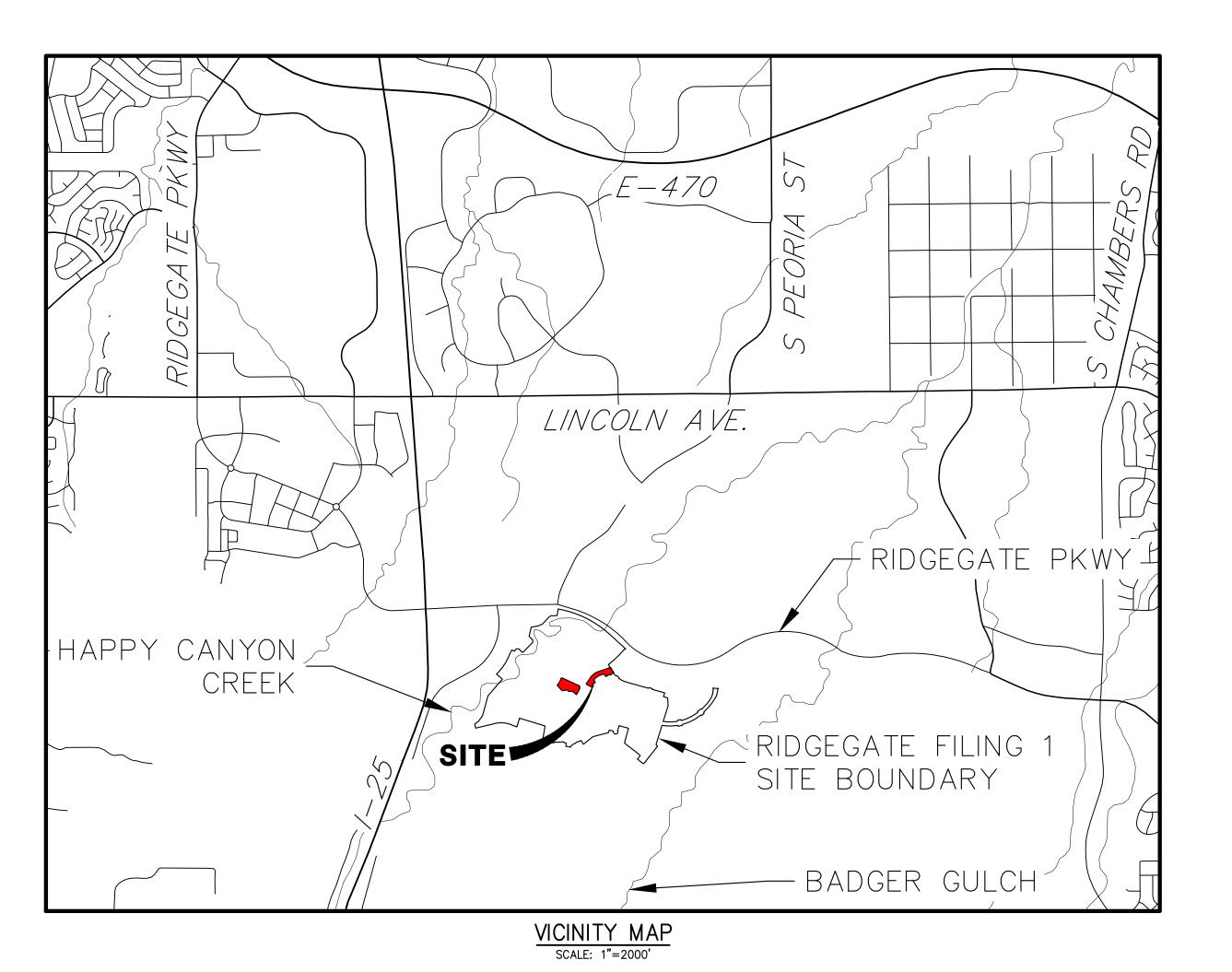
THRIVE TOWNHOMES AT RIDGEGATE CIVIL CONSTRUCTION PLANS (EAST SITE)

A PORTION OF THE RIDGEGATE PLANNED DEVELOPMENT DISTRICT, EAST SIDE PROPERTY LOCATED IN THE NORTHEAST QUARTER OF SECTION 23, TOWNSHIP 6 SOUTH, RANGE 67 WEST OF THE 6TH P.M., CITY OF LONE TREE, COUNTY OF DOUGLAS, STATE OF COLORADO



SHEET INDEX COVER SHEET GENERAL NOTES LEGEND LOT TYPICALS AND STREET CROSS SECTIONS GRADING PLAN UTILITY PLAN SITE AND ROADWAY DETAILS 12-14 GESC PLANS GESC DETAILS 15-17

SOIL PREPARATION NOTE:

SOIL PREPARATION SHALL BE PER RECOMMENDATIONS FROM THE GEOTECHNICAL REPORT PREPARED FOR THIS SITE:

GEOTECHNICAL ENGINEER: CTL THOMPSON PROJECT NUMBER: DN49,935-115-L1

THE CONTRACTOR IS TO REVIEW THIS REPORT IN FULL PRIOR TO BID. INFORMATION IN THE GEOTECHNICAL REPORT SUPERCEDES ANY CONFLICTING INFORMATION CONTAINED IN THE CONSTRUCTION PLANS AND SPECIFICATIONS.

