENCE OF NON-COMPLIANCE, SIGNED CERTIFICATION THAT THE SITE IS IN COMPLIANCE, AND ANY NOTES, DRAWINGS, MAPS, ETC. PERTAINING TO REPAIRS. THE SWMP, SELF INSPECTION REPORTS, AND CURRENT SITE MAP MUST BE AVAILABLE AT ANY TIME TO THE EPC INSPECTOR UNTIL FINAL STABILIZATION HAS BEEN ACHIEVED. THESE RECORDS MAY BE MADE AVAILABLE TO THE INSPECTOR EITHER ON-SITE OR ELECTRONICALLY. SILT FENCE AND STRAW BALE BARRIERS WILL BE CHECKED FOR UNDERMINING AND BYPASS AND REPAIRED OR EXPANDED AS NEEDED. SEDIMENT SHALL BE REMOVED FROM INLET FILTERS AND SILT FENCING BEFORE ONE HALF OF THE DESIGN DEPTH HAS BEEN FILLED. SEDIMENTS DEPOSITED IN THE PUBLIC RIGHTS-OF-WAY WILL BE REMOVED IMMEDIATELY. THE TEMPORARY VEGETATION OF BARE SOILS WILL BE CHECKED REG

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IP-3. ROCK SOCK SUMP/AREA INLET PROTECTION

ROCK SOCK SUMP/AREA INLET PROTECTION INSTALLATION NOTES
1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF ROCK SOCKS FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.

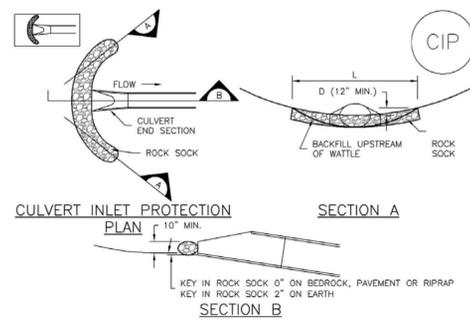


IP-4. SILT FENCE FOR SUMP INLET PROTECTION

SILT FENCE INLET PROTECTION INSTALLATION NOTES
1. SEE SILT FENCE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. POSTS SHALL BE PLACED AT EACH CORNER OF THE INLET AND AROUND THE EDGES AT A MAXIMUM SPACING OF 3 FEET.
3. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF SILT FENCE FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.

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CIP-1. CULVERT INLET PROTECTION

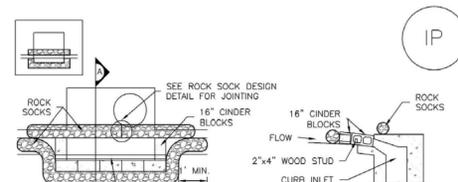
CULVERT INLET PROTECTION INSTALLATION NOTES
1. SEE PLAN VIEW FOR -LOCATION OF CULVERT INLET PROTECTION.
2. SEE ROCK SOCK DESIGN DETAIL FOR ROCK GRADATION REQUIREMENTS AND JOINTING DETAIL.

CULVERT INLET PROTECTION MAINTENANCE NOTES
1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. SEDIMENT ACCUMULATED UPSTREAM OF THE CULVERT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS 1/2 THE HEIGHT OF THE ROCK SOCK.
5. CULVERT INLET PROTECTION SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

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

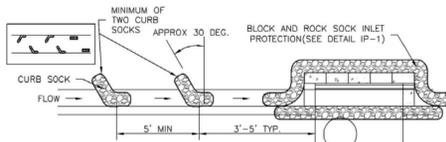
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IP-1. BLOCK AND ROCK SOCK SUMP OR ON GRADE INLET PROTECTION

BLOCK AND CURB SOCK INLET PROTECTION INSTALLATION NOTES
1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW, ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.
3. GRAVEL BAGS SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINTED TOGETHER IN ACCORDANCE WITH ROCK SOCK DESIGN DETAIL.



IP-2. CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

CURB ROCK SOCK INLET PROTECTION INSTALLATION NOTES
1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. PLACEMENT OF THE SOCK SHALL BE APPROXIMATELY 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.
3. SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5 FEET APART.
4. AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADE INLETS.

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GENERAL INLET PROTECTION INSTALLATION NOTES
1. SEE PLAN VIEW FOR:
-LOCATION OF INLET PROTECTION.
-TYPE OF INLET PROTECTION (IP-1, IP-2, IP-3, IP-4, IP-5, IP-6)
2. INLET PROTECTION SHALL BE INSTALLED PROMPTLY AFTER INLET CONSTRUCTION OR PAVING IS COMPLETE (TYPICALLY WITHIN 48 HOURS). IF A RAINFALL/RUNOFF EVENT IS FORECAST, INSTALL INLET PROTECTION PRIOR TO ONSET OF EVENT.
3. MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

INLET PROTECTION MAINTENANCE NOTES
1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. SEDIMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED AS NECESSARY TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN STORAGE VOLUME REACHES 50% OF CAPACITY, A DEPTH OF 6" WHEN SILT FENCE IS USED, OR 1/4 OF THE HEIGHT FOR STRAW BALES.

