REVISION NOTES

REV 1: NEW BUILDING FOOTPRINT, ALTERED GRADING IN NORTH LOT WEST SIDE EASEMENT, ALTERED GRADING ON SOUTHWEST SIDE OF SOUTH LOT, MOVED STORM INLET AT SOUTH LOT DRIVEWAY

GENERAL NOTES

1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES ALONG THE SITE. THE OMISSION FROM OR THE INCLUSION OF UTILITY LOCATIONS ON THE PLANS IS NOT TO BE CONSIDERED AS THE NON-EXISTENCE OF OR A DEFINITE LOCATION OF EXISTING UNDERGROUND UTILITIES.
2. THE CONTRACTOR WILL TAKE THE NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES, BUILDINGS, FENCES, AND ROADWAYS FROM DAMAGE DUE TO THIS OPERATION. ANY DAMAGE TO THE ABOVE WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, AND ANY SERVICE DISRUPTION WILL BE SETTLED BY THE CONTRACTOR.
3. BULK GRADING SHALL BE COMPLETED TO A SUBGRADE TOLERANCE OF PLUS OR MINUS 0.2'.
4. MAXIMUM CUT/FILL SLOPES SHALL NOT EXCEED 3:1, UNLESS OTHERWISE NOTED.
5. ALL BOTOM OF WALL (BW) CALLOUTS ARE FOR THE BOTTOM OF WALL AT GRADE. THEY DO NOT REPRESENT THE BOTTOM OF THE CONSTRUCTED WALL OR FOOTING, WHICH IS NOT SPECIFIED ON THESE PLANS.

NOTE: ALL EXISTING UNDERGROUND AND ABOVE GROUND UTILITY LOCATIONS, INVERTS AND SIZES ARE APPROXIMATE ONLY AND MUST BE FIELD VERIFIED PRIOR TO CONSTRUCTION. TIE IN POINTS SHALL BE POTHOLED AND LOCATIONS, INVERTS AND SIZES SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

SOIL TYPES

ONSITE SOILS ARE HYDROLOGIC GROUP "B", 27% KETTLE-ROCK OUTCROP COMPLEX (42) AND 73% PRING COARSE SANDY LOAM (71), PER NRCS WEB SOIL SURVEY MAP

BENCHMARKS

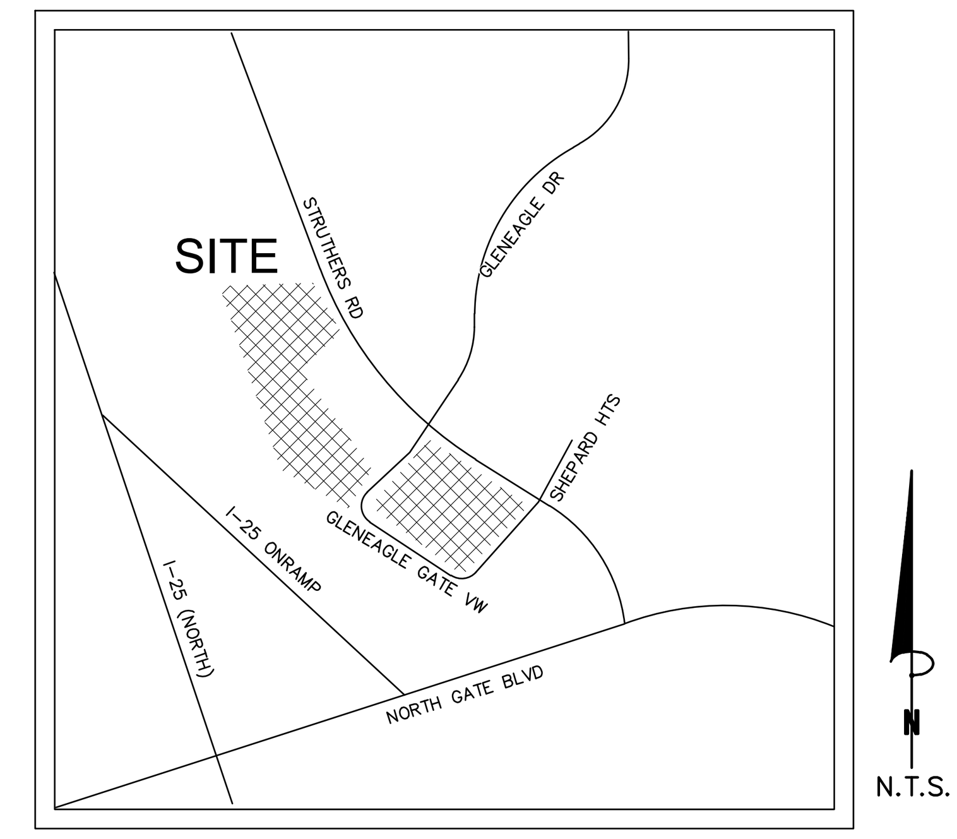
NGS CONTROL POINT Q 395 (PIDKK1309). ELEVATION = 6739.60 (NAVD 1988).
BASIS OF BEARINGS IS THE EAST LINE OF THE PROPRETY, MONUMENTED AS SHOWN AND ASSUMED TO BEAR SOUTH 0 DEGREES 08 MINUTES 45 SECONDS WEST.
LOCAL SITE BENCHMARK IS HEREON (SOUTHWEST CORNER OF TRACT E, 3-1/4" BRASS CAP IN CONCRETE, 0.3 ABOVE GROUND ELEV=6752.33, NAVD-1988).

EARTHWORK VOLUMES

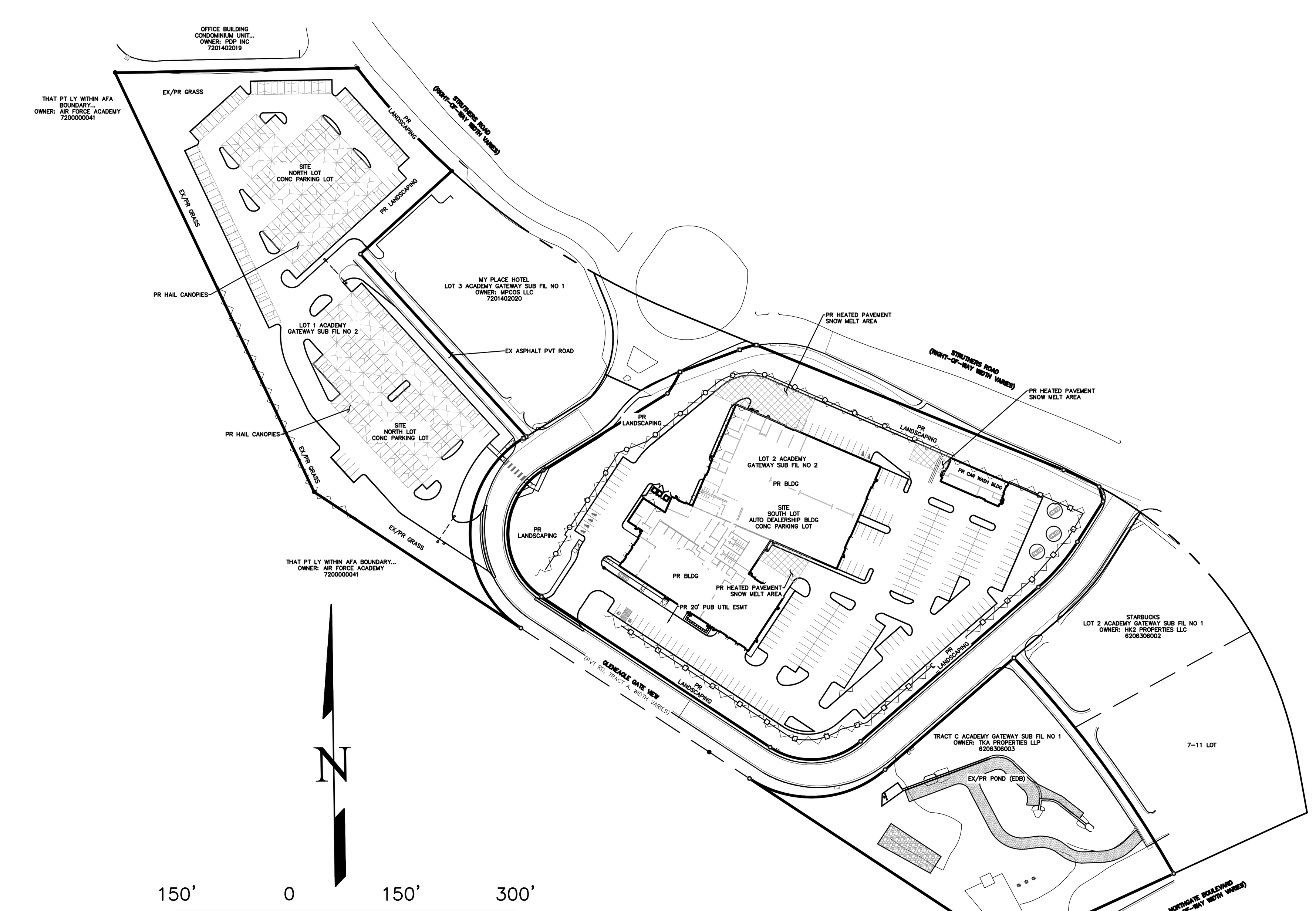
ESTIMATED CUT = 29,998 CY, ESTIMATED FILL = 76,133 CY, NET = 46,135 CY <FILL>

EROSION CONTROL COST OPINION:

1.	2,650 LF-SILT FENCE @ $4/LF	$ 10,600
2.	1 EA-CONCRETE WASHOUT @ $1,260/EA	$ 1,260
3.	12 EA-INLET PROTECTION @ $233/EA	$ 2,796
4.	9.4 AC-SURFACE ROUGHENING @ $289/AC	$ 2,717
5.	2.6 AC-SEED AND MULCH @ $2,169/AC	$ 5,639
6.	2 EA-VEHICLE TRACKING CONTROL @ $3,316/EA	$ 6,632
7.	40% MAINTENANCE AND REPLACEMENT	$ 11,858
	TOTAL	$ 41,502



VICINITY MAP
N.T.S.



SCALE: 1"=150'

SHEET INDEX

SITE ADDRESS

298 AND 309 GLENEAGLE GATE VIEW, COLORADO SPRINGS, CO

TAX ID

6206306005 AND 7201402022

LEGAL DESCRIPTION

LOT 1-3 ACADEMY GATEWAY SUBDIVISION FILING NO. 2

CONSTRUCTION SCHEDULE

BEGIN GRADING: SPRING 2026, END GRADING: FALL 2027

CONTACT INFORMATION:

OWNER:
TKA PROPERTIES, LLP
17225 BURT STREET
OMAHA, NE 68118
KEVIN QUINN (402) 964-4291
KQUINN@BAXTERAUTO.COM

DEVELOPER:
TKA PROPERTIES, LLP
17225 BURT STREET
OMAHA, NE 68118
KEVIN QUINN (402) 964-4291
KQUINN@BAXTERAUTO.COM

CIVIL ENGINEER:
TERRA NOVA ENGINEERING, INC.
721 S. 23RD STREET
COLORADO SPRINGS, COLORADO 80904
DANE FRANK, P.E., (719) 635-6422
DANE@TNESINC.COM

EL PASO COUNTY:
PLANNING AND COMMUNITY DEVELOPMENT
2880 INTERNATIONAL CIRCLE
COLORADO SPRINGS, COLORADO 80910
ASHLYN MATHY, (719) 520-6300
ASHLYNMATHY2@ELPASOCO.COM

DONALA WATER & SANITATION DISTRICT:
15850 HOLBEIN DRIVE
COLORADO SPRINGS, COLORADO 80921
CONNER BURBA, MERRICK & CO (CONSULTANT),
(303) 353-3539, CONNER.BURBA@MERRICK.COM

ENGINEER'S STATEMENT

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED ROADWAY, DRAINAGE, GRADING AND EROSION CONTROL PLANS AND SPECIFICATIONS, AND SAID PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH APPLICABLE MASTER DRAINAGE PLANS AND MASTER TRANSPORTATION PLANS. SAID PLANS AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR ROADWAY, AND DRAINAGE FACILITIES ARE DESIGNED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF THESE DETAILED PLANS AND SPECIFICATIONS.

DANE FRANK, P.E. #50207 DATE
FOR AND ON BEHALF OF TERRA NOVA ENGINEERING, INC.
NOTE: A RETAINING WALL DESIGN HAS BEEN ATTACHED TO THIS PLAN SET AS A REQUIREMENT BY THE COUNTY. IT IS BY OTHERS AND IS NOT COVERED BY THIS STAMP.

OWNER/DEVELOPER'S STATEMENT

I, THE OWNER/DEVELOPER, HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN AND ALL OF THE REQUIREMENTS SPECIFIED IN THESE DETAILED PLANS AND SPECIFICATIONS.

OWNER SIGNATURE DATE

EL PASO COUNTY APPROVAL

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/ OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/ OR ACCURACY OF THIS DOCUMENT. FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL, AS AMENDED.

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

JOSHUA PALMER, P.E. DATE
COUNTY ENGINEER / DIRECTOR

PLANNER / LANDSCAPE ARCHITECT
N.E.S. Inc.
619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903
Tel. 719.471.0073
Fax 719.471.0267
www.nescolorado.com

CIVIL ENGINEER
Terra Nova Engineering, Inc.
"Creative Civil Engineering Solutions"
721 S. 23RD STREET
COLORADO SPRINGS, CO 80904
OFFICE: 719-635-6422
FAX: 719-635-6426
www.tnesinc.com

NORTH GATE SUBARU

PROJECT INFO

DATE: 04/29/26
PROJECT MGR: K. JOHNSON
PREPARED BY: TERRA NOVA ENGINEERING

STAMP

ISSUE INFO

CONSTRUCTION DRAWINGS

ISSUE / REVISION

DATE:	BY:	DESCRIPTION:
1: 04/29/26 - NEW BLDG FOOTPRINT, GRAD/ST CHANGES		

SHEET TITLE

GRADING AND EROSION CONTROL PLAN COVER SHEET

SHEET NUMBER

PLAN FILE #

TNE JOB # 2326.00
COUNTY FILE # PPR2514 & SF2510

N:\Jobs\2326.00\Drawings\232600 GEC.dwg [COVER] 4/29/2026 9:31:46 AM Dane

STANDARD NOTES FOR EL PASO COUNTY CONSTRUCTION PLANS

1. ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.

2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD NOTIFICATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).

3. CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT, AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES, INCLUDING THE FOLLOWING:
   A. EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
   B. CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2
   C. COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
   D. CDOT M & S STANDARDS

4. 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 FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING. ANY MODIFICATIONS NECESSARY TO MEET CRITERIA AFTER-THE-FACT WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.

5. IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ONSITE AND OFFSITE, ON THE CONSTRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.

6. CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT (PCD) -INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.

7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS-ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.

8. CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND PCD. CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.

9. ALL STORM DRAIN PIPE SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED AND APPROVED BY PCD.

10. CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY PCD PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT.

11. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.

12. SIGHT VISIBILITY TRIANGLES AS IDENTIFIED IN THE PLANS SHALL BE PROVIDED AT ALL INTERSECTIONS. OBSTRUCTIONS GREATER THAN 18 INCHES ABOVE FLOWLINE ARE NOT ALLOWED WITHIN SIGHT TRIANGLES.

13. SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DOT AND MUTCD CRITERIA. [IF APPLICABLE, ADDITIONAL SIGNING AND STRIPING NOTES WILL BE PROVIDED.]

14. CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DOT, INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.

15. THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.

16. EL PASO COUNTY DOES NOT OWN AND IS NOT RESPONSIBLE FOR THE UNDERDRAINS OR GROUNDWATER DISCHARGE SYSTEMS SHOWN ON THESE PLANS AND ASSUMES NO LIABILITY FOR WATER RIGHTS ADMINISTRATION BY APPROVING THESE PLANS. MAINTENANCE AND WATER RIGHTS ARE THE RESPONSIBILITY OF THE DEVELOPER AND _____ [XX METROPOLITAN DISTRICT, OR YY PROPERTY OWNER'S ASSOCIATION]_____.

EL PASO COUNTY SIGNING AND STRIPING NOTES

1. ALL SIGNS AND PAVEMENT MARKINGS SHALL BE IN COMPLIANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

2. REMOVAL OF EXISTING PAVEMENT MARKINGS SHALL BE ACCOMPLISHED BY A METHOD THAT DOES NOT MATERIALLY DAMAGE THE PAVEMENT. THE PAVEMENT MARKINGS SHALL BE REMOVED TO THE EXTENT THAT THEY WILL NOT BE VISIBLE UNDER DAY OR NIGHT CONDITIONS. AT NO TIME WILL IT BE ACCEPTABLE TO PAINT OVER EXISTING PAVEMENT MARKINGS.

3. ANY DEVIATION FROM THE STRIPING AND SIGNING PLAN SHALL BE APPROVED BY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT.

4. ALL SIGNS SHOWN ON THE SIGNING AND STRIPING PLAN SHALL BE NEW SIGNS. EXISTING SIGNS MAY REMAIN OR BE REUSED IF THEY MEET CURRENT EL PASO COUNTY AND MUTCD STANDARDS.

5. STREET NAME AND REGULATORY STOP SIGNS SHALL BE ON THE SAME POST AT INTERSECTIONS.

6. ALL REMOVED SIGNS SHALL BE DISPOSED OF IN A PROPER MANNER BY THE CONTRACTOR.

7. ALL STREET NAME SIGNS SHALL HAVE "D"SERIES LETTERS, WITH LOCAL ROADWAY SIGNS BEING 4"UPPER-LOWER CASE LETTERING ON 8"BLANK AND NON-LOCAL ROADWAY SIGNS BEING 6"LETTERING, UPPER-LOWER CASE ON 12"BLANK, WITH A WHITE BORDER THAT IS NOT RECESSED. MULTI-LANE ROADWAYS WITH SPEED LIMITS OF 35 MPH OR HIGHER SHALL HAVE 8"UPPER-LOWER CASE LETTERING ON 12"BLANK WITH A WHITE BORDER THAT IS NOT RECESSED. THE WIDTH OF THE NON-RECESSED WHITE BORDERS SHALL MATCH PAGE 255 OF THE 2012 MUTCD "STANDARD HIGHWAY SIGNS". SIGNAL POLE MOUNTED AND OVERHEAD STREET NAME SIGNS SHALL BE PER MUTCD SIZE STANDARDS.

8. ALL TRAFFIC SIGNS SHALL HAVE A MINIMUM HIGH INTENSITY PRISMATIC GRADE SHEETING.

9. ALL LOCAL RESIDENTIAL STREET SIGNS SHALL BE MOUNTED ON A 1.75"X 1.75"SQUARE TUBE SIGN POST AND STUB POST BASE. FOR OTHER APPLICATIONS, REFER TO THE CDOT STANDARD S-614-8 REGARDING USE OF THE P2 TUBULAR STEEL POST SLIPBASE DESIGN.

10. ALL SIGNS SHALL BE SINGLE SHEET ALUMINUM WITH 0.100"MINIMUM THICKNESS.

11. ALL LIMIT LINES/STOP LINES, CROSSWALK LINES, PAVEMENT LEGENDS, AND ARROWS SHALL BE A MINIMUM 125 MIL THICKNESS PREFORMED THERMOPLASTIC PAVEMENT MARKINGS WITH TAPERED LEADING EDGES PER CDOT STANDARD S-627-1. STOP BARS SHALL BE 24"IN WIDTH. CROSSWALKS LINES SHALL BE 24"WIDE AND A MINIMUM OF 9'LONG.

12. WORD AND SYMBOL MARKINGS SHALL BE THE NARROW TYPE.

13. ALL LONGITUDINAL LINES SHALL BE A MINIMUM 15MIL THICKNESS EPOXY PAINT. ALL NON-LOCAL RESIDENTIAL ROADWAYS SHALL INCLUDE BOTH RIGHT AND LEFT EDGE LINE STRIPING AND ANY ADDITIONAL STRIPING AS REQUIRED BY CDOT S-627-1.

14. THE CONTRACTOR SHALL NOTIFY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT (719) 520-6819 PRIOR TO AND UPON COMPLETION OF SIGNING AND STRIPING.

15. THE CONTRACTOR SHALL OBTAIN A WORK IN THE RIGHT OF WAY PERMIT FROM THE EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS (DPW) PRIOR TO ANY SIGNAGE OR STRIPING WORK WITHIN AN EXISTING EL PASO COUNTY ROADWAY.

STANDARD NOTES FOR EL PASO COUNTY GRADING AND EROSION CONTROL PLANS

1. 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 (EPC) STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE (LDC), THE ENGINEERING CRITERIA MANUAL (ECM), THE DRAINAGE CRITERIA MANUAL (DCM) VOLUME 1 AND 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.

2. A PRECONSTRUCTION MEETING BETWEEN THE PERMIT HOLDER(S) AND EL PASO COUNTY SHALL BE HELD PRIOR TO ANY CONSTRUCTION ACTIVITIES. IT IS THE RESPONSIBILITY OF THE PERMIT HOLDER(S) TO COORDINATE THE MEETING TIME AND PLACE WITH COUNTY STAFF. NO LAND DISTURBANCE OR CONSTRUCTION ACTIVITIES BEYOND THE INSTALLATION OF THE INITIAL CONSTRUCTION CONTROL MEASURES (CCMS), AS INDICATED ON THE APPROVED GEC PLAN OR CDS WITH GEC PLANS, MAY OCCUR PRIOR TO RECEIVING A NOTICE TO PROCEED (NTP) ISSUED BY THE ECM ADMINISTRATOR. FAILURE TO OBTAIN A NOTICE TO PROCEED PRIOR TO BEGINNING LAND DISTURBING ACTIVITIES MAY RESULT IN AN IMMEDIATE STOP WORK ORDER (SWO).

3. CONSTRUCTION CONTROL MEASURES MUST BE INSTALLED PRIOR TO COMMENCEMENT OF ACTIVITIES THAT COULD CONTRIBUTE POLLUTANTS TO STORMWATER. STORMWATER RUNOFF FROM ALL DISTURBED AREAS AND SOIL STORAGE AREAS MUST UTILIZE OR FLOW TO ONE OR MORE CCM(S) TO MINIMIZE EROSION OR SEDIMENT IN THE DISCHARGE. THE CCM(S) MUST CONTAIN OR FILTER FLOWS IN ORDER TO PREVENT THE BYPASS OF FLOWS WITHOUT TREATMENT AND MUST BE APPROPRIATE FOR STORMWATER RUNOFF FROM DISTURBED AREAS AND FOR THE EXPECTED FLOW RATE, DURATION, AND FLOW CONDITIONS (E.G., SHEET OR CONCENTRATED FLOW).

4. ALL CCMS SHALL BE MAINTAINED AND REMAIN IN EFFECTIVE OPERATING CONDITION UNTIL FINAL STABILIZATION IS ACHIEVED. THE QUALIFIED STORMWATER MANAGER (QSM) SHALL ASSESS THE ADEQUACY OF CCMS AT THE SITE AND IDENTIFY IF CHANGES TO THOSE CCMS ARE NEEDED TO ENSURE THE CONTINUED EFFECTIVE PERFORMANCE OF THE CCMS.

5. PRIOR TO CONSTRUCTION THE PERMIT HOLDER(S) SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.

6. MANAGEMENT OF THE STORMWATER MANAGEMENT PLAN (SWMP) DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE DESIGNATED QSM. THE SWMP SHALL BE LOCATED ON-SITE OR DIGITALLY ACCESSIBLE AT ALL TIMES DURING CONSTRUCTION ACTIVITIES AND MUST BE IMPLEMENTED AS WRITTEN FROM THE START OF CONSTRUCTION ACTIVITY UNTIL FINAL STABILIZATION IS ACHIEVED. THE QSM SHALL AMEND THE SWMP WHEN THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE OF THE SITE WHICH WOULD REQUIRE THE IMPLEMENTATION OF NEW OR REVISED CCMS OR IF THE SWMP PROVES TO BE INEFFECTIVE IN CONTROLLING POLLUTANTS IN STORMWATER RUNOFF ASSOCIATED WITH CONSTRUCTION ACTIVITY OR WHEN CCMS ARE NO LONGER NECESSARY AND ARE REMOVED. THE QSM SHALL MAINTAIN A RECORD OF AMENDMENTS MADE TO THE SWMP THAT INCLUDES THE DATE AND IDENTIFICATION OF THE CHANGES.

7. EARTH DISTURBANCES 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 RECEIVING WATER UNLESS SHOWN TO BE INFEASIBLE AND SPECIFICALLY REQUESTED AND APPROVED. IN ADDITION TO MAINTAINING 50 HORIZONTAL FEET OF PRE-EXISTING VEGETATION UPGRADIENT OF A RECEIVING WATER (UNLESS INFEASIBLE AND APPROVED), THE PERMIT HOLDER(S) MUST INSTALL CCMS UPGRADIENT OF THE VEGETATIVE BUFFER.

8. TEMPORARY STABILIZATION MEASURES SHALL BE IMPLEMENTED ON DISTURBED AREAS AND STOCKPILES WHERE GROUND DISTURBING CONSTRUCTION ACTIVITY HAS PERMANENTLY CEASED OR TEMPORARILY CEASED FOR LONGER THAN 14 DAYS.

9. EROSION CONTROL BLANKET (ECB) OR OTHER APPROVED CONTROL MEASURE(S) SHALL BE USED ON SLOPES STEEPER THAN 3:1.

10. VEHICLE TRACKING CONTROLS (VTC) MUST BE IMPLEMENTED TO MINIMIZE VEHICLE TRACKING OF SEDIMENT FROM DISTURBED AREAS. VTCS MUST INCLUDE A STRUCTURE CONTROL MEASURE (E.G., TRACKING PAD) AND MAY INCLUDE A NON-STRUCTURAL CONTROL MEASURE (E.G., SWEEPING). MATERIAL TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.

11. ANY TEMPORARY OR PERMANENT CONTROL MEASURE DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE A STABILIZED CONVEYANCE DESIGNED TO MINIMIZE EROSION AND THE DISCHARGE OF SEDIMENT OFF-SITE.

12. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER, PERMANENT CONTROL MEASURES (PCMS), OR DITCHES EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.

13. ALL PCMS SHALL BE INSTALLED AS DESIGNED IN THE APPROVED PLANS. ANY PROPOSED CHANGES THAT AFFECT THE DESIGN OR FUNCTION OF PCMS MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO IMPLEMENTATION.

14. SOIL COMPACTION MUST BE MINIMIZED IN AREAS WHERE INFILTRATION PCMS WILL BE INSTALLED OR IN AREAS WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATIVE COVER. AREAS DESIGNATED FOR INFILTRATION PCMS SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED. IF SOIL COMPACTION DOES OCCUR IN AREAS WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATIVE COVER OR IN AREAS WHERE INFILTRATION PCMS WILL BE INSTALLED, DECOMPACTION OF THE SOIL MUST BE COMPLETED PRIOR TO PLANTING OR INSTALLATION OF THE PCM(S). AN INFILTRATION TEST MUST BE CONDUCTED FOR ALL INFILTRATION PCMS AND THE INFILTRATION TEST RESULTS SUBMITTED TO EL PASO COUNTY PRIOR TO PRELIMINARY ACCEPTANCE (PA).

15. FINAL STABILIZATION MUST BE IMPLEMENTED AT ALL APPLICABLE CONSTRUCTION SITES. FINAL STABILIZATION IS ACHIEVED WHEN ALL GROUND DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND PERMANENT STABILIZATION METHODS ARE COMPLETE. WHEN USING VEGETATIVE COVER AS A PERMANENT STABILIZATION METHOD, THE VEGETATION SHALL BE EVENLY DISTRIBUTED PERENNIAL VEGETATION AND OF THE VARIETY AND SPECIES FOUND IN THE COUNTY-APPROVED SEED MIXES OR IN THE APPROVED GEC PLAN. VEGETATION COVERAGE SHALL BE, AT A MINIMUM, EQUAL TO 70% OF WHAT WOULD HAVE BEEN PROVIDED BY NATIVE VEGETATION IN A LOCAL, UNDISTURBED AREA OR ADEQUATE REFERENCE SITE. ALL TEMPORARY CCMS SHALL BE REMOVED UPON FINAL STABILIZATION AND PRIOR TO STORMWATER PERMIT TERMINATION.

16. 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.

17. CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO BE DISCHARGED OFFSITE OR TO ENTER STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR CONTROL MEASURES. CONCRETE WASHOUT AREAS SHALL NOT BE LOCATED IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT, OR WITHIN 50 FEET OF A SURFACE WATER BODY, CREEK, OR STREAM.

18. DURING CONSTRUCTION DEWATERING OPERATIONS, UNCONTAMINATED GROUNDWATER MAY BE DISCHARGED ON-SITE IN ACCORDANCE WITH THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT'S (CDPHE) LOW RISK DISCHARGE GUIDANCE POLICY FOR DISCHARGES OF UNCONTAMINATED GROUNDWATER TO LAND. IF CONSTRUCTION DEWATERING OPERATIONS ARE UNABLE TO MEET ALL CRITERIA, CONDITIONS, AND CONTROL MEASURE REQUIREMENTS OF THE LOW RISK DISCHARGE GUIDANCE POLICY, A COLORADO DISCHARGE PERMIT SYSTEM (CDPS) GENERAL PERMIT COG080000 WILL BE REQUIRED.

19. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL WASTE FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO CONSTRUCTION DEBRIS, TREE SLASH, BUILDING MATERIAL WASTES, OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.

20. THE PERMIT HOLDER(S) SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, SOIL, AND SAND THAT MAY ACCUMULATE IN ROADS, STORM DRAINS AND OTHER DRAINAGE CONVEYANCE SYSTEMS AND STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.

21. 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.

22. 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. APPROPRIATE CMS SHALL BE UTILIZED BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.

23. BULK STORAGE (I.E., INDIVIDUAL CONTAINERS OF 55 GALLONS OR GREATER) OF ALLOWED PETROLEUM PRODUCTS OR OTHER ALLOWED LIQUID SHALL REQUIRE ADEQUATE SECONDARY CONTAINMENT, OR EQUIVALENT PROTECTION, TO CONTAIN ALL SPILLS ON-SITE AND TO PREVENT ANY SPILLED MATERIALS FROM ENTERING STATE WATERS, ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM, OR OTHER FACILITIES.

24. NO CHEMICAL(S) HAVING THE POTENTIAL TO BE RELEASED IN STORMWATER ARE TO BE STORED OR USED ON-SITE UNLESS PERMISSION FOR THE USE OF SUCH CHEMICAL(S) IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING APPROVAL FOR THE USE OF SUCH CHEMICAL(S), SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.

25. ON AREAS OF EXPOSED SOIL, MINIMIZE DUST THROUGH THE APPROPRIATE APPLICATION OF WATER OR OTHER DUST SUPPRESSION TECHNIQUES. WATER APPLICATION MUST BE CONDUCTED IN A MANNER TO PREVENT DISCHARGE OFFSITE UNLESS AUTHORIZED BY A CDPS OR NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT.

26. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS POINTS.

27. FOR SITES WHERE A SOILS REPORT IS REQUIRED, THE APPROVED SOILS REPORT FOR THIS SITE SHALL BE CONSIDERED A PART OF THESE PLANS.

28. PERMIT HOLDER(S) AND THEIR AGENTS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT"(TITLE 25, ARTICLE 8, CRS), AND THE "CLEAN WATER ACT"(33 USC 1344), IN ADDITION TO THE REQUIREMENTS OF THE LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL VOLUME 2, AND ENGINEERING CRITERIA MANUAL. ALL APPLICABLE LOCAL, STATE, AND FEDERAL PERMITS MUST BE OBTAINED PRIOR TO CONSTRUCTION. IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND OTHER LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL, STATE, LOCAL, OR COUNTY AGENCIES, THE MOST RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.

29. AT LEAST TEN (10) DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB ONE (1) ACRE OR MORE OR LESS THAN 1 ACRE AND PART OF A LARGER COMMON PLAN OF DEVELOPMENT OR SALE THAT WOULD DISTURB 1 OR MORE ACRES, THE PERMIT HOLDER(S) SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE (COR400000 PERMIT) TO THE CDPHE WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A SWMP, OF WHICH THIS GEC PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT:

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

PLANNER / LANDSCAPE ARCHITECT
NES
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Colorado Springs, CO 80903
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721 S. 23RD STREET
COLORADO SPRINGS, CO 80904
OFFICE: 719-635-6422
FAX: 719-635-6426
www.tneainc.com

PROJECT INFO

NORTH GATE SUBARU

DATE: 04/29/26
PROJECT MGR: K. JOHNSON
PREPARED BY: TERRA NOVA ENGINEERING

STAMP

ISSUE INFO

CONSTRUCTION DRAWINGS

DATE:	BY:	DESCRIPTION:
1: 04/29/26		NEW BLDG FOOTPRINT, GRAD/ST CHANGES

ISSUE / REVISION

SHEET TITLE

GRADING AND EROSION CONTROL PLAN
STANDARD NOTES SHEET

SHEET NUMBER

2 OF 22

FILE #

TNE JOB # 2326.00
COUNTY FILE # PPR2514 & SF2510

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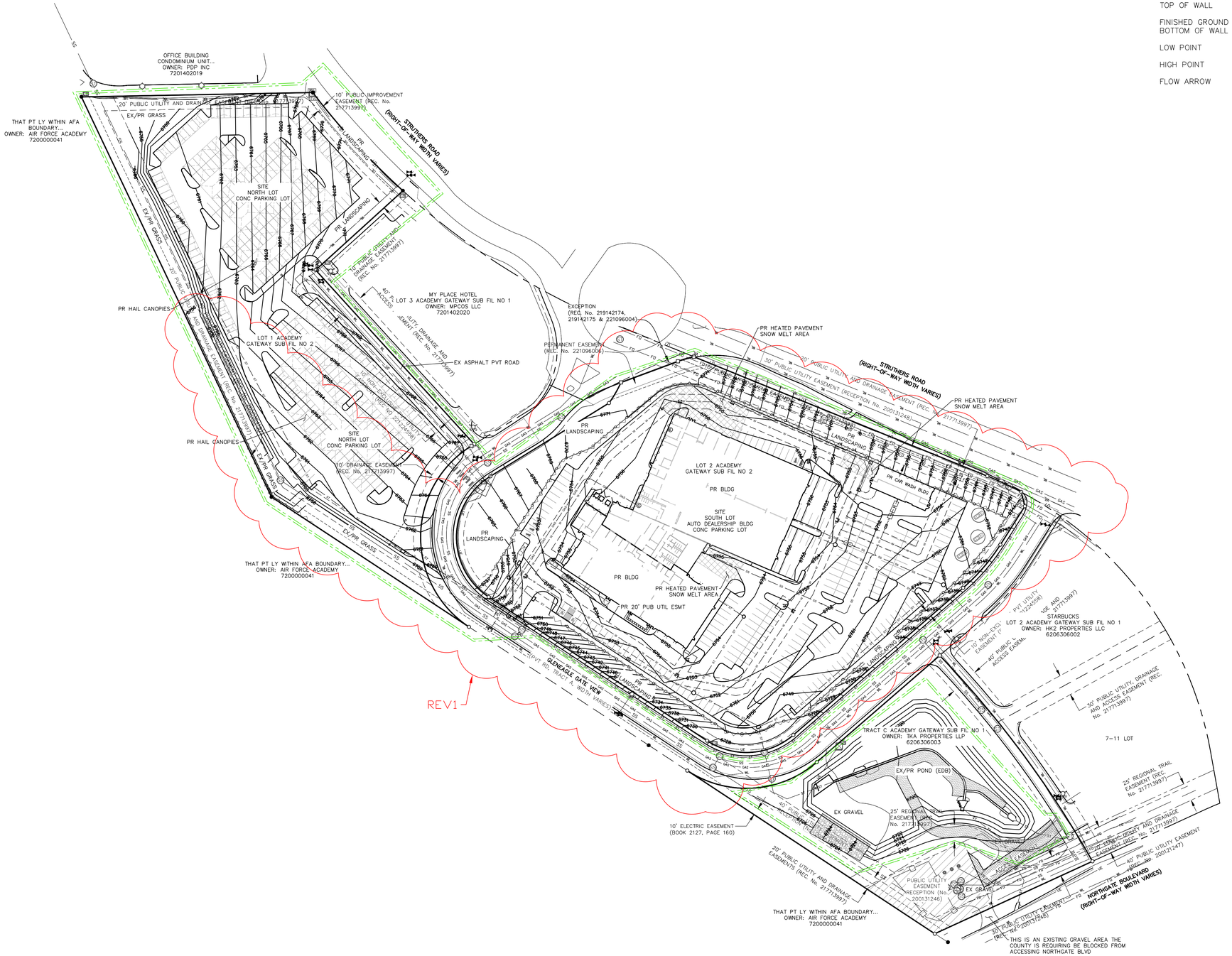

GRADING LEGEND

PROPOSED	PR	EXISTING CONTOURS – MINOR	6231
EXISTING	EX	EXISTING CONTOURS – MAJOR	6230
FINISHED SURFACE	FS	PROPOSED CONTOURS – 1'	6231
FINISHED GROUND	FG	EXISTING PROPERTY LINE	
TOP OF CURB	TC	PROPOSED RET WALL	
FLOWLINE	FL	PROPOSED RIPRAP	
FINISH GROUND AT TOP OF WALL	TW	WATER LINE	W WL W
FINISHED GROUND AT BOTTOM OF WALL	BW	SANITARY SEWER LINE	SS SS
LOW POINT	LP	GAS LINE	GAS GAS
HIGH POINT	HP	UNDERGROUND ELECTRICAL LINE	UE UE
FLOW ARROW		TELEPHONE LINE	UT
		FIBER OPTIC LINE	FO FO
		STORM SEWER LINE	ST ST
		LIMIT OF CONSTRUCTION	
		LIMIT OF SOIL DISTURBANCE	
		PROPOSED FENCE	
		FIRE HYDRANT	

NOTES

1. THE HEATED PAVEMENT SNOW MELT AREAS REQUIRE REBAR IN THE CONCRETE AT A MINIMUM OF 12"x12" GRID FOR TIE DOWNS (#4 REBAR AT 12" OC EACH WAY, COORDINATE WITH MECH FOR PLACEMENT HEIGHT WITHIN PAVEMENT SECTION).

N

80' 0 80' 160'

SCALE: 1"=80'

THIS DESIGN WAS PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF TERRA NOVA ENGINEERING, INC.

DANE FRANK
COLORADO P.E. # 50207

PLANNER / LANDSCAPE ARCHITECT

NES

N.E.S. Inc.
619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903
Tel. 719.471.0073
Fax 719.471.0267
www.nescolorado.com

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OFFICE: 719-635-6422
FAX: 719-635-6426
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NORTH GATE SUBARU

PROJECT INFO

DATE: 04/29/26
PROJECT MGR: K. JOHNSON
PREPARED BY: TERRA NOVA ENGINEERING

STAMP

ISSUE INFO

CONSTRUCTION DRAWINGS

DATE:	BY:	DESCRIPTION:
1: 04/29/26	-	NEW BLDG FOOTPRINT, GRAD/ST CHANGES

ISSUE / REVISION

SHEET TITLE: GRADING AND EROSION CONTROL PLAN OVERVIEW SHEET

SHEET NUMBER: 3 OF 22

PLAN FILE #: TNE JOB # 2326.00
COUNTY FILE # PPR2514 & SF2510

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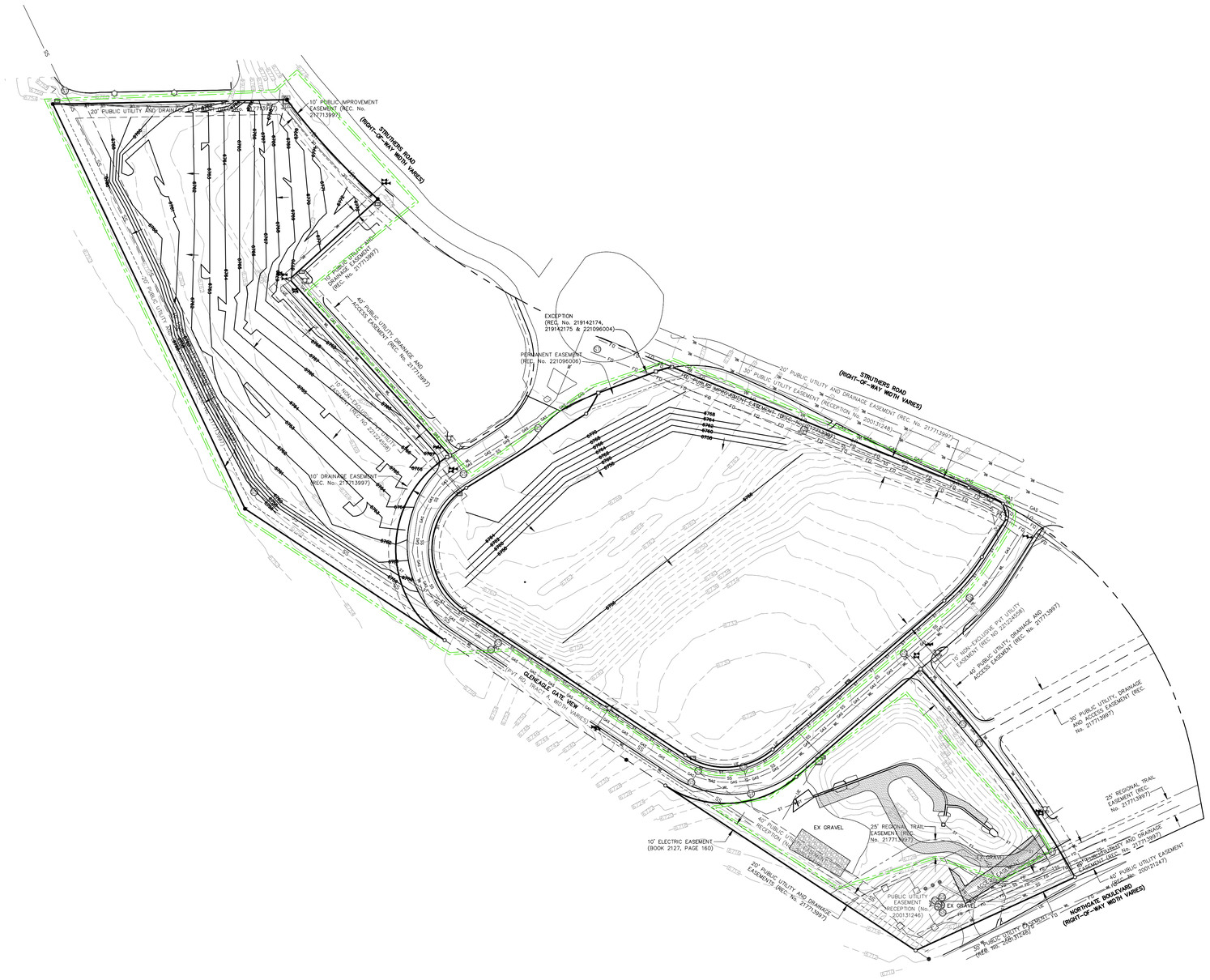


GRADING LEGEND

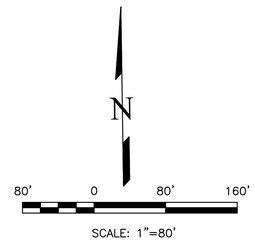
PROPOSED	PR	EXISTING CONTOURS – MINOR	6231
EXISTING	EX	EXISTING CONTOURS – MAJOR	6230
FINISHED SURFACE	FS	PROPOSED CONTOURS – 1'	6231
FINISHED GROUND	FG	EXISTING PROPERTY LINE	
TOP OF CURB	TC	PROPOSED RET WALL	
FLOWLINE	FL	PROPOSED RIPRAP	
FINISH GROUND AT TOP OF WALL	TW	WATER LINE	W WL
FINISHED GROUND AT BOTTOM OF WALL	BW	SANITARY SEWER LINE	SS SS
LOW POINT	LP	GAS LINE	GAS GAS
HIGH POINT	HP	UNDERGROUND ELECTRICAL LINE	UE UE
FLOW ARROW		TELEPHONE LINE	UT
		FIBER OPTIC LINE	FO FO
		STORM SEWER LINE	ST ST
		LIMIT OF CONSTRUCTION	
		LIMIT OF SOIL DISTURBANCE	
		PROPOSED FENCE	
		FIRE HYDRANT	

NOTES

1. THE COUNTY HAS REQUIRED AN INITIAL GRADING PLAN. THIS INITIAL GRADING IS A POOR FIT FOR THE PROPOSED SITE DUE TO THE LARGE NUMBER OF TALL RETAINING WALLS PROPOSED. THE DESIGN ENGINEER DOES NOT CONSIDER MATCHING THE INITIAL GRADING PLAN TO BE CRITICAL AND RECOMMENDS THE CONTRACTOR PRIORITIZE CONSTRUCTION OF THE RETAINING WALLS AND THE FINAL GRADING PLAN.