5. INLET PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED, UNLESS THE LOCAL JURISDICTION APPROVES EARLIER REMOVAL OF INLET PROTECTION IN STREETS.
6. WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

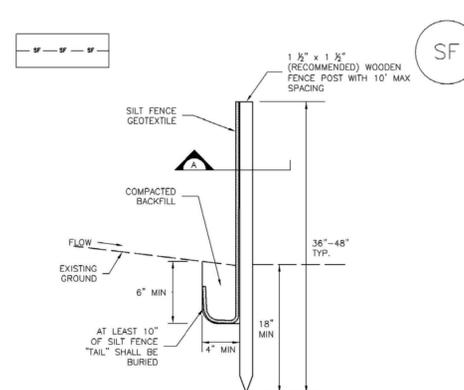
(DETAILS ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF INLET PROTECTION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY PROPRIETARY INLET PROTECTION METHODS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY INLET PROTECTION; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.

NOTE: SOME MUNICIPALITIES DISCOURAGE OR PROHIBIT THE USE OF STRAW BALES FOR INLET PROTECTION. CHECK WITH LOCAL JURISDICTION TO DETERMINE IF STRAW BALE INLET PROTECTION IS ACCEPTABLE.

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

Silt Fence (SF) SC-1



SILT FENCE

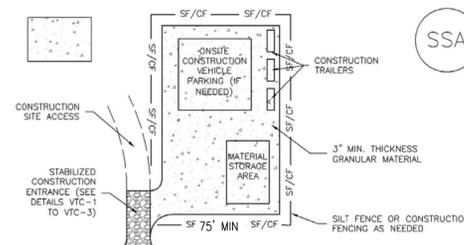


SECTION A

SF-1. SILT FENCE

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Stabilized Staging Area (SSA) SM-6



SSA-1. STABILIZED STAGING AREA

STABILIZED STAGING AREA INSTALLATION NOTES
1. SEE PLAN VIEW FOR -LOCATION OF STAGING AREA(S). -CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.
2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.
3. STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.
4. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.
5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

6. ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.
STABILIZED STAGING AREA 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. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

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

SC-1 Silt Fence (SF)

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

SILT FENCE MAINTENANCE NOTES
1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. SEDIMENT ACCUMULATED UPSTREAM OF THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP. TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 6".
5. REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.
6. SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.
7. WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

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

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

SM-6 Stabilized Staging Area (SSA)

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

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

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

NO. DATE DESIGNED BY: ZCF/JGJ
DRAWN BY: ZCF/JGJ
CHECKED BY: RAH/JJM
JOB #: 1051.14e
DATE: JAN 2025
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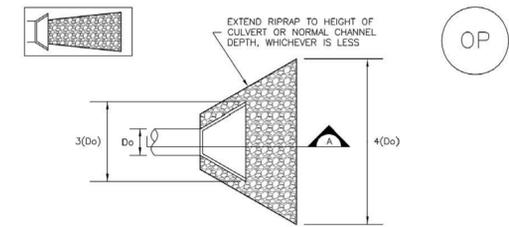
DESIGNED BY: ZCF/JGJ
DRAWN BY: ZCF/JGJ
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DATE: JAN 2025
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WOODMOOR WSD NO. 1
HWY 105 UTILITY RELOCATION - PHASE B
EL PASO COUNTY, COLORADO
EROSION CONTROL DETAILS

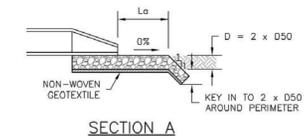
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EC-8 Temporary Outlet Protection (TOP)



TEMPORARY OUTLET PROTECTION PLAN

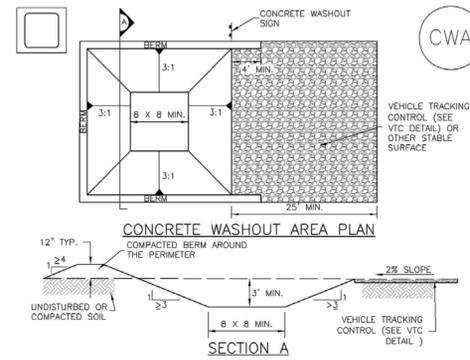


SECTION A

PIPE DIAMETER, D _o (INCHES)	DISCHARGE, Q (CFS)	APRON LENGTH, L _a (FT)	RIPRAP D ₅₀ DIAMETER MIN (INCHES)
8	2.5	5	4
	5	10	6
12	5	10	4
	10	13	6
18	10	10	6
	20	16	9
	30	23	12
	40	26	16
24	30	16	9
	40	26	12
	50	30	16
	60	30	16