2. THE SITE HAS PREVIOUSLY BEEN OVERLOT GRADED.

3. THE EXISTING VEGETATION ONSITE IS PRIMARILY PRAIRIE GRASSES. NO SIGNIFICANT TREES OR BUSHES HAVE BEEN OBSERVED.



SCALE: 1"=80'

THIS DESIGN WAS PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF TERRA NOVA ENGINEERING, INC.

DANE FRANK
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619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903
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Fax 719.471.0267
www.nescolorado.com

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COLORADO SPRINGS, CO 80904
OFFICE: 719-635-6422
FAX: 719-635-6426
www.tneainc.com

NORTH GATE SUBARU

PROJECT INFO
DATE: 04/29/26
PROJECT MGR: K. JOHNSON
PREPARED BY: TERRA NOVA ENGINEERING

STAMP

ISSUE INFO

CONSTRUCTION DRAWINGS

DATE:	BY:	DESCRIPTION:
1: 04/29/26		NEW BLDG FOOTPRINT, GRAD/ST CHANGES

ISSUE / REVISION

SHEET TITLE
GRADING AND EROSION CONTROL PLAN
INITIAL GRADING PLAN

SHEET NUMBER
4 OF 22

PLAN FILE #
TNE JOB # 2326.00
COUNTY FILE # PPR2514 & SF2510

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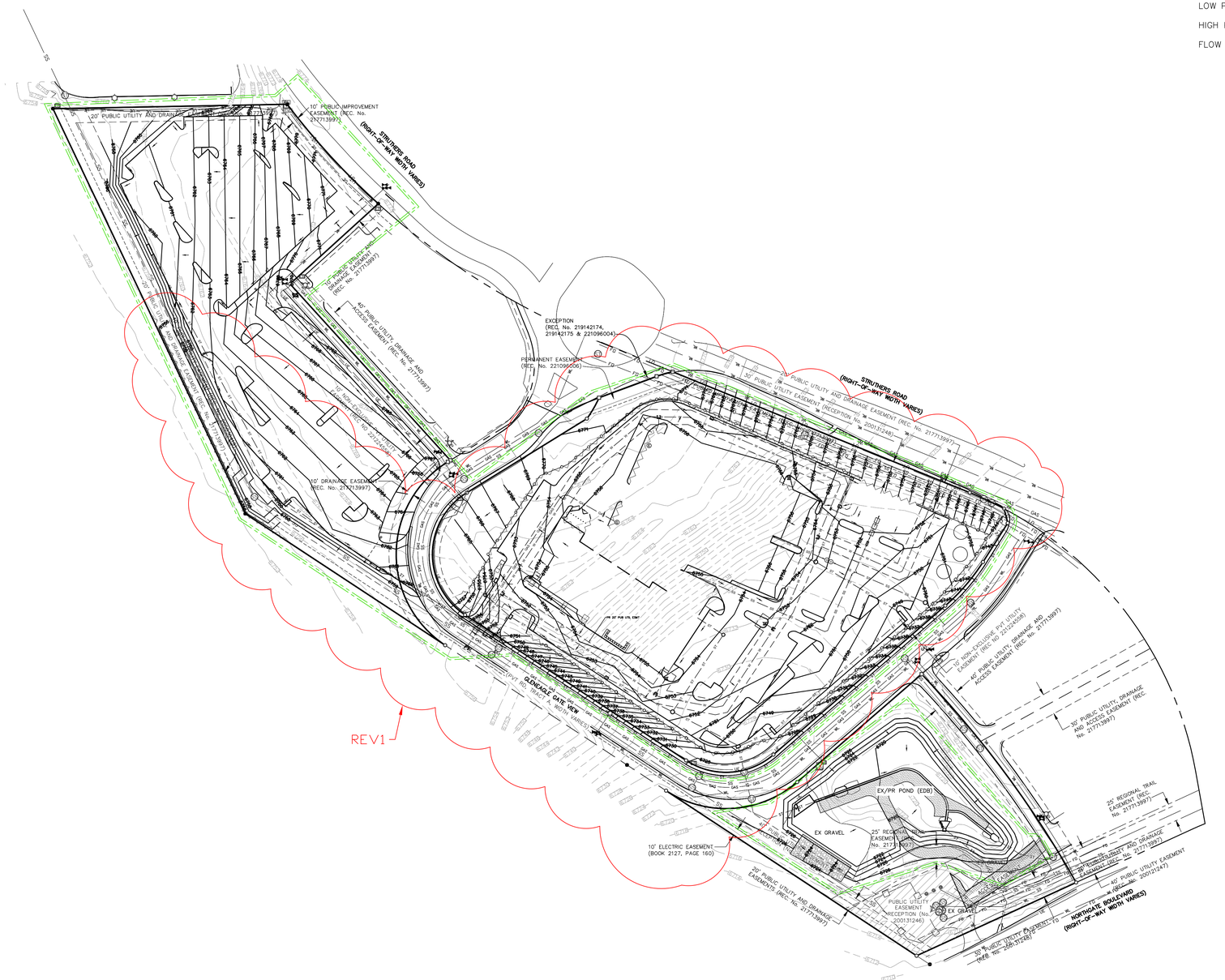
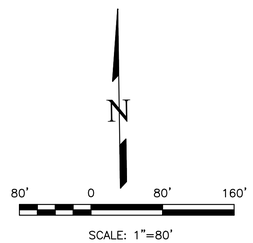


GRADING LEGEND

PROPOSED	PR	EXISTING CONTOURS – MINOR	6231
EXISTING	EX	EXISTING CONTOURS – MAJOR	6230
FINISHED SURFACE	FS	PROPOSED CONTOURS – 1'	6231
FINISHED GROUND	FG	EXISTING PROPERTY LINE	
TOP OF CURB	TC	PROPOSED RET WALL	
FLOWLINE	FL	PROPOSED RIPRAP	
FINISH GROUND AT TOP OF WALL	TW	WATER LINE	W WL
FINISHED GROUND AT BOTTOM OF WALL	BW	SANITARY SEWER LINE	SS SS
LOW POINT	LP	GAS LINE	GAS GAS
HIGH POINT	HP	UNDERGROUND ELECTRICAL LINE	UE UE
FLOW ARROW		TELEPHONE LINE	UT
		FIBER OPTIC LINE	FO FO
		STORM SEWER LINE	ST ST
		LIMIT OF CONSTRUCTION	
		LIMIT OF SOIL DISTURBANCE	
		PROPOSED FENCE	
		FIRE HYDRANT	

NOTES

1. THE COUNTY HAS REQUIRED AN INTERIM GRADING PLAN. THIS INTERIM GRADING IS A POOR FIT FOR THE PROPOSED SITE DUE TO THE LARGE NUMBER OF TALL RETAINING WALLS PROPOSED. THE DESIGN ENGINEER DOES NOT CONSIDER MATCHING THE INTERIM GRADING PLAN TO BE CRITICAL AND RECOMMENDS THE CONTRACTOR PRIORITIZE CONSTRUCTION OF THE RETAINING WALLS AND THE FINAL GRADING PLAN.
2. SEE FINAL GRADING PLAN FOR SPOT ELEVATIONS.
3. THE SITE HAS PREVIOUSLY BEEN OVERLOT GRADED.
4. THE EXISTING VEGETATION ONSITE IS PRIMARILY PRAIRIE GRASSES. NO SIGNIFICANT TREES OR BUSHES HAVE BEEN OBSERVED.



SCALE: 1"=80'

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NORTH GATE SUBARU

PROJECT INFO

DATE: 04/29/26
PROJECT MGR: K. JOHNSON
PREPARED BY: TERRA NOVA ENGINEERING

STAMP

CONSTRUCTION DRAWINGS

ISSUE INFO

DATE:	BY:	DESCRIPTION:
1: 04/29/26		NEW BLDG FOOTPRINT, GRAD/ST CHANGES

ISSUE / REVISION

SHEET TITLE

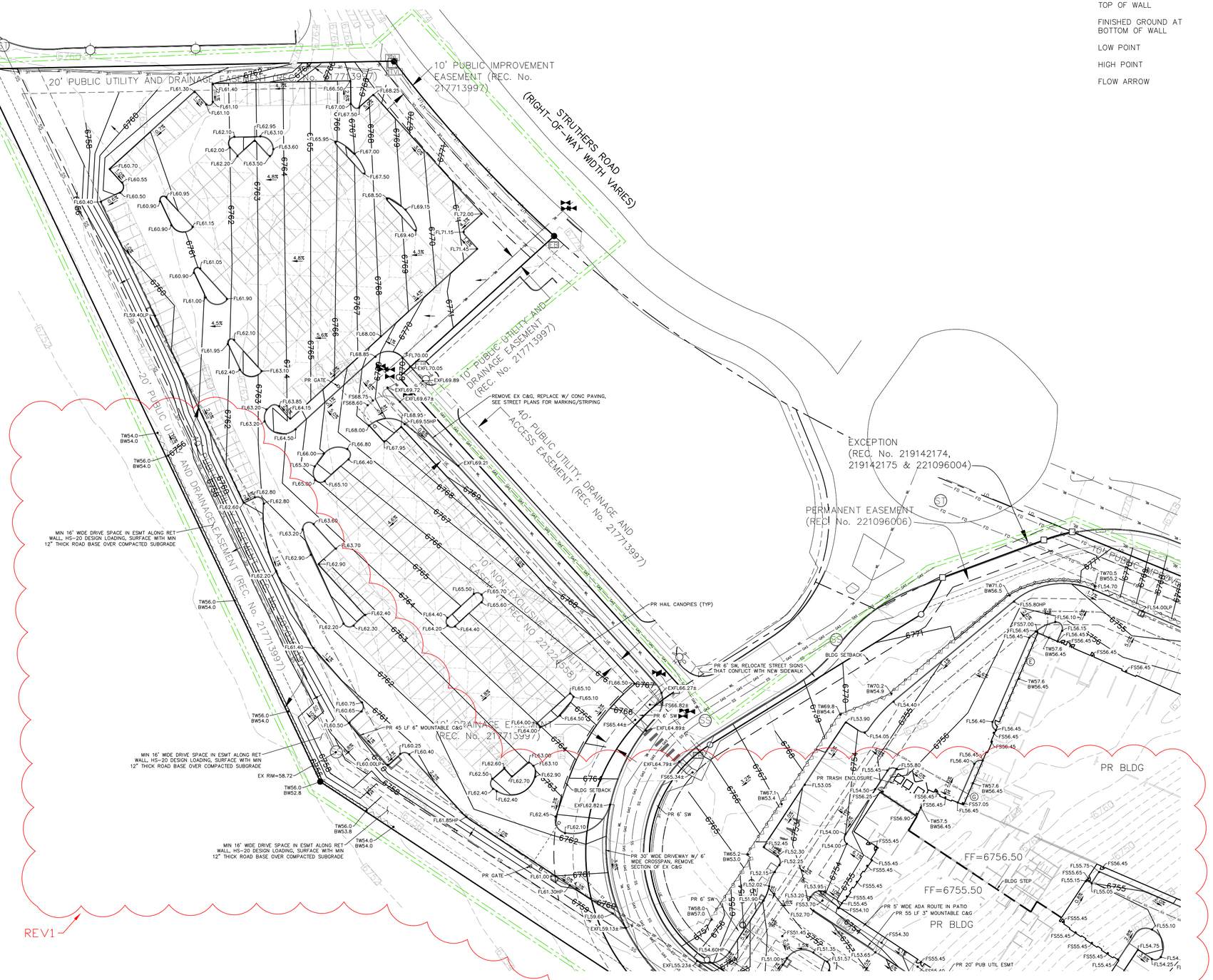
GRADING AND EROSION CONTROL PLAN
INTERIM GRADING PLAN

SHEET NUMBER

5 OF 22

PLAN FILE #

TNE JOB # 2326.00
COUNTY FILE # PPR2514 & SF2510



GRADING LEGEND

PROPOSED	PR	EXISTING CONTOURS – MINOR	6231
EXISTING	EX	EXISTING CONTOURS – MAJOR	6230
FINISHED SURFACE	FS	PROPOSED CONTOURS – 1'	6231
FINISHED GROUND	FG	EXISTING PROPERTY LINE	
TOP OF CURB	TC	PROPOSED RET WALL	
FLOWLINE	FL	PROPOSED RIPRAP	
FINISH GROUND AT TOP OF WALL	TW	WATER LINE	W WL
FINISHED GROUND AT BOTTOM OF WALL	BW	SANITARY SEWER LINE	SS
LOW POINT	LP	GAS LINE	GAS
HIGH POINT	HP	UNDERGROUND ELECTRICAL LINE	UE
FLOW ARROW		TELEPHONE LINE	UT
		FIBER OPTIC LINE	FO
		STORM SEWER LINE	ST
		LIMIT OF CONSTRUCTION	
		LIMIT OF SOIL DISTURBANCE	
		PROPOSED FENCE	
		FIRE HYDRANT	

NOTES

1. THE SITE HAS PREVIOUSLY BEEN OVERLOT GRADED.
2. THE EXISTING VEGETATION ONSITE IS PRIMARILY PRAIRIE GRASSES. NO SIGNIFICANT TREES OR BUSHES HAVE BEEN OBSERVED.
3. SOME CURB IS 8" TALL, MOST IS 6" TALL. SEE GRADING DETAILS SHEET.

N
40' 0 40' 80'
SCALE: 1"=40'

THIS DESIGN WAS PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF TERRA NOVA ENGINEERING, INC.

DANE FRANK
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www.tneainc.com

NORTH GATE SUBARU

PROJECT INFO
DATE: 04/29/26
PROJECT MGR: K. JOHNSON
PREPARED BY: TERRA NOVA ENGINEERING

STAMP

ISSUE INFO
CONSTRUCTION DRAWINGS

ISSUE / REVISION

DATE:	BY:	DESCRIPTION:
1: 04/29/26		NEW BLDG FOOTPRINT, GRAD/ST CHANGES

SHEET TITLE
GRADING AND EROSION CONTROL PLAN
FINAL GRADING PLAN – NORTH

SHEET NUMBER
6 OF 22

PLAN FILE #
TNE JOB # 2326.00
COUNTY FILE # PPR2514 & SF2510

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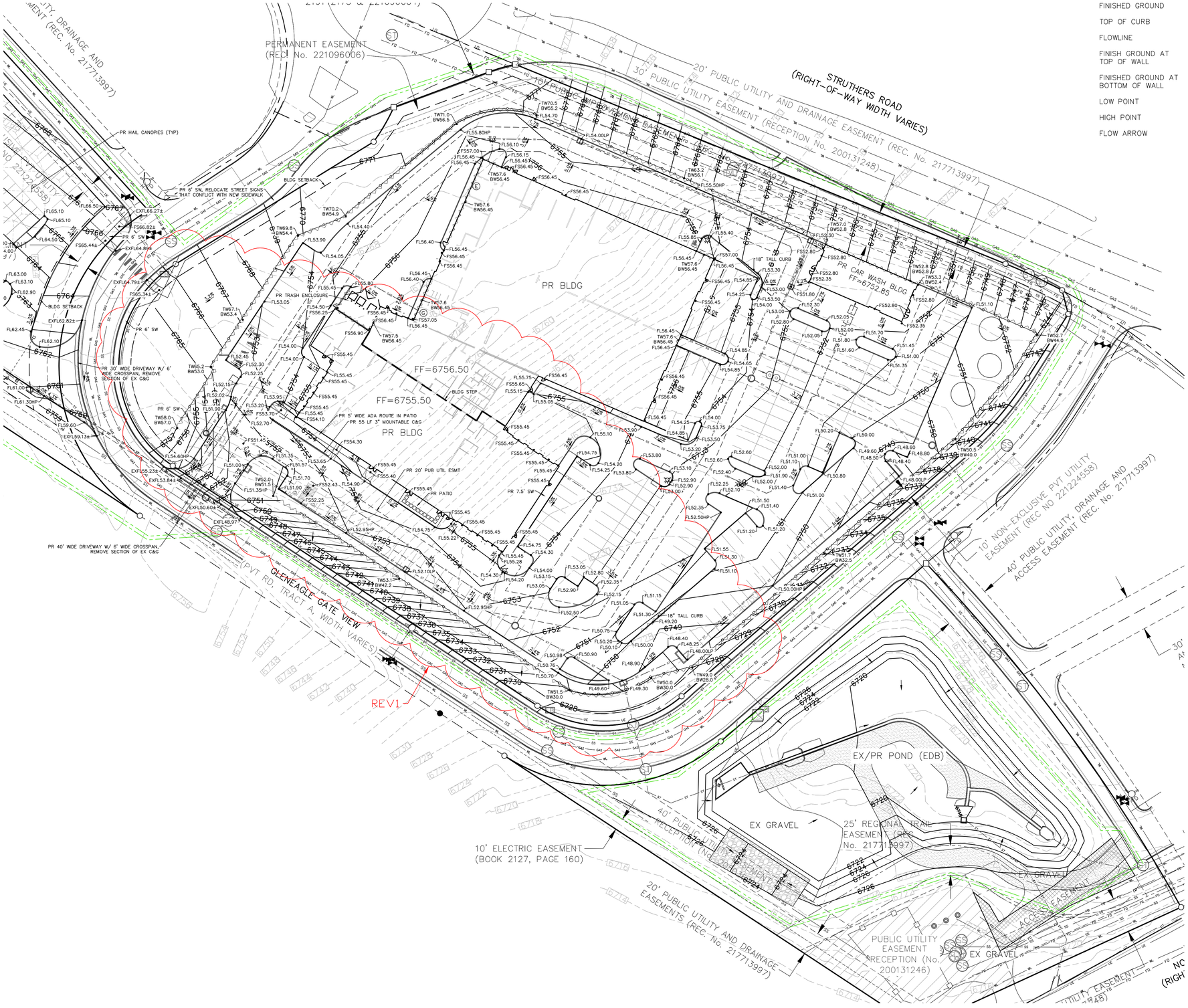

GRADING LEGEND

PROPOSED	PR	EXISTING CONTOURS – MINOR — 6231 —
EXISTING	EX	EXISTING CONTOURS – MAJOR — 6230 —
FINISHED SURFACE	FS	PROPOSED CONTOURS – 1' — 6231 —
FINISHED GROUND	FG	EXISTING PROPERTY LINE
TOP OF CURB	TC	PROPOSED RET WALL
FLOWLINE	FL	PROPOSED RIPRAP
FINISH GROUND AT TOP OF WALL	TW	WATER LINE — W — W — PIL —
FINISHED GROUND AT BOTTOM OF WALL	BW	SANITARY SEWER LINE — SS — SS —
LOW POINT	LP	GAS LINE — GAS — GAS —
HIGH POINT	HP	UNDERGROUND ELECTRICAL LINE — UE — UE —
FLOW ARROW	←	TELEPHONE LINE — UT —
		FIBER OPTIC LINE — FO — FO —
		STORM SEWER LINE — ST — ST —
		LIMIT OF CONSTRUCTION
		LIMIT OF SOIL DISTURBANCE
		PROPOSED FENCE
		FIRE HYDRANT

NOTES

1. THE SITE HAS PREVIOUSLY BEEN OVERLOT GRADED.
2. THE EXISTING VEGETATION ONSITE IS PRIMARILY PRAIRIE GRASSES. NO SIGNIFICANT TREES OR BUSHES HAVE BEEN OBSERVED.
3. SOME CURB IS 8" TALL, MOST IS 6" TALL. SEE GRADING DETAILS SHEET.

40' 0 40' 80'

SCALE: 1"=40'

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www.tneinc.com

NORTH GATE SUBARU

PROJECT INFO
DATE: 04/29/26
PROJECT MGR: K. JOHNSON
PREPARED BY: TERRA NOVA ENGINEERING

STAMP

ISSUE INFO
CONSTRUCTION DRAWINGS

ISSUE / REVISION

DATE:	BY:	DESCRIPTION:
1: 04/29/26		NEW BLDG FOOTPRINT, GRAD/ST CHANGES

SHEET TITLE
GRADING AND EROSION CONTROL PLAN
FINAL GRADING PLAN – SOUTH

SHEET NUMBER
7 OF 22

PLAN FILE #
TNE JOB # 2326.00
COUNTY FILE # PPR2514 & SF2510

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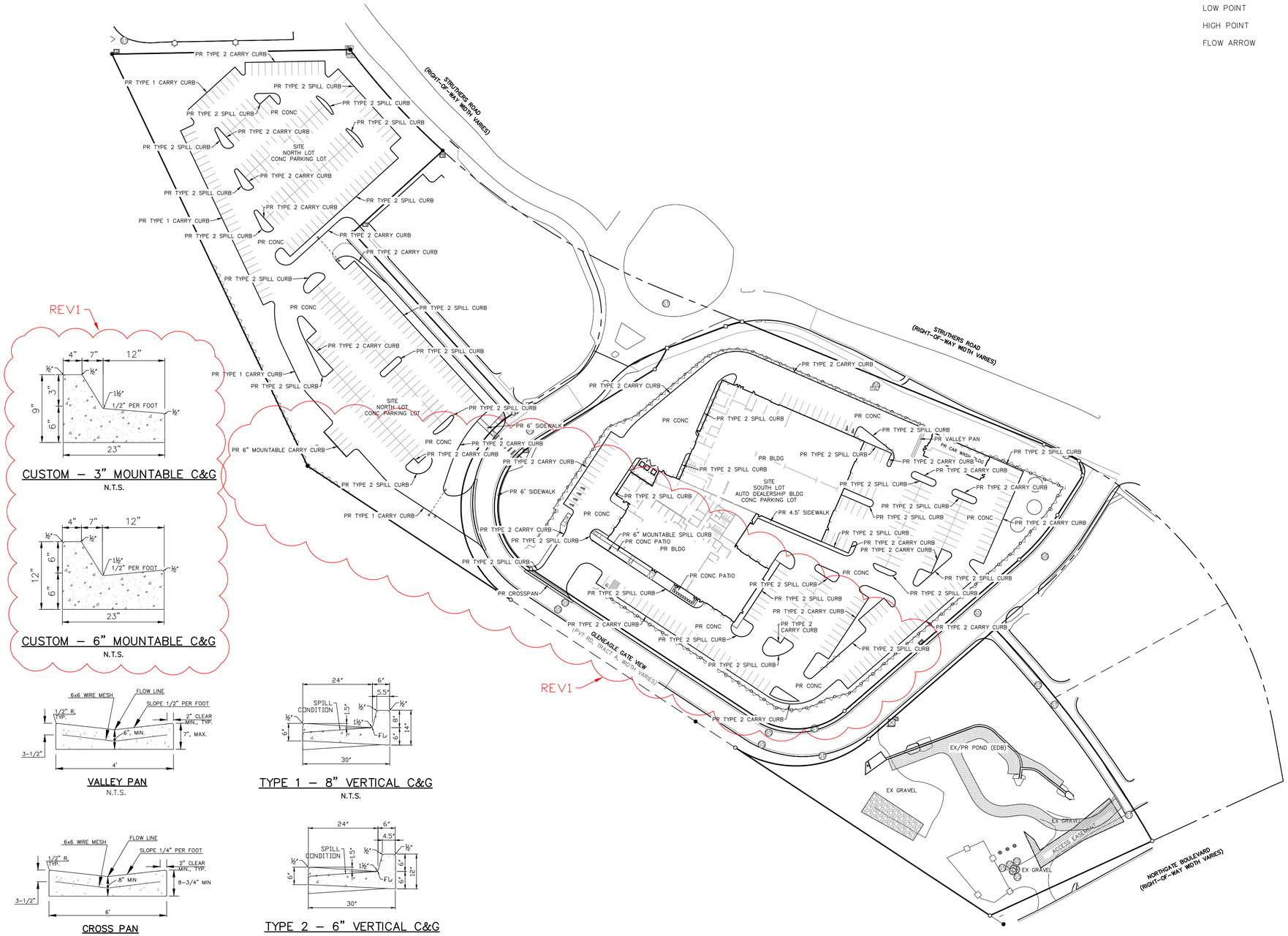


REV1

CUSTOM – 3" MOUNTABLE C&G

N.T.S.

CUSTOM – 6" MOUNTABLE C&G

N.T.S.

VALLEY PAN

N.T.S.

TYPE 1 – 8" VERTICAL C&G

N.T.S.

CROSS PAN

N.T.S.

TYPE 2 – 6" VERTICAL C&G

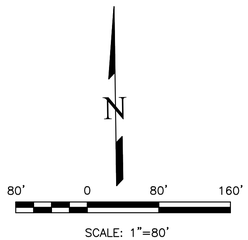
N.T.S.

GRADING LEGEND

PROPOSED	PR	EXISTING CONTOURS – MINOR	6231
EXISTING	EX	EXISTING CONTOURS – MAJOR	6230
FINISHED SURFACE	FS	PROPOSED CONTOURS – 1'	6231
FINISHED GROUND	FG	EXISTING PROPERTY LINE	
TOP OF CURB	TC	PROPOSED RET WALL	
FLOWLINE	FL	PROPOSED RIPRAP	
FINISH GROUND AT TOP OF WALL	TW	WATER LINE	W WL W
FINISHED GROUND AT BOTTOM OF WALL	BW	SANITARY SEWER LINE	SS SS
LOW POINT	LP	GAS LINE	GAS GAS
HIGH POINT	HP	UNDERGROUND ELECTRICAL LINE	UE UE
FLOW ARROW		TELEPHONE LINE	UT
		FIBER OPTIC LINE	FO FO
		STORM SEWER LINE	ST ST
		LIMIT OF CONSTRUCTION	
		LIMIT OF SOIL DISTURBANCE	
		PROPOSED FENCE	
		FIRE HYDRANT	

NOTES

1. SOME CURB IS 8" TALL, MOST IS 6" TALL.



SCALE: 1"=80'

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NORTH GATE SUBARU

PROJECT INFO

DATE: 04/29/26
PROJECT MGR: K. JOHNSON
PREPARED BY: TERRA NOVA ENGINEERING

STAMP

CONSTRUCTION DRAWINGS

ISSUE INFO

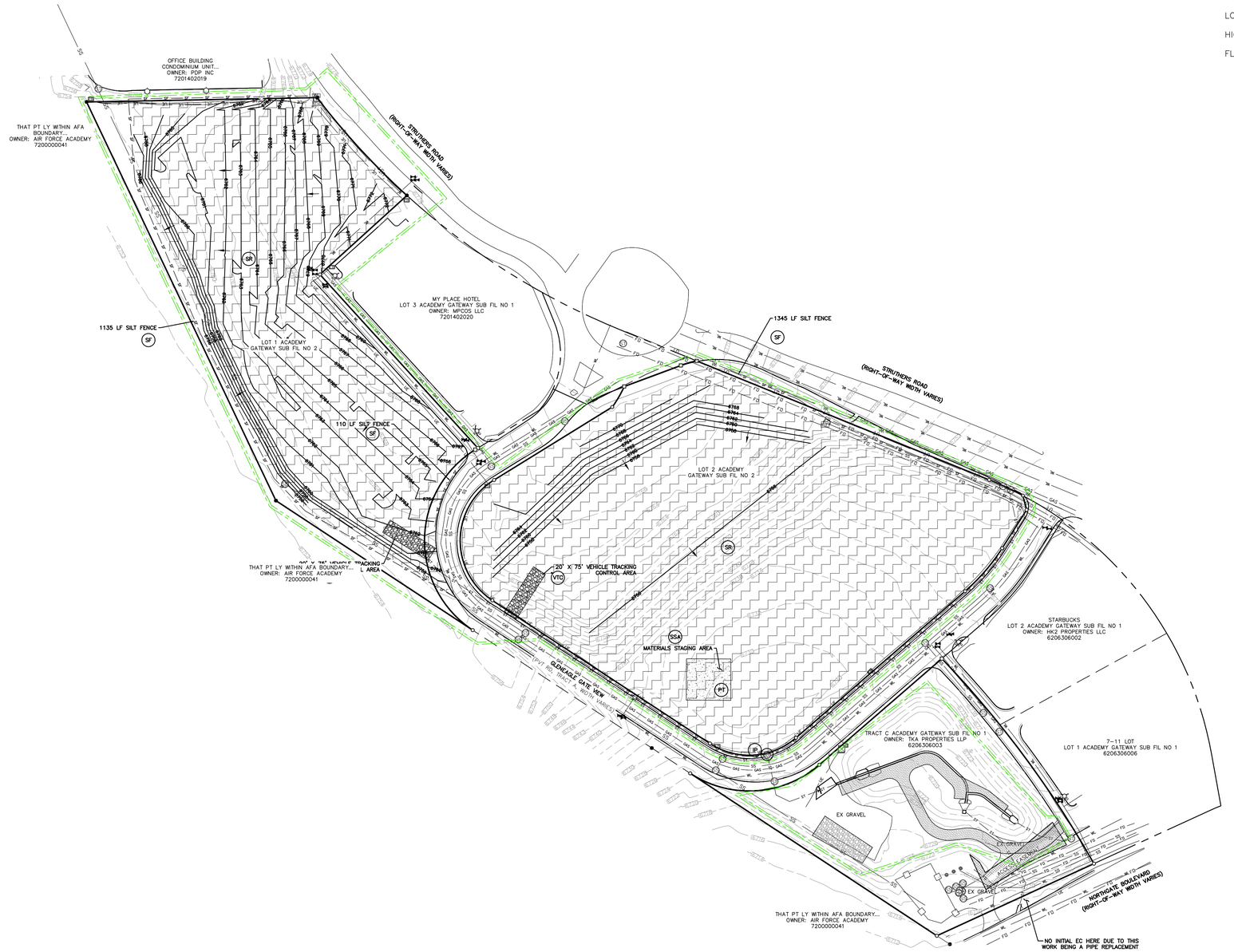
DATE:	BY:	DESCRIPTION:
1: 04/29/26		NEW BLDG FOOTPRINT, GRAD/ST CHANGES

ISSUE / REVISION

SHEET TITLE: GRADING AND EROSION CONTROL PLAN
GRADING DETAILS

SHEET NUMBER: 8 OF 22

PLAN FILE #: TNE JOB # 2326.00
COUNTY FILE # PPR2514 & SF2510



GRADING LEGEND

PROPOSED	PR	EXISTING CONTOURS – MINOR	6231
EXISTING	EX	EXISTING CONTOURS – MAJOR	6230
FINISHED SURFACE	FS	PROPOSED CONTOURS – 1'	6231
FINISHED GROUND	FG	EXISTING PROPERTY LINE	
TOP OF CURB	TC	PROPOSED RET WALL	
FLOWLINE	FL	PROPOSED RIPRAP	
FINISH GROUND AT TOP OF WALL	TW	WATER LINE	W WL W
FINISHED GROUND AT BOTTOM OF WALL	BW	SANITARY SEWER LINE	SS SS
LOW POINT	LP	GAS LINE	GAS GAS
HIGH POINT	HP	UNDERGROUND ELECTRICAL LINE	UE UE
FLOW ARROW		TELEPHONE LINE	UT
		FIBER OPTIC LINE	FO FO
		STORM SEWER LINE	ST ST
		LIMIT OF CONSTRUCTION	
		LIMIT OF SOIL DISTURBANCE	
		PROPOSED FENCE	
		FIRE HYDRANT	

EROSION CONTROL LEGEND

KEY	TITLE	SYMBOL	IMPLEMENTATION PHASE
SF	SILT FENCE	SF	INITIAL
SSA	STABILIZED STAGING AREA		INITIAL
VTC	VEHICLE TRACKING CONTROL		INITIAL
SP	STOCKPILE MANAGEMENT WITH PROTECTION		INITIAL
CWA	CONCRETE WASHOUT AREA		INITIAL
SR	SURFACE ROUGHENING		INITIAL
TSB	TEMPORARY SEDIMENT BASIN	NONE	INITIAL
PT	PORTABLE TOILET	NONE	INITIAL
IP	INLET PROTECTION		INTERIM
SM	PERMANENT SEEDING AND MULCHING PS – DRILL SEED, HAND SEED, OR HYDROSEED; SEED MIX PER COLORADO SPRINGS STORMWATER CONSTRUCTION MANUAL (DECEMBER 2020), TABLE 5-2 MU – MECHANICALLY CRIMP MULCH OR HYDROMULCH		FINAL

NOTES

1. SEDIMENT CONTROL LOGS MAY BE SUBSTITUTED FOR SILT FENCE AND VICE VERSA.
2. SEED AND MULCH DISTURBED AREAS ONLY.
3. THE EXISTING VEGETATION ONSITE IS PRIMARILY PRAIRIE GRASSES. NO SIGNIFICANT TREES OR BUSHES HAVE BEEN OBSERVED.
4. NO ASPHALT OR CONCRETE BATCH PLANTS ARE PROPOSED.
5. NO TEMPORARY SEDIMENT BASINS ARE PROPOSED DUE TO THE DISTRIBUTED NATURE OF THE RUNOFF IN THE NORTH LOT AND THE LARGE RETAINING WALLS PROPOSED IN THE SOUTH LOT. ONCE THE PROPOSED STORM SEWER HAS BEEN INSTALLED, ONSITE RUNOFF WILL BE DIRECTED TO THE EXISTING STORMWATER POND.

80' 0 80' 160'

SCALE: 1"=80'

N

THIS DESIGN WAS PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF TERRA NOVA ENGINEERING, INC.

DANE FRANK
COLORADO P.E. # 50207

PLANNER / LANDSCAPE ARCHITECT

NES

N.E.S. Inc.
619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903
Tel. 719.471.0073
Fax 719.471.0267
www.nescolorado.com

CIVIL ENGINEER

Terra Nova Engineering, Inc. "Creative Civil Engineering Solutions"
721 S. 23RD STREET
COLORADO SPRINGS, CO 80904
OFFICE: 719-635-6422
FAX: 719-635-6426
www.tneainc.com

NORTH GATE SUBARU

PROJECT INFO
DATE: 04/29/26
PROJECT MGR: K. JOHNSON
PREPARED BY: TERRA NOVA ENGINEERING

STAMP

ISSUE INFO
CONSTRUCTION DRAWINGS

ISSUE / REVISION

DATE:	BY:	DESCRIPTION:
1: 04/29/26		NEW BLDG FOOTPRINT, GRAD/ST CHANGES

SHEET TITLE
GRADING AND EROSION CONTROL PLAN
INITIAL EROSION CONTROL PLAN

SHEET NUMBER
9 OF 22

PCD FILE #
TNE JOB # 2326.00
COUNTY FILE # PPR2514 & SF2510

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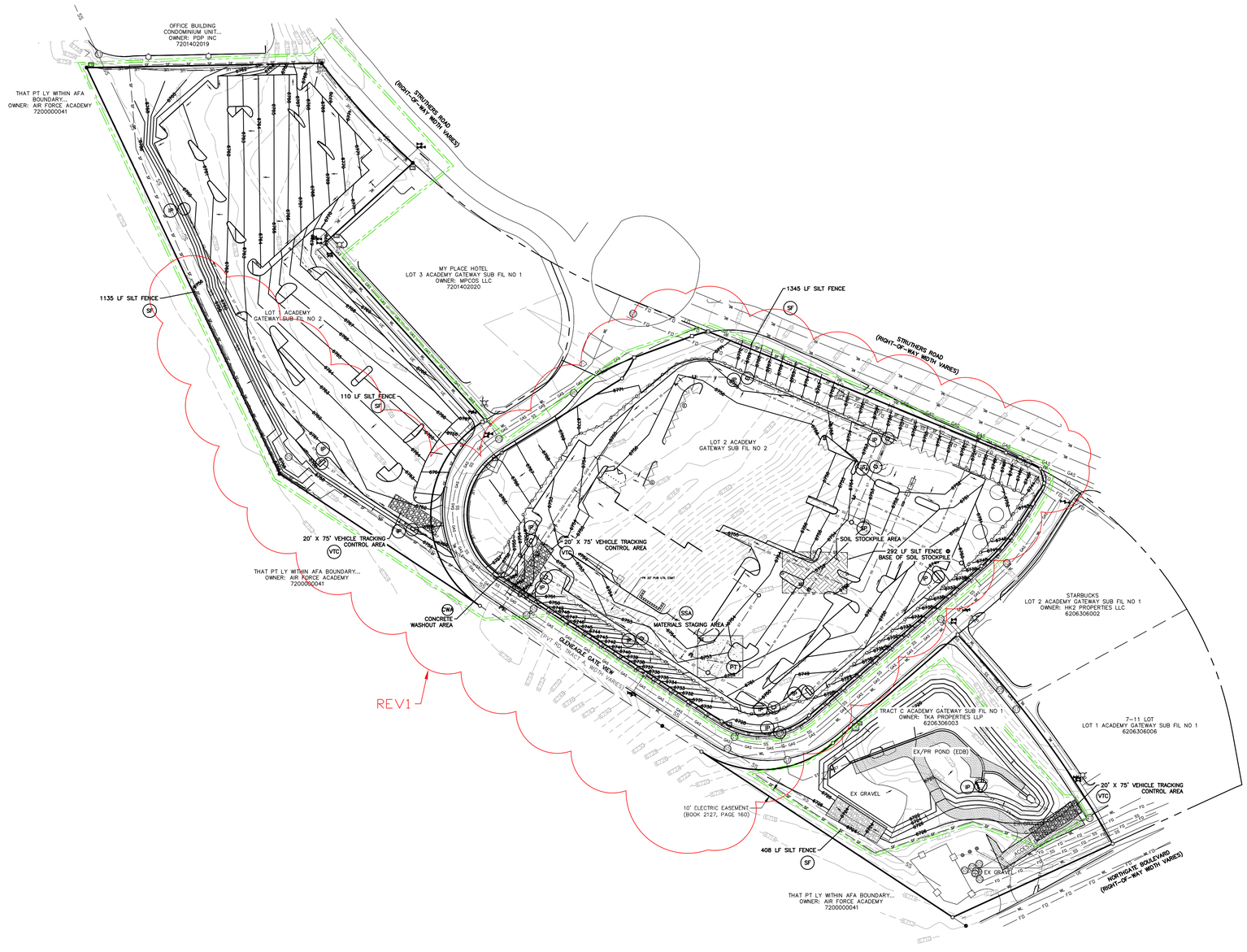

GRADING LEGEND

PROPOSED	PR	EXISTING CONTOURS – MINOR	6231
EXISTING	EX	EXISTING CONTOURS – MAJOR	6230
FINISHED SURFACE	FS	PROPOSED CONTOURS – 1'	6231
FINISHED GROUND	FG	EXISTING PROPERTY LINE	
TOP OF CURB	TC	PROPOSED RET WALL	
FLOWLINE	FL	PROPOSED RIPRAP	
FINISH GROUND AT TOP OF WALL	TW	WATER LINE	W WL W
FINISHED GROUND AT BOTTOM OF WALL	BW	SANITARY SEWER LINE	SS SS
LOW POINT	LP	GAS LINE	GAS GAS
HIGH POINT	HP	UNDERGROUND ELECTRICAL LINE	UE UE
FLOW ARROW		TELEPHONE LINE	UT
		FIBER OPTIC LINE	FO FO
		STORM SEWER LINE	ST ST
		LIMIT OF CONSTRUCTION	
		LIMIT OF SOIL DISTURBANCE	
		PROPOSED FENCE	
		FIRE HYDRANT	

EROSION CONTROL LEGEND

KEY	TITLE	SYMBOL	IMPLEMENTATION PHASE
SF	SILT FENCE	SF	INITIAL
SSA	STABILIZED STAGING AREA		INITIAL
VTC	VEHICLE TRACKING CONTROL		INITIAL
SP	STOCKPILE MANAGEMENT WITH PROTECTION		INITIAL
CWA	CONCRETE WASHOUT AREA		INITIAL
SR	SURFACE ROUGHENING		INITIAL
TSB	TEMPORARY SEDIMENT BASIN	NONE	INITIAL
PT	PORTABLE TOILET	NONE	INITIAL
IP	INLET PROTECTION		INTERIM
SM	PERMANENT SEEDING AND MULCHING PS – DRILL SEED, HAND SEED, OR HYDROSEED; SEED MIX PER COLORADO SPRINGS STORMWATER CONSTRUCTION MANUAL (DECEMBER 2020), TABLE 5-2 MU – MECHANICALLY CRIMP MULCH OR HYDROMULCH		FINAL

NOTES

1. SEDIMENT CONTROL LOGS MAY BE SUBSTITUTED FOR SILT FENCE AND VICE VERSA.
2. SEED AND MULCH DISTURBED AREAS ONLY.
3. THE EXISTING VEGETATION ONSITE IS PRIMARILY PRAIRIE GRASSES. NO SIGNIFICANT TREES OR BUSHES HAVE BEEN OBSERVED.
4. NO ASPHALT OR CONCRETE BATCH PLANTS ARE PROPOSED.
5. INSTALL INLET PROTECTION FOR EXISTING POND MICROPOOL. RECOMMEND USING ROCK SOCK METHOD SINCE THE AREA WILL BE SUBMERGED AT TIMES.

80' 0 80' 160'

SCALE: 1"=80'

N

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PLANNER / LANDSCAPE ARCHITECT

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COLORADO SPRINGS, CO 80904
OFFICE: 719-635-6422
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CIVIL ENGINEER

NORTH GATE SUBARU

PROJECT INFO
DATE: 04/29/26
PROJECT MGR: K. JOHNSON
PREPARED BY: TERRA NOVA ENGINEERING

STAMP

ISSUE RNVD

CONSTRUCTION DRAWINGS

ISSUE / REVISION

DATE:	BY:	DESCRIPTION:
1: 04/29/26 - NEW BLDG FOOTPRINT, GRAD/ST CHANGES		

SHEET TITLE
GRADING AND EROSION CONTROL PLAN
INTERIM EROSION CONTROL PLAN

SHEET NUMBER
10 OF 22

PLAN FILE #
TNE JOB # 2326.00
COUNTY FILE # PPR2514 & SF2510

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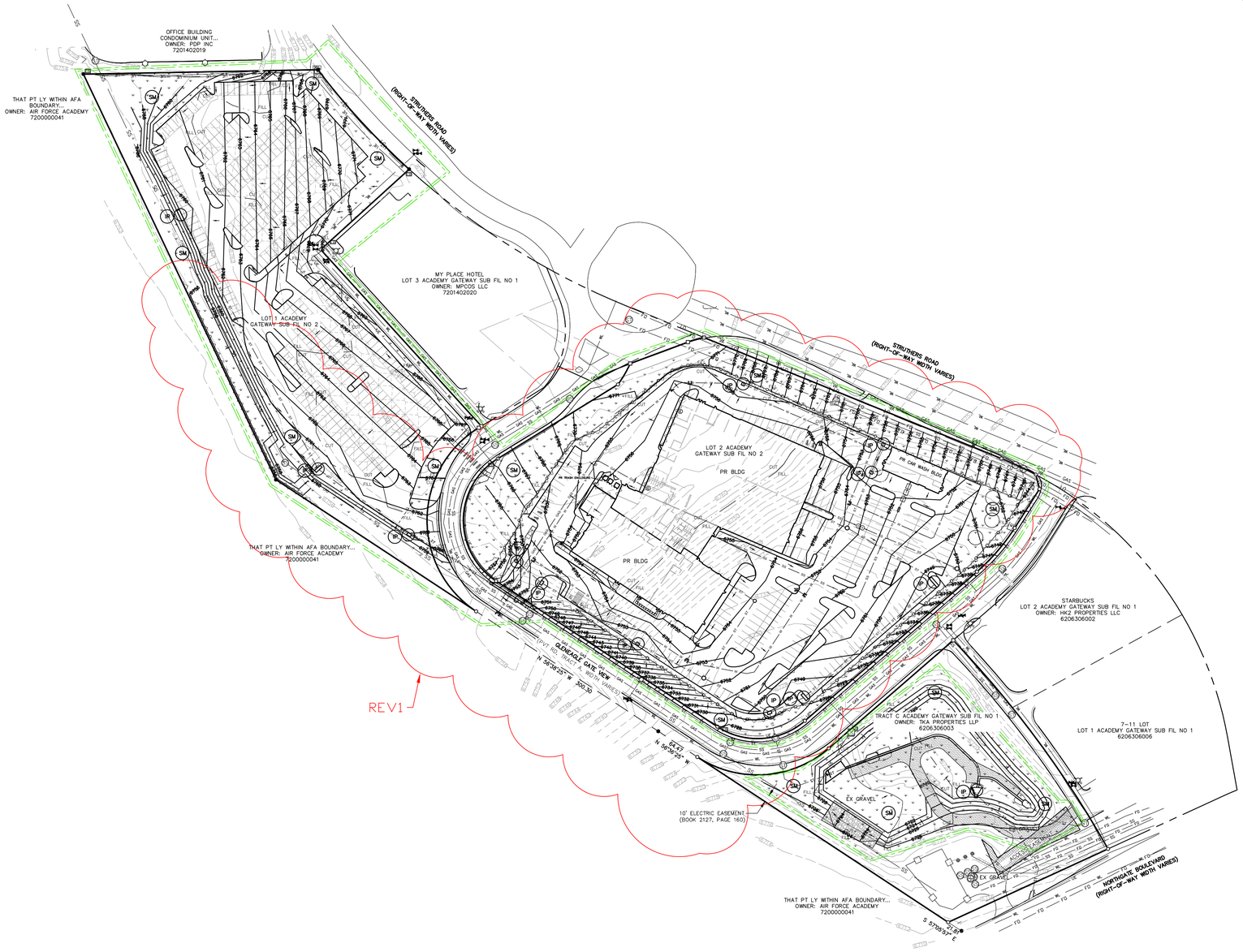

GRADING LEGEND

PROPOSED	PR	EXISTING CONTOURS – MINOR	6231
EXISTING	EX	EXISTING CONTOURS – MAJOR	6230
FINISHED SURFACE	FS	PROPOSED CONTOURS – 1'	6231
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		FIBER OPTIC LINE	FO FO
		STORM SEWER LINE	ST ST
		LIMIT OF CONSTRUCTION	
		LIMIT OF SOIL DISTURBANCE	
		PROPOSED FENCE	
		FIRE HYDRANT	
		CUT FILL AREA BOUNDARY	

EROSION CONTROL LEGEND

KEY	TITLE	SYMBOL	IMPLEMENTATION PHASE
SF	SILT FENCE	SF	INITIAL
SSA	STABILIZED STAGING AREA		INITIAL
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NOTES

1. SEDIMENT CONTROL LOGS MAY BE SUBSTITUTED FOR SILT FENCE AND VICE VERSA.
2. SEED AND MULCH DISTURBED AREAS ONLY, THAT ARE NOT PAVED, BUILT UPON, OR GRAVEL ROADS.
3. THE EXISTING VEGETATION ONSITE IS PRIMARILY PRAIRIE GRASSES. NO SIGNIFICANT TREES OR BUSHES HAVE BEEN OBSERVED.
4. NO ASPHALT OR CONCRETE BATCH PLANTS ARE PROPOSED.
5. THE COUNTY REVIEWER REQUIRED THAT ALL SILT FENCE BE REMOVED FROM THIS FINAL EROSION CONTROL PLAN.