OP-1. TEMPORARY OUTLET PROTECTION

Concrete Washout Area (CWA) MM-1



CWA-1. CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES

- SEE PLAN VIEW FOR: -CWA INSTALLATION LOCATION.
- DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL. MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE ARE SHOULD BE USED.
- THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
- CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
- BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.
- VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
- SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE AT THE CWA AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
- USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

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Concrete Washout Area (CWA) MM-1

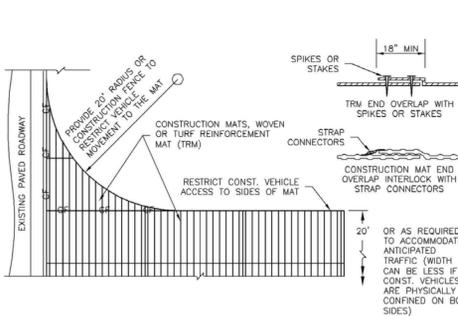
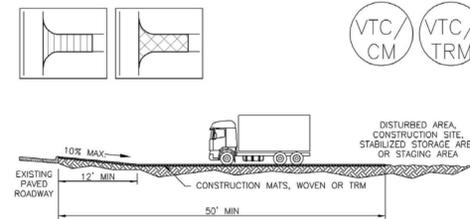
CWA MAINTENANCE NOTES

- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS, ACCUMULATED IN PIT, SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2'.
- 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 CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
- WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

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

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

Vehicle Tracking Control (VTC) SM-4



VTC-3. VEHICLE TRACKING CONTROL W/ CONSTRUCTION MAT OR TURF REINFORCEMENT MAT (TRM)

November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 VTC-5

Vehicle Tracking Control (VTC) SM-4

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

- SEE PLAN VIEW FOR: -LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S). -TYPE OF CONSTRUCTION ENTRANCE(S)/EXIT(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM).
- CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.
- A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS.
- STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.
- UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, WASHED #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES

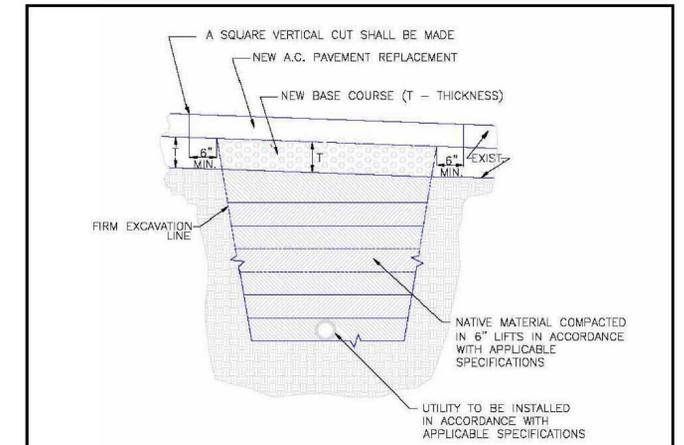
- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.
- SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVELING OR SWEEPING. SEDIMENT MAY NOT BE WASHED DOWN STORM SEWER DRAINS.

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

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

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

TOP-2 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010



NOTES:

- THIS DETAIL MAY BE USED FOR PAVEMENT CUTS LESS THAN 200 SQ. FT.
- EXISTING PAVEMENT MAY BE ROUGH CUT INITIALLY IN CONJUNCTION WITH TRENCHING.
- A SQUARE VERTICAL CUT SHALL BE MADE IN THE EXISTING A.C. PAVEMENT AFTER PLACEMENT OF BACKFILL PRIOR TO PAVEMENT REPLACEMENT.
- THICKNESS OF NEW A.C. PAVEMENT REPLACEMENT SHALL MATCH EXISTING (4" MIN.).
- THICKNESS OF NEW BASE COURSE SHALL BE MINIMUM OF 6" OR EQUAL TO EXISTING, WHICHEVER IS GREATER.

SCALE: NOT TO SCALE

8/11/11 DATE APPROVED:	Utility Trench Repair Detail Asphalt Pavement Standard Drawing	
André P. Brackin DEPARTMENT OF TRANSPORTATION	REVISION DATE: 11/10/04	FILE NAME: SD_4-20



DESIGNED BY: ZCF/JGJ
DRAWN BY: ZCF/JGJ
CHECKED BY: RAH/JJM
JOB #: 1051.14e
DATE: JAN 2025
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WOODMOOR WSD NO. 1
HWY 105 UTILITY RELOCATION - PHASE B
EL PASO COUNTY, COLORADO
EROSION CONTROL DETAILS