80' 0 80' 160'

SCALE: 1"=80'

N

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NORTH GATE SUBARU

PROJECT INFO

DATE: 04/29/26
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PREPARED BY: TERRA NOVA ENGINEERING

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ISSUE INFO

CONSTRUCTION DRAWINGS

DATE:	BY:	DESCRIPTION:
1: 04/29/26		- NEW BLDG FOOTPRINT, GRAD/ST CHANGES

ISSUE / REVISION

SHEET TITLE

GRADING AND EROSION CONTROL PLAN
FINAL EROSION CONTROL PLAN

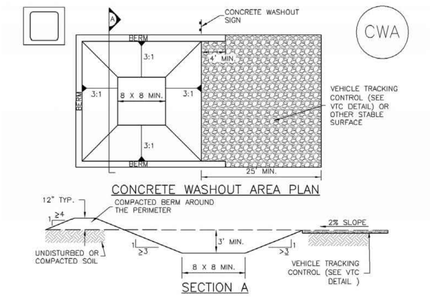
SHEET NUMBER

11 OF 22

PLAN FILE #

TNE JOB # 2326.00
COUNTY FILE # PPR2514 & SF2510

Concrete Washout Area (CWA) MM-1



CWA–1. CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –CWA INSTALLATION LOCATION.

2. 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.

3. THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.

4. 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.

5. BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.

6. VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.

7. 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.

8. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

MM-1 Concrete Washout Area (CWA)

CWA 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. 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'.

5. 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.

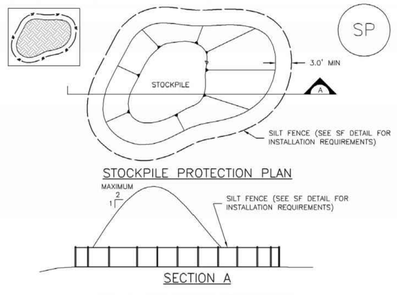
6. THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.

7. 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.

(DETAIL ADAPTED FROM DOUGLAS 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.

Stockpile Management (SP) MM-2



SP–1. STOCKPILE PROTECTION

STOCKPILE PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION OF STOCKPILES.
   –TYPE OF STOCKPILE PROTECTION.

2. INSTALL PERIMETER CONTROLS IN ACCORDANCE WITH THEIR RESPECTIVE DESIGN DETAILS. SILT FENCE IS SHOWN IN THE STOCKPILE PROTECTION DETAILS; HOWEVER, OTHER TYPES OF PERIMETER CONTROLS INCLUDING SEDIMENT CONTROL LOGS OR ROCK SOCKS MAY BE SUITABLE IN SOME CIRCUMSTANCES. CONSIDERATIONS FOR DETERMINING THE APPROPRIATE TYPE OF PERIMETER CONTROL FOR A STOCKPILE INCLUDE WHETHER THE STOCKPILE IS LOCATED ON A PERVIOUS OR IMPERVIOUS SURFACE, THE RELATIVE HEIGHTS OF THE PERIMETER CONTROL AND STOCKPILE, THE ABILITY OF THE PERIMETER CONTROL TO CONTAIN THE STOCKPILE WITHOUT FAILING IN THE EVENT THAT MATERIAL FROM THE STOCKPILE SHIFTS OR SLUMPS AGAINST THE PERIMETER, AND OTHER FACTORS.

3. STABILIZE THE STOCKPILE SURFACE WITH SURFACE ROUGHENING, TEMPORARY SEEDING AND MULCHING, EROSION CONTROL BLANKETS, OR SOIL BINDERS. SOILS STOCKPILED FOR AN EXTENDED PERIOD (TYPICALLY FOR MORE THAN 60 DAYS) SHOULD BE SEEDED AND MULCHED WITH A TEMPORARY GRASS COVER ONCE THE STOCKPILE IS PLACED (TYPICALLY WITHIN 14 DAYS). USE OF MULCH ONLY OR A SOIL BINDER IS ACCEPTABLE IF THE STOCKPILE WILL BE IN PLACE FOR A MORE LIMITED TIME PERIOD (TYPICALLY 30–60 DAYS).

4. FOR TEMPORARY STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DOWNGRADIENT CONTROLS, INCLUDING PERIMETER CONTROL, ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.

MM-2 Stockpile Management (SM)

STOCKPILE 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.

STOCKPILE PROTECTION MAINTENANCE NOTES

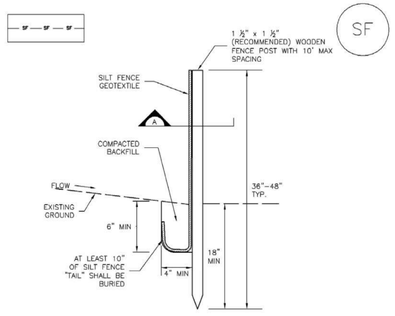
4. IF PERIMETER PROTECTION MUST BE MOVED TO ACCESS SOIL STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORKDAY.

5. STOCKPILE PERIMETER CONTROLS CAN BE REMOVED ONCE ALL THE MATERIAL FROM THE STOCKPILE HAS BEEN USED.

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

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

Silt Fence (SF) SC-1



SF–1. SILT FENCE

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.

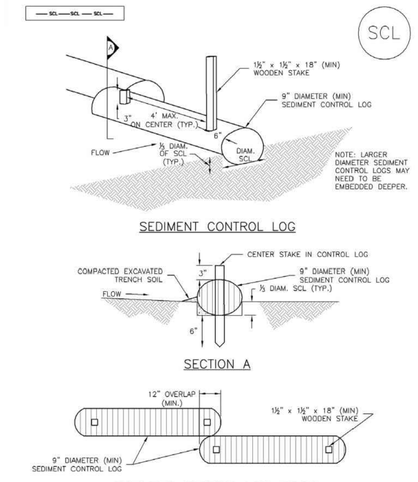
6. SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.

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.

(DETAIL 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.

Sediment Control Log (SCL) SC-2



SCL–1. SEDIMENT CONTROL LOG

Sediment Control Log (SCL) SC-2

SEDIMENT CONTROL LOG INSTALLATION NOTES

1. SEE PLAN VIEW FOR LOCATION AND LENGTH OF SEDIMENT CONTROL LOGS.

2. SEDIMENT CONTROL LOGS THAT ACT AS A PERIMETER CONTROL SHALL BE INSTALLED PRIOR TO ANY UPGRADIENT LAND–DISTURBING ACTIVITIES.

3. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR OR COCONUT FIBER, AND SHALL BE FREE OF ANY NOXIOUS WEED SEEDS OR DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.

4. SEDIMENT CONTROL LOGS MAY BE USED AS SMALL CHECK DAMS IN DITCHES AND SWALES. HOWEVER, THEY SHOULD NOT BE USED IN PERENNIAL STREAMS OR HIGH VELOCITY DRAINAGE WAYS.

5. IT IS RECOMMENDED THAT SEDIMENT CONTROL LOGS BE TRENCHED INTO THE GROUND TO A DEPTH OF APPROXIMATELY ½ OF THE DIAMETER OF THE LOG. IF TRENCHING TO THIS DEPTH IS NOT FEASIBLE AND/OR DESIRABLE (SHORT TERM INSTALLATION WITH DESIRE NOT TO DAMAGE LANDSCAPE) A LESSER TRENCHING DEPTH MAY BE ACCEPTABLE WITH MORE ROBUST STAKING

6. THE UPHILL SIDE OF THE SEDIMENT CONTROL LOG SHALL BE BACKFILLED WITH SOIL THAT IS FREE OF ROCKS AND DEBRIS. THE SOIL SHALL BE TIGHTLY COMPACTED INTO THE SHAPE OF A RIGHT TRIANGLE USING A SHOVEL OR WEIGHTED LAWN ROLLER.

7. FOLLOW MANUFACTURERS' GUIDANCE FOR STAKING. IF MANUFACTURERS' INSTRUCTIONS DO NOT SPECIFY SPACING, STAKES SHALL BE PLACED ON 4' CENTERS AND EMBEDDED A MINIMUM OF 6" INTO THE GROUND. 3" OF THE STAKE SHALL PROTRUDE FROM THE TOP OF THE LOG. STAKES THAT ARE BROKEN PRIOR TO INSTALLATION SHALL BE REPLACED.

SEDIMENT CONTROL LOG 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 SEDIMENT CONTROL LOG SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY ½ OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.

5. SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION. IF DISTURBED AREAS EXIST AFTER REMOVAL, THEY 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, JEFFERSON COUNTY, COLORADO, 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.

N.E.S. Inc.
619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903
Tel. 719.471.0073
Fax 719.471.0267
www.nescolorado.com

PLANNER / LANDSCAPE ARCHITECT

Terra Nova Engineering, Inc.
Creative Civil Engineering Solutions
721 S. 23RD STREET
COLORADO SPRINGS, CO 80904
OFFICE: 719–635–6422
FAX: 719–635–6426
www.tneainc.com

CIVIL ENGINEER

NORTH GATE SUBARU

PROJECT INFO
DATE: 04/29/26
PROJECT MGR: K. JOHNSON
PREPARED BY: TERRA NOVA ENGINEERING

STAMP

ISSUE INFO
CONSTRUCTION DRAWINGS

DATE:	BY:	DESCRIPTION:
1: 04/29/26		NEW BLDG FOOTPRINT, GRAD/ST CHANGES

ISSUE / REVISION

SHEET TITLE
GRADING AND EROSION CONTROL PLAN
EROSION CONTROL DETAILS

SHEET NUMBER
12 OF 22

PLAN FILE #
TNE JOB # 2326.00
COUNTY FILE # PPR2514 & SF2510

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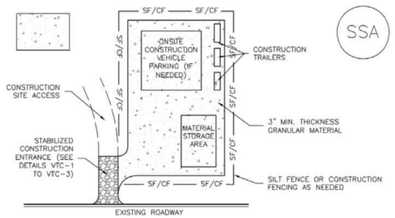

SSA–1. STABILIZED STAGING AREA

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.

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)

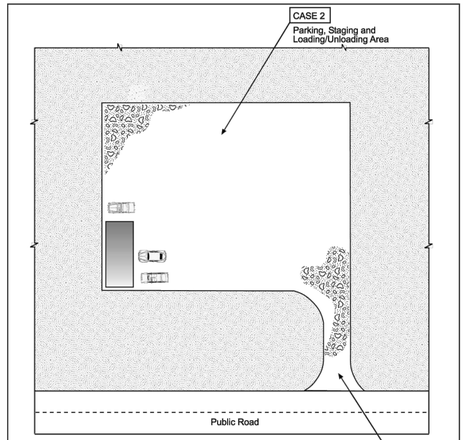

Table VT-1

	Case 1	Case 2
Gravel Thickness	9"	3"
Filter Fabric	YES	NO

City of Colorado Springs
Storm Water Quality

Figure VT-1
Vehicle Tracking
Application Examples

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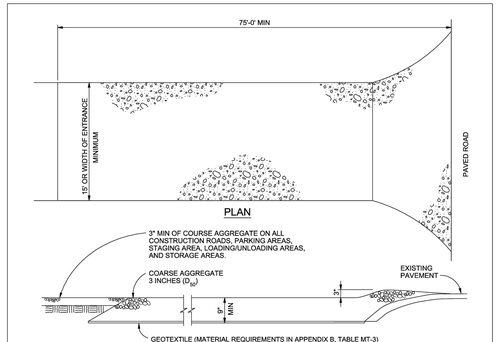


SECTION

VEHICLE TRACKING
NTS

VEHICLE TRACKING NOTES

INSTALLATION REQUIREMENTS

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

MAINTENANCE REQUIREMENTS

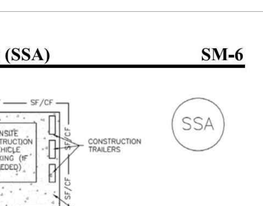
1. REGULAR INSPECTIONS ARE TO BE MADE OF ALL STABILIZED AREAS, ESPECIALLY AFTER STORM EVENTS.
2. STONES ARE TO BE REAPPLIED PERIODICALLY AND WHEN REPAIR IS NECESSARY.
3. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED DAILY BY SHOVELING OR SWEEPING. SEDIMENT IS NOT TO BE WASHED DOWN STORM SEWER DRAINS.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

City of Colorado Springs
Stormwater Quality

Figure VT-2
Vehicle Tracking
Application Examples

Description

Temporary seeding can be used to stabilize disturbed areas that will be inactive for an extended period. Permanent seeding should be used to stabilize areas at final grade that will not be otherwise stabilized. Effective seeding includes preparation of a seedbed, selection of an appropriate seed mixture, proper planting techniques, and protection of the seeded area with mulch, geotextiles, or other appropriate measures.



Photograph TS/PS -1. Equipment used to drill seed. Photo courtesy of Douglas County.

Appropriate Uses

When the soil surface is disturbed and will remain inactive for an extended period (typically 30 days or longer), proactive stabilization measures should be implemented. If the inactive period is short-lived (on the order of two weeks), techniques such as surface roughening may be appropriate. For longer periods of inactivity, temporary seeding and mulching can provide effective erosion control. Permanent seeding should be used on finished areas that have not been otherwise stabilized.

Typically, local governments have their own seed mixes and timelines for seeding. Check jurisdictional requirements for seeding and temporary stabilization.

Design and Installation

Effective seeding requires proper seedbed preparation, selection of an appropriate seed mixture, use of appropriate seeding equipment to ensure proper coverage and density, and protection with mulch or fabric until plants are established.

The USDCM Volume 2 *Revegetation* Chapter contains detailed seed mix, soil preparations, and seeding and mulching recommendations that may be referenced to supplement this Fact Sheet.

Drill seeding is the preferred seeding method. Hydroseeding is not recommended except in areas where steep slopes prevent use of drill seeding equipment, and even in these instances it is preferable to hand seed and mulch. Some jurisdictions do not allow hydroseeding or hydromulching.

Seedbed Preparation

Prior to seeding, ensure that areas to be revegetated have soil conditions capable of supporting vegetation. Overlot grading can result in loss of topsoil, resulting in poor quality subsoils at the ground surface that have low nutrient value, little organic matter content, few soil microorganisms, rooting restrictions, and conditions less conducive to infiltration of precipitation. As a result, it is typically necessary to provide stockpiled topsoil, compost, or other

Temporary and Permanent Seeding	
Functions	
Erosion Control	Yes
Sediment Control	No
Site/Material Management	No

soil amendments and rototill them into the soil to a depth of 6 inches or more.

Topsoil should be salvaged during grading operations for use and spread on areas to be revegetated later. Topsoil should be viewed as an important resource to be utilized for vegetation establishment, due to its water-holding capacity, structure, texture, organic matter content, biological activity, and nutrient content. The rooting depth of most native grasses in the semi-arid Denver metropolitan area is 6 to 18 inches. At a minimum, the upper 6 inches of topsoil should be stripped, stockpiled, and ultimately respread across areas that will be revegetated.

Where topsoil is not available, subsoils should be amended to provide an appropriate plant-growth medium. Organic matter, such as well digested compost, can be added to improve soil characteristics conducive to plant growth. Other treatments can be used to adjust soil pH conditions when needed. Soil testing, which is typically inexpensive, should be completed to determine and optimize the types and amounts of amendments that are required.

If the disturbed ground surface is compacted, rip or rototill the surface prior to placing topsoil. If adding compost to the existing soil surface, rototilling is necessary. Surface roughening will assist in placement of a stable topsoil layer on steeper slopes, and allow infiltration and root penetration to greater depth.

Prior to seeding, the soil surface should be rough and the seedbed should be firm, but neither too loose nor compacted. The upper layer of soil should be in a condition suitable for seeding at the proper depth and conducive to plant growth. Seed-to-soil contact is the key to good germination.

Seed Mix for Temporary Vegetation

To provide temporary vegetative cover on disturbed areas which will not be paved, built upon, or fully landscaped or worked for an extended period (typically 30 days or more), plant an annual grass appropriate for the time of planting and mulch the planted areas. Annual grasses suitable for the Denver metropolitan area are listed in Table TS/PS-1. These are to be considered only as general recommendations when specific design guidance for a particular site is not available. Local governments typically specify seed mixes appropriate for their jurisdiction.

Seed Mix for Permanent Revegetation

To provide vegetative cover on disturbed areas that have reached final grade, a perennial grass mix should be established. Permanent seeding should be performed promptly (typically within 14 days) after reaching final grade. Each site will have different characteristics and a landscape professional or the local jurisdiction should be contacted to determine the most suitable seed mix for a specific site. In lieu of a specific recommendation, one of the perennial grass mixes appropriate for site conditions and growth season listed in Table TS/PS-2 can be used. The pure live seed (PLS) rates of application recommended in these tables are considered to be absolute minimum rates for seed applied using proper drill-seeding equipment.

If desired for wildlife habitat or landscape diversity, shrubs such as rubber rabbitbrush (*Chrysothamnus nauseosus*), fourwing saltbush (*Atriplex canescens*) and skunkbrush sumac (*Rhus trilobata*) could be added to the upland seedmixes at 0.25, 0.5 and 1 pound PLS/acre, respectively. In riparian zones, planting root stock of such species as American plum (*Prunus americana*), woods rose (*Rosa woodsii*), plains cottonwood (*Populus sargentii*), and willow (*Populus spp.*) may be considered. On non-topsoiled upland sites, a legume such as Ladak alfalfa at 1 pound PLS/acre can be included as a source of nitrogen for perennial grasses.

Description

Mulching consists of evenly applying straw, hay, shredded wood mulch, rock, bark or compost to disturbed soils and securing the mulch by crimping, tackifiers, netting or other measures. Mulching helps reduce erosion by protecting bare soil from rainfall impact, increasing infiltration, and reducing runoff. Although often applied in conjunction with temporary or permanent seeding, it can also be used for temporary stabilization of areas that cannot be reseeded due to seasonal constraints.

Mulch can be applied either using standard mechanical dry application methods or using hydromulching equipment that hydraulically applies a slurry of water, wood fiber mulch, and often a tackifier.

Photograph MU-1. An area that was recently seeded, mulched, and crimped.

Appropriate Uses

Use mulch in conjunction with seeding to help protect the seedbed and stabilize the soil. Mulch can also be used as a temporary cover on low to mild slopes to help temporarily stabilize disturbed areas where growing season constraints prevent effective reseeding. Disturbed areas should be properly mulched and tacked, or seeded, mulched and tacked promptly after final grade is reached (typically within no longer than 14 days) on portions of the site not otherwise permanently stabilized.

Standard dry mulching is encouraged in most jurisdictions; however, hydromulching may not be allowed in certain jurisdictions or may not be allowed near waterways.

Do not apply mulch during windy conditions.

Design and Installation

Prior to mulching, surface-roughen areas by rolling with a crimping or punching type roller or by track walking. Track walking should only be used where other methods are impractical because track walking with heavy equipment typically compacts the soil.

A variety of mulches can be used effectively at construction sites. Consider the following:

Mulch	
Functions	
Erosion Control	Yes
Sediment Control	Moderate
Site/Material Management	No

- Clean, weed-free and seed-free cereal grain straw should be applied evenly at a rate of 2 tons per acre and must be tacked or fastened by a method suitable for the condition of the site. Straw mulch must be anchored (and not merely placed) on the surface. This can be accomplished mechanically by crimping or with the aid of tackifiers or nets. Anchoring with a crimping implement is preferred, and is the recommended method for areas flatter than 3:1. Mechanical crimpers must be capable of tucking the long mulch fibers into the soil to a depth of 3 inches without cutting them. An agricultural disk, while not an ideal substitute, may work if the disk blades are dull or blunted and set vertically; however, the frame may have to be weighted to afford proper soil penetration.
- Grass hay may be used in place of straw; however, because hay is comprised of the entire plant including seed, mulching with hay may seed the site with non-native grass species which might in turn out-compete the native seed. Alternatively, native species of grass hay may be purchased, but can be difficult to find and are more expensive than straw. Purchasing and utilizing a certified weed-free straw is an easier and less costly mulching method. When using grass hay, follow the same guidelines as for straw (provided above).
- On small areas sheltered from the wind and heavy runoff, spraying a tackifier on the mulch is satisfactory for holding it in place. For steep slopes and special situations where greater control is needed, erosion control blankets anchored with stakes should be used instead of mulch.
- Hydraulic mulching consists of wood cellulose fibers mixed with water and a tackifying agent and should be applied at a rate of no less than 1,500 pounds per acre (1,425 lbs of fibers mixed with at least 75 lbs of tackifier) with a hydraulic mulcher. For steeper slopes, up to 2000 pounds per acre may be required for effective hydroseeding. Hydromulch typically requires up to 24 hours to dry; therefore, it should not be applied immediately prior to inclement weather. Application to roads, waterways and existing vegetation should be avoided.
- Erosion control mats, blankets, or nets are recommended to help stabilize steep slopes (generally 3:1 and steeper) and waterways. Depending on the product, these may be used alone or in conjunction with grass or straw mulch. Normally, use of these products will be restricted to relatively small areas. Biodegradable mats made of straw and jute, straw-coconut, coconut fiber, or excelsior can be used instead of mulch. (See the ECM/TRM BMP for more information.)
- Some tackifiers or binders may be used to anchor mulch. Check with the local jurisdiction for allowed tackifiers. Manufacturer's recommendations should be followed at all times. (See the Soil Binder BMP for more information on general types of tackifiers.)
- Rock can also be used as mulch. It provides protection of exposed soils to wind and water erosion and allows infiltration of precipitation. An aggregate base course can be spread on disturbed areas for temporary or permanent stabilization. The rock mulch layer should be thick enough to provide full coverage of exposed soil on the area it is applied.

Maintenance and Removal

After mulching, the bare ground surface should not be more than 10 percent exposed. Reapply mulch, as needed, to cover bare areas.

N.E.S. Inc.
619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903
Tel. 719.471.0073
Fax 719.471.0267
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CIVIL ENGINEER

NORTH GATE SUBARU

PROJECT INFO

DATE: 04/29/26
PROJECT MGR: K. JOHNSON
PREPARED BY: TERRA NOVA ENGINEERING

STAMP

ISSUE INFO

CONSTRUCTION DRAWINGS

DATE:	BY:	DESCRIPTION:
1: 04/29/26	-	NEW BLDG FOOTPRINT, GRAD/ST CHANGES

ISSUE / REVISION

SHEET TITLE

GRADING AND EROSION CONTROL PLAN
EROSION CONTROL DETAILS

SHEET NUMBER

13 OF 22

PLAN FILE #

TNE JOB # 2326.00
COUNTY FILE # PPR2514 & SF2510

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Description

Surface roughening is an erosion control practice that involves tracking, scarifying, imprinting, or tilling a disturbed area to provide temporary stabilization of disturbed areas. Surface roughening creates variations in the soil surface that help to minimize wind and water erosion. Depending on the technique used, surface roughening may also help establish conditions favorable to establishment of vegetation.

Photograph SR-1. Surface roughening via imprinting for temporary stabilization.

Appropriate Uses

Surface roughening can be used to provide temporary stabilization of disturbed areas, such as when revegetation cannot be immediately established due to seasonal planting limitations. Surface roughening is not a stand-alone BMP, and should be used in conjunction with other erosion and sediment controls.

Surface roughening is often implemented in conjunction with grading and is typically performed using heavy construction equipment to track the surface. Be aware that tracking with heavy equipment will also compact soils, which is not desirable in areas that will be revegetated. Scarifying, tilling, or ripping are better surface roughening techniques in locations where revegetation is planned. Roughening is not effective in very sandy soils and cannot be effectively performed in rocky soil.

Design and Installation

Typical design details for surfacing roughening on steep and mild slopes are provided in Details SR-1 and SR-2, respectively.

Surface roughening should be performed either after final grading or to temporarily stabilize an area during active construction that may be inactive for a short time period. Surface roughening should create depressions 2 to 6 inches deep and approximately 6 inches apart. The surface of exposed soil can be roughened by a number of techniques and equipment. Horizontal grooves (running parallel to the contours of the land) can be made using tracks from equipment treads, stair-step grading, ripping, or tilling.

Fill slopes can be constructed with a roughened surface. Cut slopes that have been smooth graded can be roughened as a subsequent operation. Roughening should follow along the contours of the slope. The tracks left by truck mounted equipment working perpendicular to the contour can leave acceptable horizontal depressions; however, the equipment will also compact the soil.

Surface Roughening	
Functions	
Erosion Control	Yes
Sediment Control	No
Site/Material Management	No

Maintenance and Removal

Care should be taken not to drive vehicles or equipment over areas that have been surface roughened. Tire tracks will smooth the roughened surface and may cause runoff to collect into rills and gullies.

Because surface roughening is only a temporary control, additional treatments may be necessary to maintain the soil surface in a roughened condition.

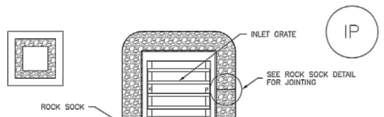
Areas should be inspected for signs of erosion. Surface roughening is a temporary measure, and will not provide long-term erosion control.

Table 5-1. El Paso County Conservation District All-Purpose Mix for Upland, Transition and Permanent Control Measure Areas

Common Name	Scientific Name	Growth Season / Form	% of Mix	Pounds PLS		
				• Irrigated broadcast • Irrigated hydroseeded 80 seeds/sq ft	• Non-irrigated broadcast • Non-irrigated hydroseeded • Irrigated drilled 40 seeds/sq ft	• Non-irrigated drilled 20 seeds/sq ft
Bluestem, big	*Andropogon gerardii*	Warm, sod	20	4.4	2.2	1.1
Grama, blue	*Bouteloua gracilis*	Warm, bunch	10	0.5	0.25	0.13
Green needlegrass[2]	*Nassella viridula*	Cool, bunch	10	2	1	0.5
Wheatgrass, western[2]	*Pascopyrum smithii*	Cool, sod	20	6.4	3.2	1.6
Grama, sideoats	*Bouteloua curtipendula*	Warm, bunch	10	2	1	0.5
Switchgrass[2]	*Panicum virgatum*	Warm, bunch/sod	10	0.8	0.4	0.2
Prairie sandreed	*Calimovilfa longifolia*	Warm, sod	10	1.2	0.6	0.3
Yellow indiangrass[2]	*Sorghastrum nutans*	Warm, sod	10	2	1	0.5
		Seed rate (lbs PLS/acre)		19.3	9.7	4.8

[1]For portions of facilities located near or on the bottom or where wet soil conditions occur. Planting of potted nursery stock wetland plants 2-foot on-center is recommended for sites with wetland hydrology.

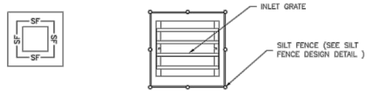
[2]Species that will do well in the bottom of pond areas.



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.

Surface Roughening (SR) EC-1

Description

Surface roughening is an erosion control practice that involves tracking, scarifying, imprinting, or tilling a disturbed area to provide temporary stabilization of disturbed areas. Surface roughening creates variations in the soil surface that help to minimize wind and water erosion. Depending on the technique used, surface roughening may also help establish conditions favorable to establishment of vegetation.

Photograph SR-1. Surface roughening via imprinting for temporary stabilization.

Appropriate Uses

Surface roughening can be used to provide temporary stabilization of disturbed areas, such as when revegetation cannot be immediately established due to seasonal planting limitations. Surface roughening is not a stand-alone BMP, and should be used in conjunction with other erosion and sediment controls.

Surface roughening is often implemented in conjunction with grading and is typically performed using heavy construction equipment to track the surface. Be aware that tracking with heavy equipment will also compact soils, which is not desirable in areas that will be revegetated. Scarifying, tilling, or ripping are better surface roughening techniques in locations where revegetation is planned. Roughening is not effective in very sandy soils and cannot be effectively performed in rocky soil.

Design and Installation

Typical design details for surfacing roughening on steep and mild slopes are provided in Details SR-1 and SR-2, respectively.

Surface roughening should be performed either after final grading or to temporarily stabilize an area during active construction that may be inactive for a short time period. Surface roughening should create depressions 2 to 6 inches deep and approximately 6 inches apart. The surface of exposed soil can be roughened by a number of techniques and equipment. Horizontal grooves (running parallel to the contours of the land) can be made using tracks from equipment treads, stair-step grading, ripping, or tilling.

Fill slopes can be constructed with a roughened surface. Cut slopes that have been smooth graded can be roughened as a subsequent operation. Roughening should follow along the contours of the slope. The tracks left by truck mounted equipment working perpendicular to the contour can leave acceptable horizontal depressions; however, the equipment will also compact the soil.

Surface Roughening	
Functions	
Erosion Control	Yes
Sediment Control	No
Site/Material Management	No

November 2010 Urban Drainage and Flood Control District SR-1
Urban Storm Drainage Criteria Manual Volume 3

Surface Roughening (SR) EC-1

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Surface roughening is often implemented in conjunction with grading and is typically performed using heavy construction equipment to track the surface. Be aware that tracking with heavy equipment will also compact soils, which is not desirable in areas that will be revegetated. Scarifying, tilling, or ripping are better surface roughening techniques in locations where revegetation is planned. Roughening is not effective in very sandy soils and cannot be effectively performed in rocky soil.

Design and Installation

Typical design details for surfacing roughening on steep and mild slopes are provided in Details SR-1 and SR-2, respectively.

Surface roughening should be performed either after final grading or to temporarily stabilize an area during active construction that may be inactive for a short time period. Surface roughening should create depressions 2 to 6 inches deep and approximately 6 inches apart. The surface of exposed soil can be roughened by a number of techniques and equipment. Horizontal grooves (running parallel to the contours of the land) can be made using tracks from equipment treads, stair-step grading, ripping, or tilling.

Fill slopes can be constructed with a roughened surface. Cut slopes that have been smooth graded can be roughened as a subsequent operation. Roughening should follow along the contours of the slope. The tracks left by truck mounted equipment working perpendicular to the contour can leave acceptable horizontal depressions; however, the equipment will also compact the soil.

Surface Roughening	
Functions	
Erosion Control	Yes
Sediment Control	No
Site/Material Management	No

November 2010 Urban Drainage and Flood Control District SR-1
Urban Storm Drainage Criteria Manual Volume 3

Chapter 5
Native Vegetation Requirements and Guidelines

Table 5-2. El Paso County All-Purpose Low Grow Mix for Upland and Transition Areas

Common Name	Scientific Name	Growth Season / Form	% of Mix	Pounds PLS		
				• Irrigated broadcast • Irrigated hydroseeded 80 seeds/sq ft	• Non-irrigated broadcast • Non-irrigated hydroseeded • Irrigated drilled 40 seeds/sq ft	• Non-irrigated drilled 20 seeds/sq ft
Buffalograss	*Buchloe dactyloides*	Warm, sod	25	9.6	4.8	2.4
Grama, blue	*Bouteloua gracilis*	Warm, bunch	20	10.8	5.4	2.7
Grama, sideoats	*Bouteloua curtipendula*	Warm, bunch	29	5.6	2.8	1.4
Green needlegrass	*Nassella viridula*	Cool, bunch	5	3.2	1.6	0.8
Wheatgrass, western	*Pascopyrum smithii*	Cool, sod	20	12	6	3
Dropseed, sand	*Sporobolus cryptandrus*	Warm, bunch	1	0.8	0.4	0.2
		Seed rate (lbs PLS/acre)		42	21	10.3

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 ¼ 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.

(DETAIL 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.

PLANNER / LANDSCAPE ARCHITECT
N.E.S. Inc.
619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903
Tel. 719.471.0073
Fax 719.471.0267
www.nescolorado.com

CIVIL ENGINEER
Terra Nova Engineering, Inc.
721 S. 23RD STREET
COLORADO SPRINGS, CO 80904
OFFICE: 719-635-6422
FAX: 719-635-6426
www.tneinc.com

PROJECT INFO
DATE: 04/29/26
PROJECT MGR: K. JOHNSON
PREPARED BY: TERRA NOVA ENGINEERING

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CONSTRUCTION DRAWINGS

ISSUE / REVISION

DATE:	BY:	DESCRIPTION:
1: 04/29/26	- NEW BLDG FOOTPRINT, GRAD/ST CHANGES	

SHEET TITLE
GRADING AND EROSION CONTROL PLAN
EROSION CONTROL DETAILS

SHEET NUMBER
14 OF 22

PLAN FILE #
TNE JOB # 2326.00
COUNTY FILE # PPR2514 & SF2510

NORTH GATE SUBARU

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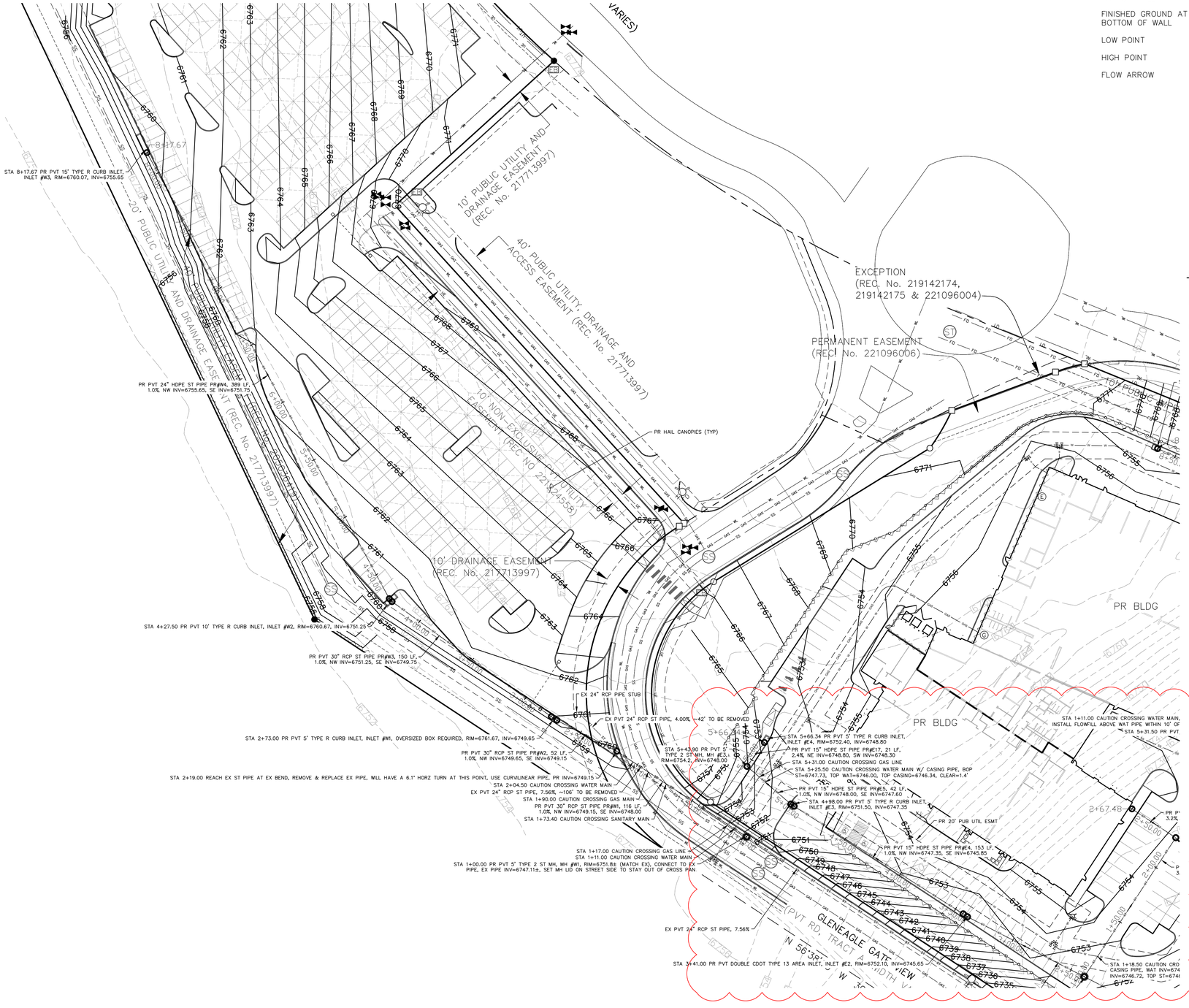

GRADING LEGEND

PROPOSED	PR	EXISTING CONTOURS – MINOR	6231
EXISTING	EX	EXISTING CONTOURS – MAJOR	6230
FINISHED SURFACE	FS	PROPOSED CONTOURS – 1'	6231
FINISHED GROUND	FG	EXISTING PROPERTY LINE	
TOP OF CURB	TC	PROPOSED RET WALL	
FLOWLINE	FL	PROPOSED RIPRAP	
FINISH GROUND AT TOP OF WALL	TW	WATER LINE	W WL W
FINISHED GROUND AT BOTTOM OF WALL	BW	SANITARY SEWER LINE	SS SS
LOW POINT	LP	GAS LINE	GAS GAS
HIGH POINT	HP	UNDERGROUND ELECTRICAL LINE	UE UE
FLOW ARROW		TELEPHONE LINE	UT
		FIBER OPTIC LINE	FO FO
		STORM SEWER LINE	ST ST
		LIMIT OF CONSTRUCTION	
		LIMIT OF SOIL DISTURBANCE	
		PROPOSED FENCE	
		FIRE HYDRANT	

NOTES

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3. ALL PRESSURIZED PIPES MUST HAVE WATERTIGHT SEALS.

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DANE FRANK
COLORADO P.E. # 50207

N

40' 0 40' 80'

SCALE: 1"=40'

PLANNER / LANDSCAPE ARCHITECT

NES

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Colorado Springs, CO 80903
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NORTH GATE SUBARU

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SHEET TITLE

STORM SEWER PLAN
NORTH LOT

SHEET NUMBER

15 OF 22

PLAN FILE #

TNE JOB # 2326.00
COUNTY FILE # PPR2514 & SF2510

GRADING LEGEND

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EXISTING	EX	EXISTING CONTOURS – MAJOR	6230
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LOW POINT	LP	GAS LINE	GAS GAS
HIGH POINT	HP	UNDERGROUND ELECTRICAL LINE	UE UE
FLOW ARROW	←	TELEPHONE LINE	UT
		FIBER OPTIC LINE	FO FO
		STORM SEWER LINE	ST ST
		LIMIT OF CONSTRUCTION	
		LIMIT OF SOIL DISTURBANCE	
		PROPOSED FENCE	
		FIRE HYDRANT	

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SHEET TITLE

STORM SEWER PLANS
SOUTH LOT

SHEET NUMBER

16 OF 22

PLAN FILE #

TNE JOB # 2326.00
COUNTY FILE # PPR2514 & SF2510

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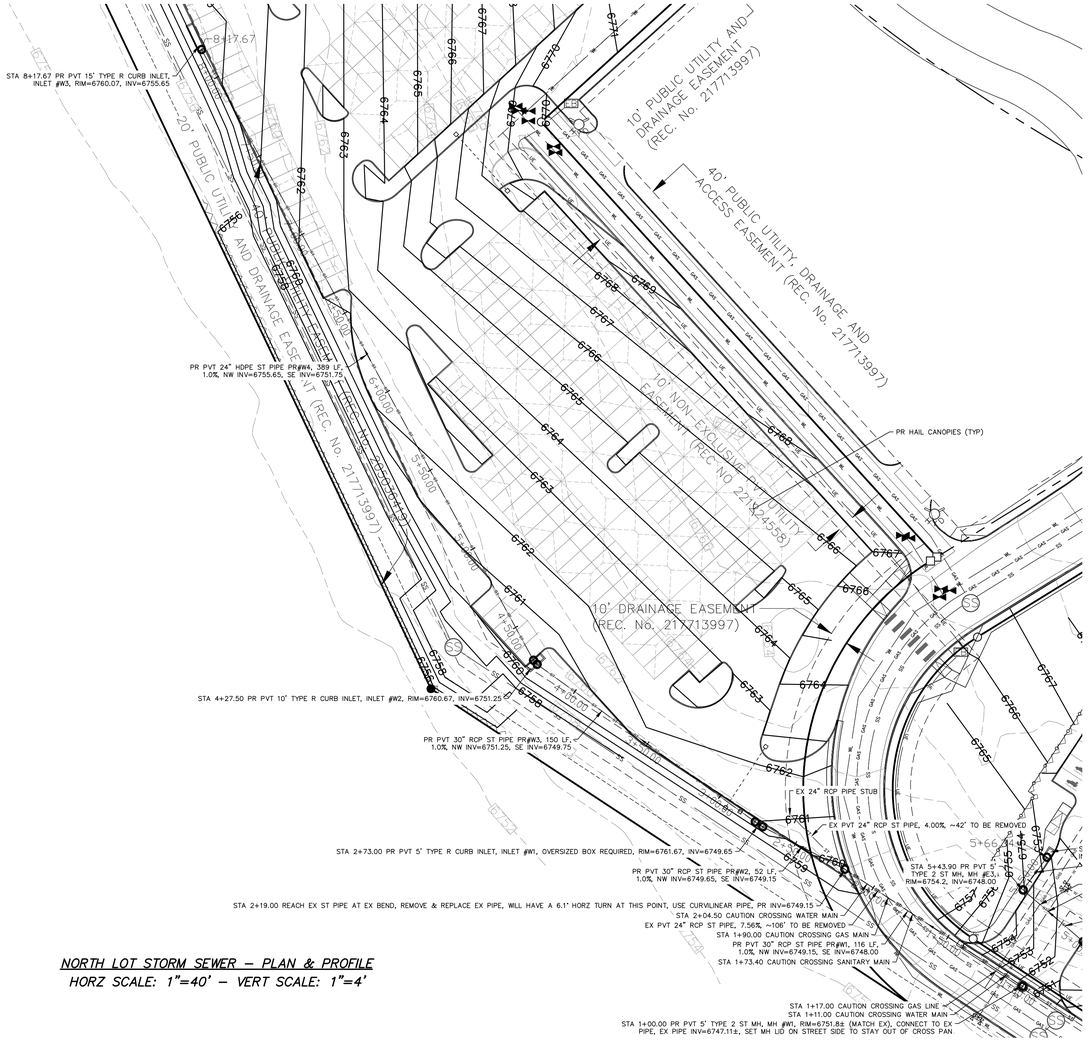
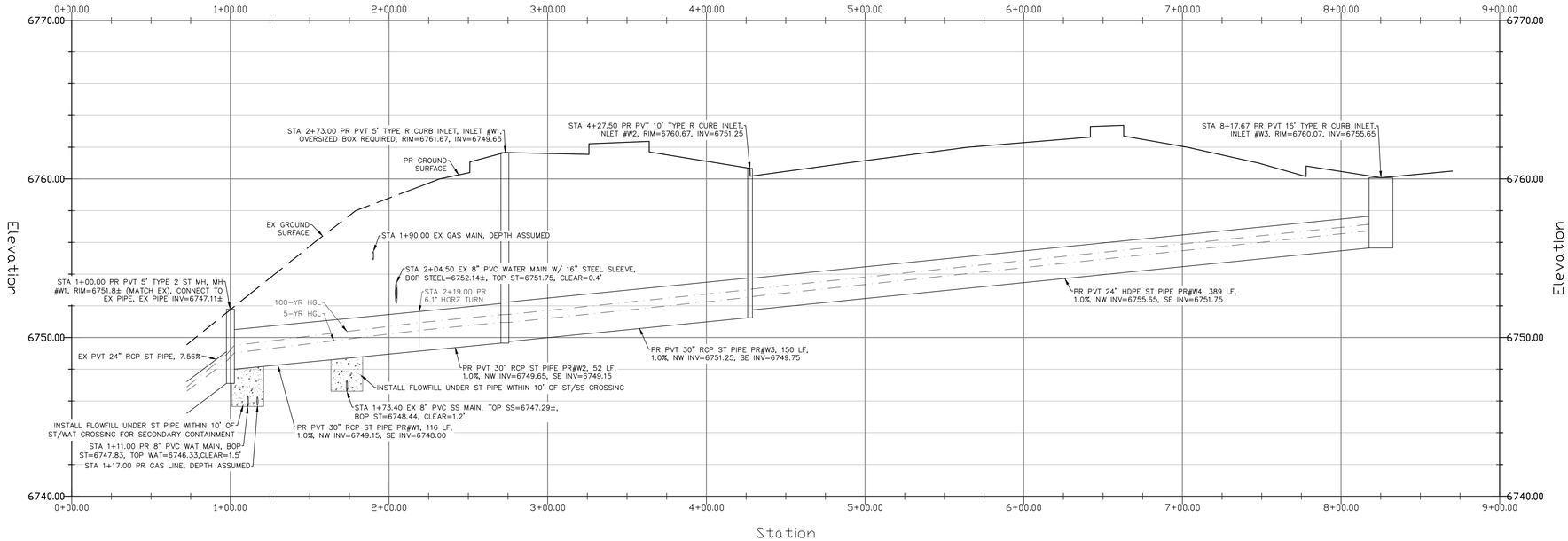


NORTH LOT STORM SEWER – PLAN & PROFILE

HORZ SCALE: 1"=40' – VERT SCALE: 1"=4'



GRADING LEGEND

PROPOSED	PR
EXISTING	EX
FINISHED SURFACE	FS
FINISHED GROUND	FG
TOP OF CURB	TC
FLOWLINE	FL
FINISH GROUND AT TOP OF WALL	TW
FINISHED GROUND AT BOTTOM OF WALL	BW
LOW POINT	LP
HIGH POINT	HP
FLOW ARROW	

EXISTING CONTOURS – MINOR	6231
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PROPOSED CONTOURS – 1'	6231
EXISTING PROPERTY LINE	
PROPOSED RET WALL	
PROPOSED RIPRAP	
WATER LINE	W
SANITARY SEWER LINE	SS
GAS LINE	GAS
UNDERGROUND ELECTRICAL LINE	UE
TELEPHONE LINE	UT
FIBER OPTIC LINE	FO
STORM SEWER LINE	ST
LIMIT OF CONSTRUCTION	
LIMIT OF SOIL DISTURBANCE	
PROPOSED FENCE	
FIRE HYDRANT	

NOTES

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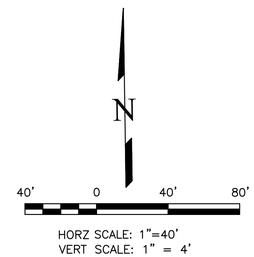
4. IF THERE ARE ANY DISCREPANCIES BETWEEN THE PLAN VIEW AND PROFILE INFO, THE PLAN VIEW INFO DICTATES.



HORZ SCALE: 1"=40'
VERT SCALE: 1" = 4'

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COLORADO P.E. # 50207

PLANNER / LANDSCAPE ARCHITECT

NES

N.E.S. Inc.
619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903
Tel. 719.471.0073
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CIVIL ENGINEER

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NORTH GATE SUBARU

PROJECT INFO

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CONSTRUCTION DRAWINGS

DATE:	BY:	DESCRIPTION:
1: 04/29/26		NEW BLDG FOOTPRINT, GRAD/ST CHANGES

ISSUE / REVISION

SHEET TITLE

STORM SEWER PLAN
PLAN AND PROFILES – NORTH LOT

SHEET NUMBER

17 OF 22

PLAN FILE #

TNE JOB # 2326.00
COUNTY FILE # PPR2514 & SF2510

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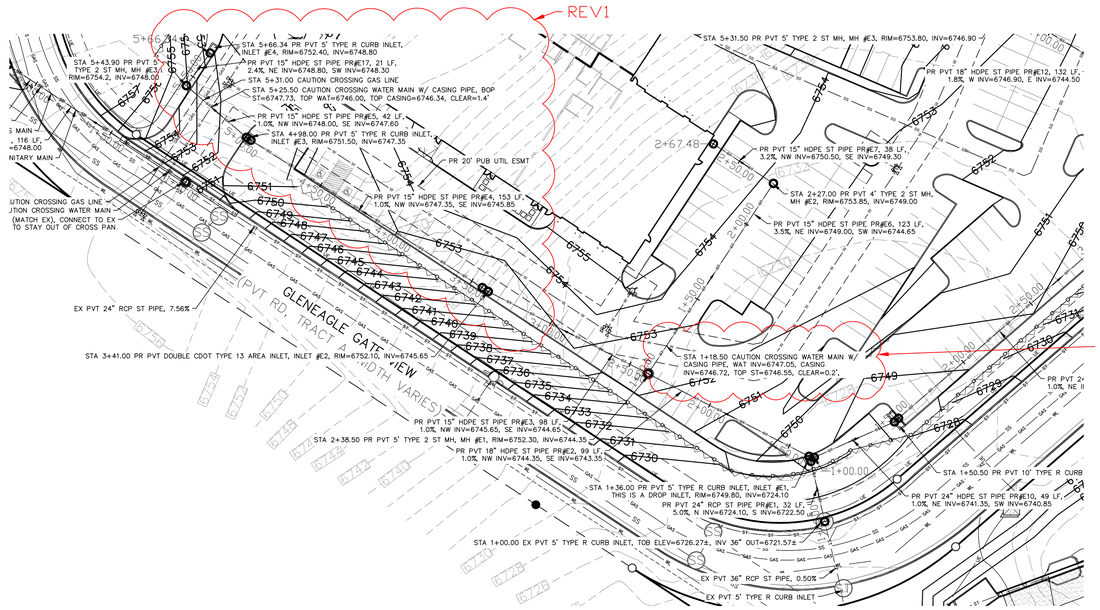
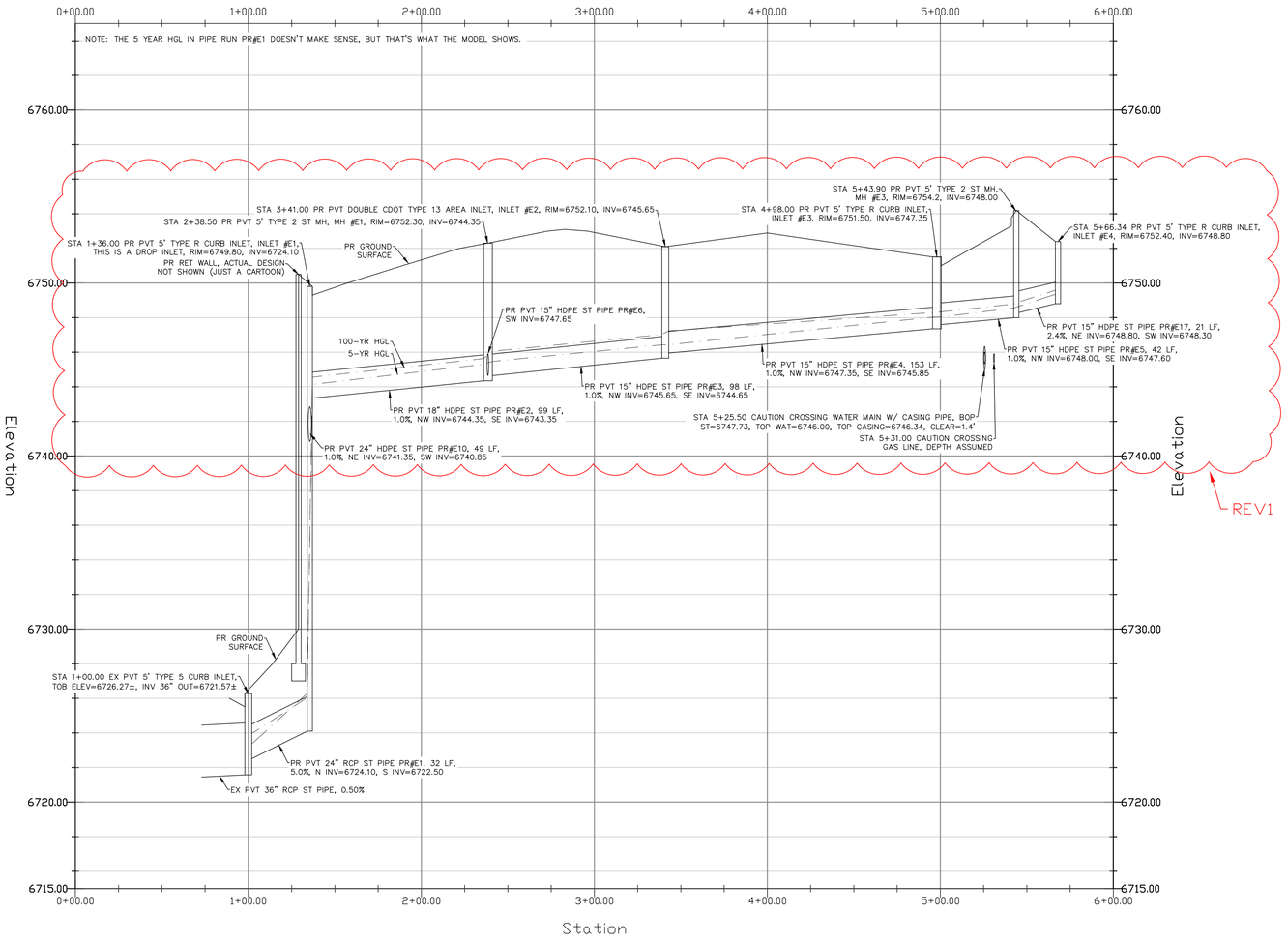


SOUTH LOT – WEST RUN – PLAN & PROFILE
HORZ SCALE: 1"=40' – VERT SCALE: 1"=4'



GRADING LEGEND

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LOW POINT	LP	GAS LINE	GAS GAS
HIGH POINT	HP	UNDERGROUND ELECTRICAL LINE	UE UE
FLOW ARROW		TELEPHONE LINE	UT
		FIBER OPTIC LINE	FO FO
		STORM SEWER LINE	ST ST
		LIMIT OF CONSTRUCTION	
		LIMIT OF SOIL DISTURBANCE	
		PROPOSED FENCE	
		FIRE HYDRANT	

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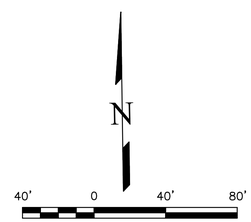

HORZ SCALE: 1"=40'
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NES
N.E.S. Inc.
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NORTH GATE SUBARU

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ISSUE / REVISION

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1: 04/29/26		NEW BLDG FOOTPRINT, GRAD/ST CHANGES

SHEET TITLE
STORM SEWER PLAN
PLAN AND PROFILES – SOUTH LOT – WEST RUN

SHEET NUMBER
18 OF 22

PLAN FILE #
TNE JOB # 2326.00
COUNTY FILE # PPR2514 & SF2510

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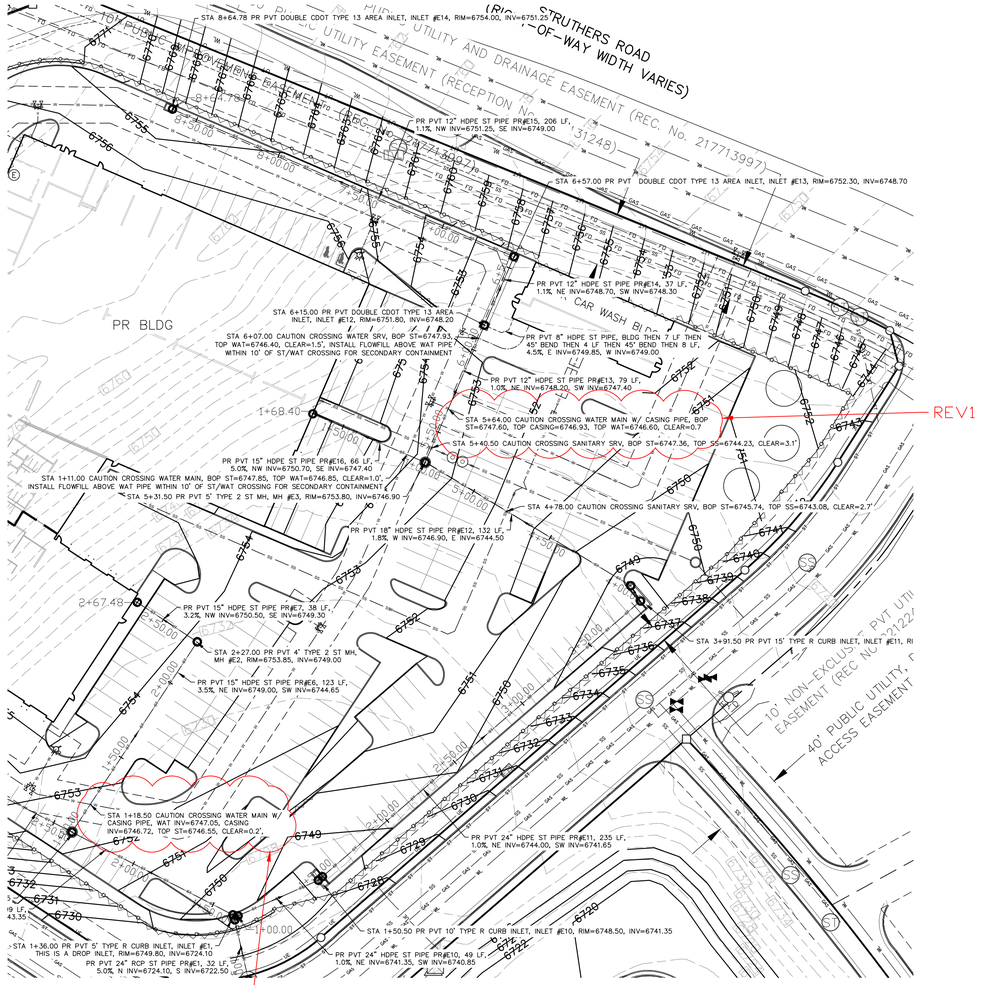
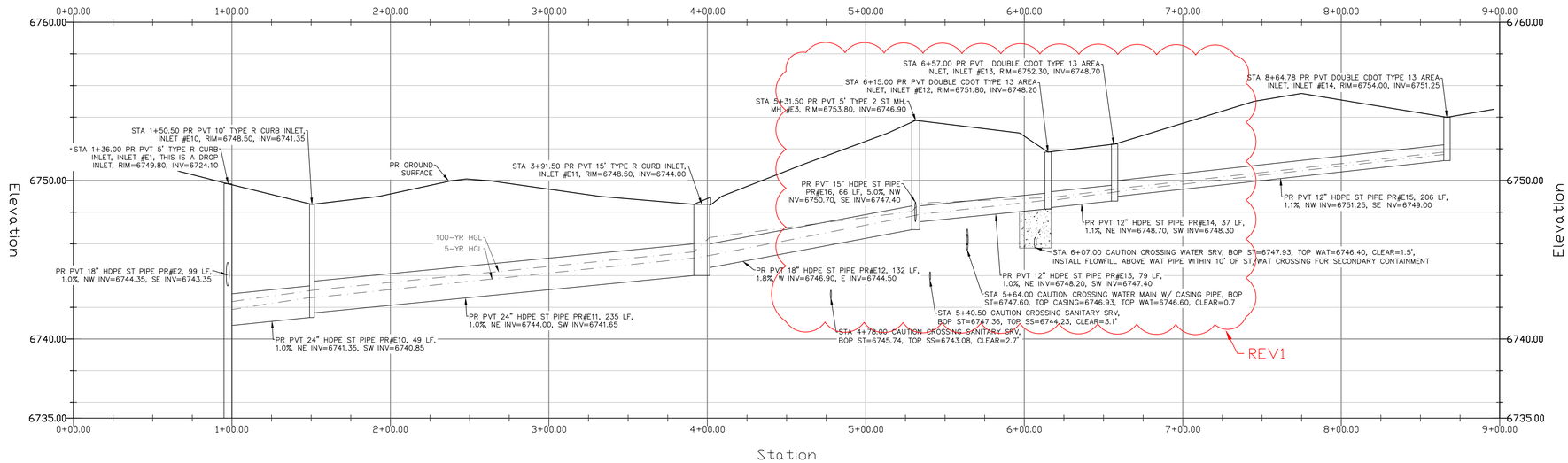


SOUTH LOT – EAST RUN – PLAN & PROFILE
HORZ SCALE: 1"=40' – VERT SCALE: 1"=4'



Station

GRADING LEGEND

PROPOSED	PR	EXISTING CONTOURS – MINOR	6231
EXISTING	EX	EXISTING CONTOURS – MAJOR	6230
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FINISHED GROUND AT BOTTOM OF WALL	BW	SANITARY SEWER LINE	SS SS
LOW POINT	LP	GAS LINE	GAS GAS
HIGH POINT	HP	UNDERGROUND ELECTRICAL LINE	UE UE
FLOW ARROW		TELEPHONE LINE	UT
		FIBER OPTIC LINE	FO FO
		STORM SEWER LINE	ST ST
		LIMIT OF CONSTRUCTION	
		LIMIT OF SOIL DISTURBANCE	
		PROPOSED FENCE	
		FIRE HYDRANT	

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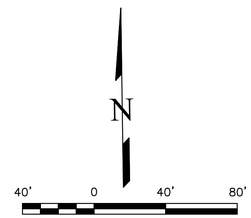

HORZ SCALE: 1"=40'
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SHEET TITLE
STORM SEWER PLAN
PLAN AND PROFILES – SOUTH LOT – EAST RUN

SHEET NUMBER
19 OF 22

PLAN FILE #
TNE JOB # 2326.00
COUNTY FILE # PPR2514 & SF2510

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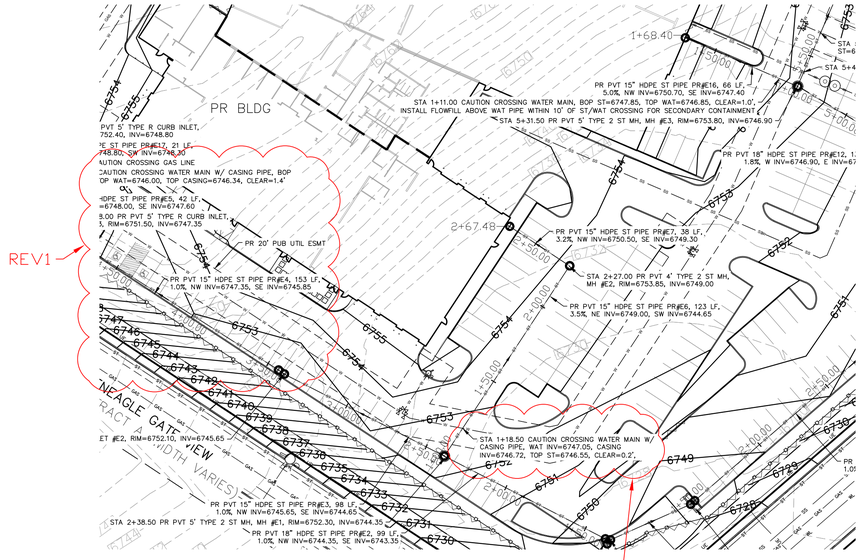
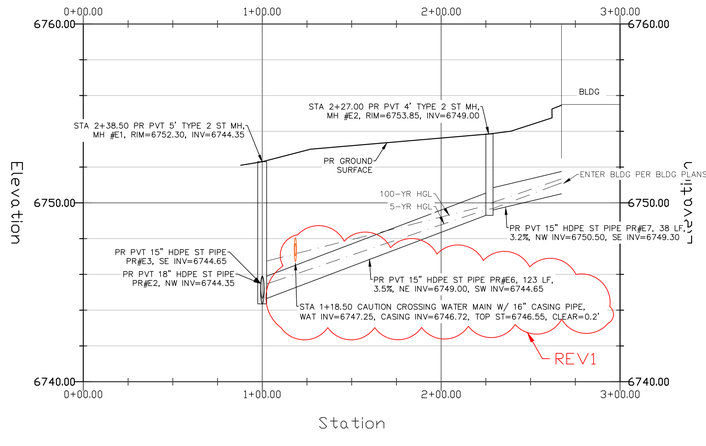
NORTH GATE SUBARU



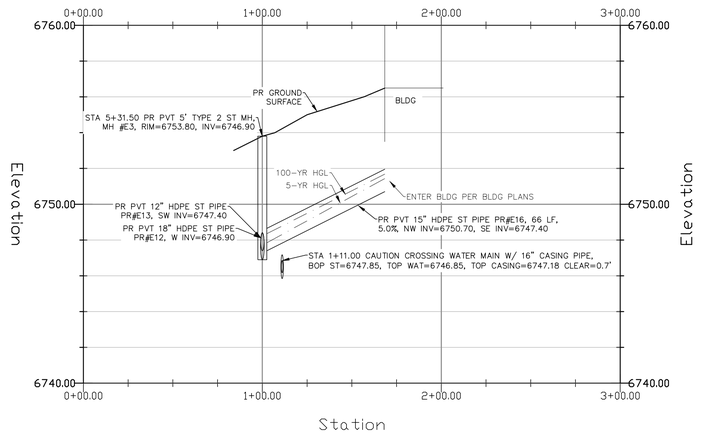
SOUTH LOT – NORTH RUN – PLAN & PROFILE

HORZ SCALE: 1"=40' – VERT SCALE: 1"=4'



SOUTH LOT – NORTHEAST RUN – PLAN & PROFILE

HORZ SCALE: 1"=40' – VERT SCALE: 1"=4'

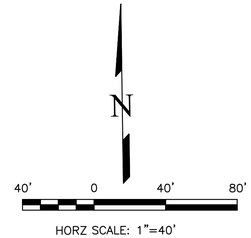


GRADING LEGEND

PROPOSED	PR	EXISTING CONTOURS – MINOR	6231
EXISTING	EX	EXISTING CONTOURS – MAJOR	6230
FINISHED SURFACE	FS	PROPOSED CONTOURS – 1'	6231
FINISHED GROUND	FG	EXISTING PROPERTY LINE	
TOP OF CURB	TC	PROPOSED RET WALL	
FLOWLINE	FL	PROPOSED RIPRAP	
FINISH GROUND AT TOP OF WALL	TW	WATER LINE	W WL W
FINISHED GROUND AT BOTTOM OF WALL	BW	SANITARY SEWER LINE	SS SS
LOW POINT	LP	GAS LINE	GAS GAS
HIGH POINT	HP	UNDERGROUND ELECTRICAL LINE	UE UE
FLOW ARROW		TELEPHONE LINE	UT
		FIBER OPTIC LINE	FO FO
		STORM SEWER LINE	ST ST
		LIMIT OF CONSTRUCTION	
		LIMIT OF SOIL DISTURBANCE	
		PROPOSED FENCE	
		FIRE HYDRANT	

NOTES

1. ALL HDPE STORM PIPE IS TO BE SMOOTH INTERIOR PIPE. ALL RCP MUST BE MINIMUM CLASS 3.
2. ALL PIPE CONNECTIONS TO PREFABRICATED INLETS OR BOXES MUST USE A REINFORCED CONCRETE COLLAR.
3. ALL PRESSURIZED PIPES MUST HAVE WATERTIGHT SEALS.
4. IF THERE ARE ANY DISCREPANCIES BETWEEN THE PLAN VIEW AND PROFILE INFO, THE PLAN VIEW INFO DICTATES.



HORZ SCALE: 1"=40'
VERT SCALE: 1" = 4'

THIS DESIGN WAS PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF TERRA NOVA ENGINEERING, INC.

DANE FRANK
COLORADO P.E. # 50207

PLANNER / LANDSCAPE ARCHITECT

NES

N.E.S. Inc.
619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903
Tel. 719.471.0073
Fax 719.471.0267
www.nescolorado.com

CIVIL ENGINEER

Terra Nova Engineering, Inc. Creative Civil Engineering Solutions

721 S. 23RD STREET
COLORADO SPRINGS, CO 80904
OFFICE: 719-635-6422
FAX: 719-635-6426
www.tneinc.com

NORTH GATE SUBARU

PROJECT INFO

DATE: 04/29/26
PROJECT MGR: K. JOHNSON
PREPARED BY: TERRA NOVA ENGINEERING

STAMP

ISSUE INFO

CONSTRUCTION DRAWINGS

DATE:	BY:	DESCRIPTION:
1: 04/29/26		- NEW BLDG FOOTPRINT, GRAD/ST CHANGES

ISSUE / REVISION

SHEET TITLE

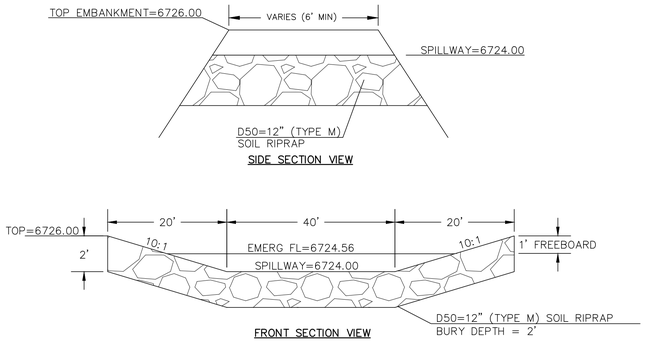
STORM SEWER PLAN
PLAN AND PROFILES – SOUTH LOT – NORTH RUN AND NORTHEAST RUN

SHEET NUMBER

20 OF 22

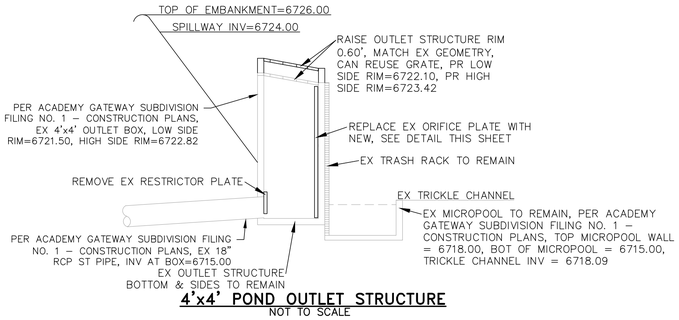
PLAN FILE #

TNE JOB # 2326.00
COUNTY FILE # PPR2514 & SF2510



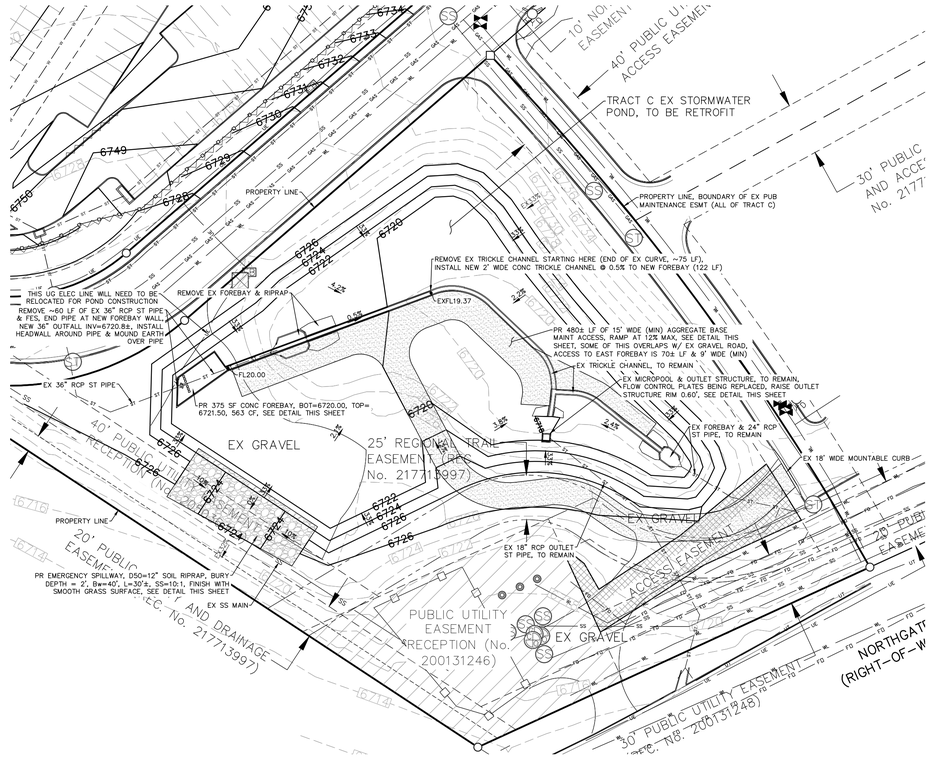
POND EMERGENCY WEIR

(TRAPAZOIDAL SECTION)
NOT TO SCALE



4'x4' POND OUTLET STRUCTURE

NOT TO SCALE



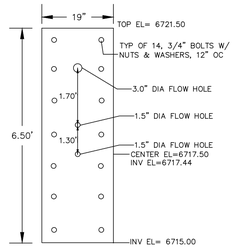
EXTENDED DETENTION BASIN – PLAN VIEW

SCALE 1" = 40'

LEGEND

EXISTING CONTOURS – MINOR	6231
EXISTING CONTOURS – MAJOR	6230
PROPOSED CONTOURS – 1'	6231
EXISTING PROPERTY LINE	
PROPOSED RET WALL	
PROPOSED RIPRAP	
WATER LINE	W / WL
SANITARY SEWER LINE	SS
GAS LINE	GAS
UNDERGROUND ELECTRICAL LINE	UE
TELEPHONE LINE	UT
FIBER OPTIC LINE	FO
STORM SEWER LINE	ST
LIMIT OF CONSTRUCTION	
LIMIT OF SOIL DISTURBANCE	
PROPOSED FENCE	

FIRE HYDRANT	
PROPOSED	PR
EXISTING	EX
FINISHED SURFACE	FS
FINISHED GROUND	FG
TOP OF CURB	TC
FLOWLINE	FL
FINISH GROUND AT TOP OF WALL	TW
FINISHED GROUND AT BOTTOM OF WALL	BW
LOW POINT	LP
HIGH POINT	HP
FLOW ARROW	

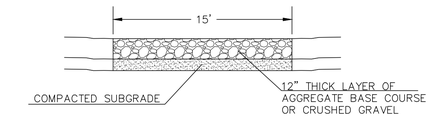


NOTE: ORIFICE HOLES ARE DIFFERENT THAN THE ORIGINAL PLATE. MATCH EXISTING PLATE HEIGHT, WIDTH, THICKNESS, BOLT PATTERN, ETC. FIELD FITTING IS REQUIRED. PLATE AND BOLT DIMENSIONS SHOWN HERE ARE APPROXIMATE. ORIFICE HOLE DIMENSIONS MUST BE MET.

STEEL PLATE SPECS: MEET ASTM A36 SPECS, FY=36 KSI MIN, PAINT W/ ONE SHOP COAT OF ZINC RICH PRIMER & TWO COATS OF ALUMINUM PAINT (AASHTO M-69), INSTALL PLATE W/ CONTINUOUS GASKET FOR WATERTIGHT SEAL

INLET ORIFICE PLATE PERFORATED HOLE PATTERN

NOT TO SCALE

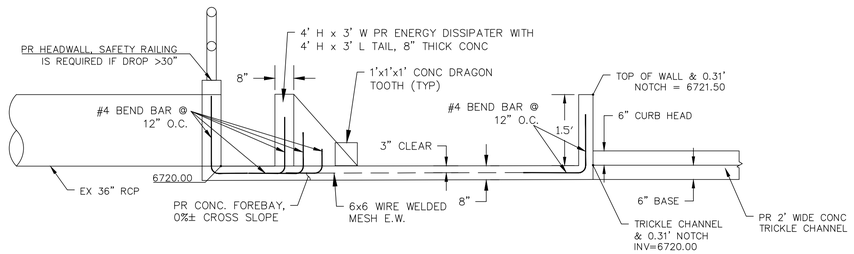


15' MAINTENANCE ACCESS RAMP SECTION

NOT TO SCALE

POND WATER LEVEL ELEVS

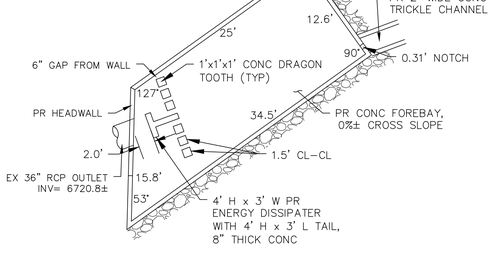
STAGE ZERO: 6717.50
WQCV: 6720.15
EURV: 6721.88
100-YR: 6723.27



WEST FOREBAY PROFILE VIEW

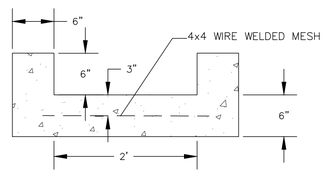
NOT TO SCALE

PR D50=12" TYPE M SOIL RIPRAP AROUND WALL, 2' WIDE, 1.5' DEEP, INSTALL PER URBAN DRAINAGE SPEC SECTION 31-37-00, ROCK REQUIREMENTS ARE TO COMPLY WITH RIPRAP AS SPECIFIED IN ARTICLE MATERIALS, THE SOIL MATERIAL SHALL BE NATIVE OR TOPSOIL AND MIXED WITH SIXTY-FIVE PERCENT (65%) RIPRAP AND THIRTY FIVE PERCENT (35%) SOIL BY VOLUME, SOIL RIPRAP SHALL CONSIST OF A UNIFORM MIXTURE OF SOIL AND RIPRAP WITHOUT VOIDS



WEST FOREBAY PLAN VIEW

NOT TO SCALE



2' CONCRETE TRICKLE CHANNEL

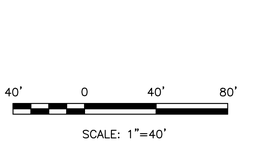
NOT TO SCALE

NOTES

1. THERE IS AN EXISTING STORMWATER POND THAT IS BEING RETROFITTED FOR HIGHER FLOWS AND VOLUMES. SOME AREAS AND STRUCTURES ARE STAYING THE SAME AND SOME ARE BEING REPLACED OR ARE NEW.

2. LARGE BLOCKS OF TEXT QUOTING STANDARD DRAWINGS OR DETAILS ARE INCLUDED AS A REQUIREMENT OF COUNTY REVIEWERS.

3. THESE PLANS ARE FOR A RETROFIT OF AN EXISTING POND. SOME FIELD FITTING IS EXPECTED.



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N.E.S. Inc.
619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903
Tel. 719.471.0073
Fax 719.471.0267
www.nescolorado.com

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OFFICE: 719-635-6422
FAX: 719-635-6426
www.tneainc.com

NORTH GATE SUBARU

PROJECT INFO
DATE: 04/29/26
PROJECT MGR: K. JOHNSON
PREPARED BY: TERRA NOVA ENGINEERING

STAMP

ISSUE INFO
CONSTRUCTION DRAWINGS

ISSUE / REVISION

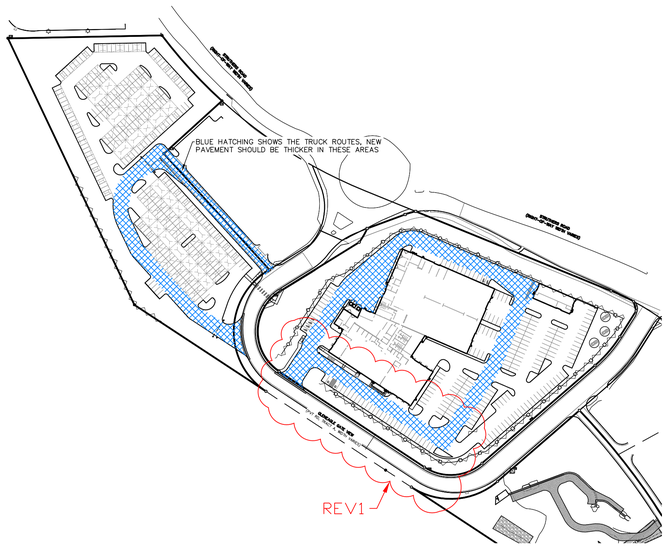
DATE:	BY:	DESCRIPTION:
1: 04/29/26		NEW BLDG FOOTPRINT, GRAD/ST CHANGES

SHEET TITLE
EXTENDED DETENTION BASIN RETROFIT PLAN

SHEET NUMBER
21 OF 22

PLAT/FILE #
TNE JOB # 2326.00
COUNTY FILE # PPR2514 & SF2510

N:\Jobs\2326.00\Drawings\232600 GEC.dwg [POND] 4/29/2026 9:33:40 AM Dane



TRUCK ROUTES
1" = 150'

LEGEND

PROPOSED	PR	EXISTING CONTOURS – MINOR
EXISTING	EX	EXISTING CONTOURS – MAJOR
FINISHED SURFACE	FS	PROPOSED CONTOURS – 1'
FINISHED GROUND	FG	EXISTING PROPERTY LINE
TOP OF CURB	TC	PROPOSED RET WALL
FLOWLINE	FL	PROPOSED RIPRAP
FINISH GROUND AT TOP OF WALL	TW	WATER LINE
FINISHED GROUND AT BOTTOM OF WALL	BW	SANITARY SEWER LINE
LOW POINT	LP	GAS LINE
HIGH POINT	HP	UNDERGROUND ELECTRICAL LINE
FLOW ARROW		TELEPHONE LINE
		FIBER OPTIC LINE
		STORM SEWER LINE
		LIMIT OF CONSTRUCTION
		LIMIT OF SOIL DISTURBANCE
		PROPOSED FENCE
		FIRE HYDRANT

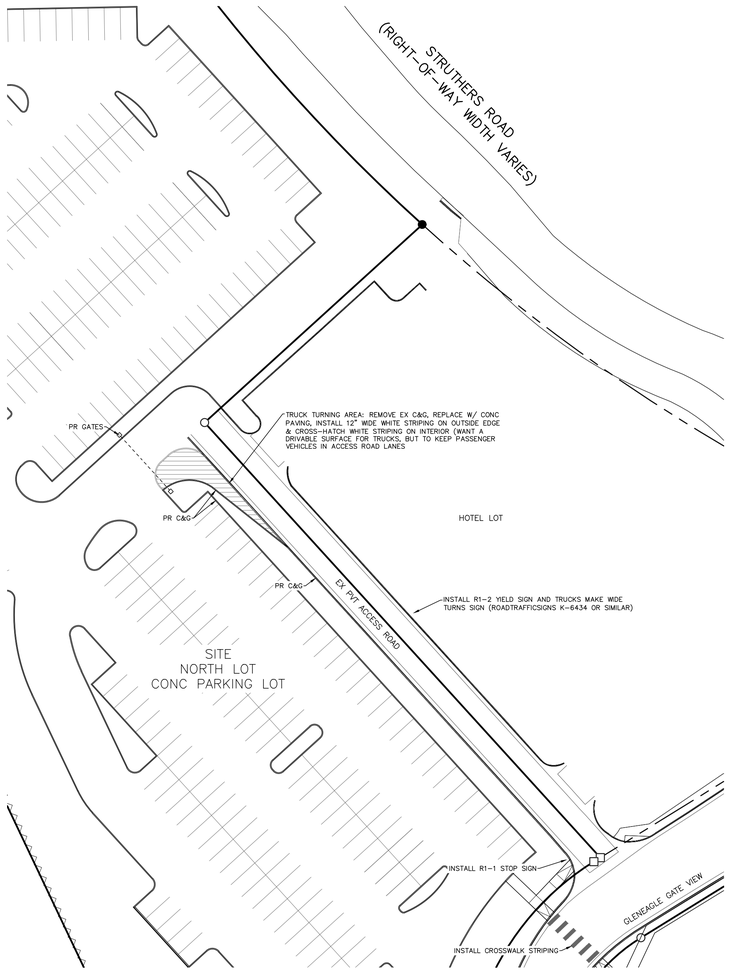
NOTES

1. ELEVATION DATA SHOWN ON THIS PLAN IS SECONDARY TO THE GRADING PLAN DATA. IN THE EVENT OF A DISCREPANCY THE GRADING PLAN SHALL DICTATE.

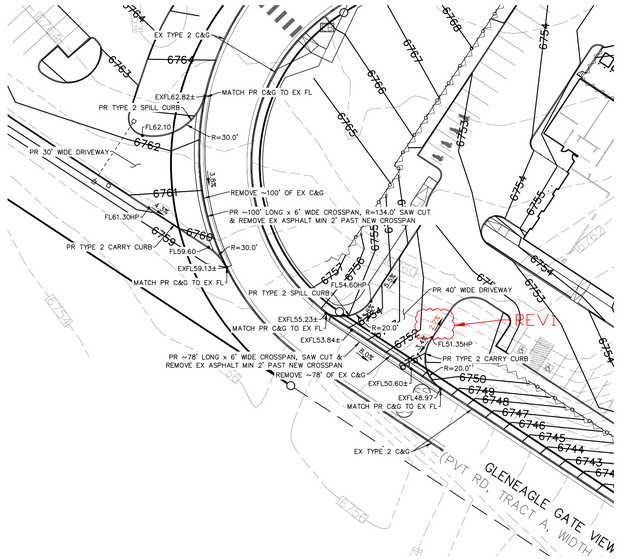
PAVEMENT NOTES

1. FINAL PAVEMENT DESIGN WILL BE DETERMINED BY A GEOTECHNICAL ENGINEER, PER THE COUNTY'S PAVEMENT DESIGN REQUIREMENTS, FOLLOWING FINAL GRADING OF THE SITE.

2. FOR COST EXERCISES THE FOLLOWING PAVEMENT DESIGN CAN BE ASSUMED (FROM THE GEOTECH REPORT): AUTO PARKING AREAS – 5" CONC, MAIN TRAFFIC CORRIDORS – 6" CONC

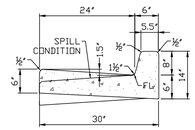


NORTH LOT – SIGNAGE & STRIPING PLAN

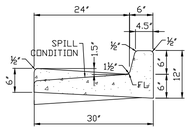


DRIVEWAY CONNECTION TO GLENEAGLE GATE VIEW FOR NORTH LOT & SOUTH LOT

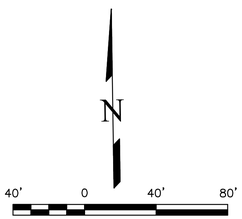
R1-2 R1-1



TYPE 1 – 8" VERTICAL C&G
N.T.S.



TYPE 2 – 6" VERTICAL C&G
N.T.S.



SCALE: 1"=40'

PAVEMENT TYPE:	☐ HMA	☐ PCC	
THICKNESS:			
COMPOSITE SECTION:			
	☐ HMA	☐ BASE	
SUBGRADE STABILIZATION:			
	☐ CHEMICAL	☐ MECHANICAL	
	☐ TYPE	☐ THICKNESS	

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CIVIL ENGINEER

NORTH GATE SUBARU

PROJECT INFO
DATE: 04/29/26
PROJECT MGR: K. JOHNSON
PREPARED BY: TERRA NOVA ENGINEERING

STAMP

ISSUE/ REVISION

CONSTRUCTION DRAWINGS

DATE:	BY:	DESCRIPTION:
1: 04/29/26		NEW BLDG FOOTPRINT, GRAD/ST CHANGES

SHEET TITLE

STREET IMPROVEMENT PLAN
STREET CONNECTIONS

SHEET NUMBER

22 OF 22

PLAT/FILE #

TNE JOB # 2326.00
COUNTY FILE # PPR2514 & SF2510

N:\Jobs\2326.00\Drawings\2326GI GEC.dwg [SP] 4/29/2026 9:33:46 AM Dane