BASIS OF BEARING

TOTAL

BEARING SHOWN HEREON ARE GRID BEARINGS DERIVED FROM GPS OBSERVATION BASED UPON THE COLORADO COORDINATE SYSTEM OF 1983 CENTRAL ZONE (NAD 83, 2011) REFERENCED TO THE SOUTH LINE OF THE SOUTHEAST QUARTER OF SECTION 23, TOWNSHIP 6 SOUTH, RANGE 67 WEST, SIXTH PRINCIPAL MERIDIAN BEING MONUMENTED AS SHOWN HEREON, TAKEN TO BEAR NORTH 89°31'58" EAST, A DISTANCE OF 2635.13 FEET.

BENCHMARK

NGS CONTROL POINT UNBEWUST BEING A 3.5 INCH DIAMETER BRASS CAP. LOCATED ABOUT 3.2 MILES SOUTH OF INTERSTATE 25 AND COLORADO STATE HIGHWAY 470 INTERCHANGE, GO SOUTH ON INTERSTATE 25 FOR 2.9 MILES TO EXIT 191. PROCEED ON A PAVED ROAD TO THE SOUTHWEST FOR 0.2 MILES TO THE STATION ON THE LEFT. IN THE NORTHWEST CORNER OF A 24 FOOT BY 16 FOOT ROCK OUTCROP. IT IS 22.5 FEET EAST OF THE CENTERLINE OF THE PAVED ROAD, 123 FEET NORTH OF THE OUTLET OF A 3 FOOT CORRUGATED STEEL PIPE CULVERT AND APPROXIMATELY 350 FEET WEST OF THE WEST EDGE OF OIL OF SOUTHBOUND INTERSTATE 25, ELEVATION: 6125.32 (NAVD88).



APPLICANT/OWNER

THB LYRIC, LLC
1875 LAWRENCE STREET.
SUITE 900,
DENVER, CO 80202
P~303.791.8180

CIVIL ENGINEER

JR ENGINEERING 7200 SOUTH ALTON WAY, SUITE C400 CENTENNIAL, CO P~303.267.6220

PLANNER

VALERIAN LLC 970 YUMA STREET, SUITE 130 DENVER, CO 80204 P~303.347.1200



1. BY ACCEPTING AND UTILIZING THESE PLANS, THE CONTRACTOR AGREES THAT THEY SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSON AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE OWNER AND CIVIL ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE CIVIL 2. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITIES, CONDUITS OR OTHER STRUCTURES SHOWN ON THESE PLANS WAS OBTAINED BY A SEARCH OF AVAILABLE RECORDS. THE ENGINEER ASSUMES NO LIABILITY WHATSOEVER FOR THE ACCURACY OR COMPLETENESS OF SUCH DATA. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO

ENGINEER'S STATEMENT RE PREPARED UNDER MY SUPERVISION A

THESE CONSTRUCTION PLANS HAVE BEEN REVIEWED

BY THE CITY OF LONE TREE FOR STREET AND DRAINAGE, SIGNAGE AND STRIPING IMPROVEMENTS

ENGINEERING DIVISION ACCEPTANCE BLOCK

NOTICE TO CONTRACTOR:

TO SAID FACILITIES.

CITY OF LONE TREE

PROTECT ALL UTILITY LINES, CONDUITS OR STRUCTURES WHETHER OR NOT SHOWN ON THESE PLANS AND BY ACCEPTING AND UTILIZING THESE PLANS, ASSUMES ALL RESPONSIBILITY FOR THE PROTECTION AND/OR ANY DAMAGE

36742 AARON L. CLUTTER, P.E. COLORADO P.E. 36742 FOR AND ON BEHALF OF JR ENGINEERING

SHEET 1 OF 17 JOB NO. 15950.04

GENERAL PROJECT NOTES:

- 1. ALL MATERIALS, WORKMANSHIP, AND CONSTRUCTION OF IMPROVEMENTS SHALL MEET OR EXCEED THE GOVERNING CITY, COUNTY, AND/OR STATE AND APPLICABLE UTILITY DISTRICT STANDARDS AND SPECIFICATIONS, AND APPLICABLE STATE AND FEDERAL REGÚLATIONS. WHERE THERE IS A CONFLICT BETWEEN THESE PLANS AND ANY APPLICABLE STANDARDS, THE HIGHER QUALITY STANDARD SHALL APPLY. ALL WORK SHALL BE INSPECTED AND APPROVED BY THE CITY AND APPLICABLE UTILITY DISTRICT(S).
- 2. THE SITE CONSTRUCTION PLANS LISTED WITHIN THIS PLAN SET ARE NOT FOR CONSTRUCTION UNLESS APPROVED BY THE APPROPRIATE GOVERNING JURISDICTION. THE CONTRACTOR SHALL CONFIRM SAID APPROVAL PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL KEEP ONE (1) SIGNED COPY OF THE APPROVED SET OF PLANS, APPROPRIATE SPECIFICATIONS AND STANDARDS, AND APPROVED PERMITS ONSITE AT ALL TIMES.
- 3. NO REVISIONS SHALL BE MADE TO THESE PLANS WITHOUT THE APPROVAL OF THE CITY, COUNTY, STATE OR LOCAL DISTRICT AND THE ENGINEER OF RECORD.
- 4. ALL REFERENCES TO ANY PUBLISHED STANDARDS SHALL REFER TO THE LATEST REVISION OF SAID STANDARDS, UNLESS SPECIFICALLY STATED OTHERWISE.
- 5. THE CONTRACTOR IS RESPONSIBLE FOR ALL LABOR AND MATERIALS NECESSARY FOR THE COMPLETION OF THE INTENDED IMPROVEMENTS SHOWN ON THESE DRAWINGS OR DESIGNATED TO BE PROVIDED, INSTALLED, CONSTRUCTED, REMOVED, OR RELOCATED UNLESS SPECIFICALLY NOTED OTHERWISE.
- 6. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND LICENSES FOR WORK INCLUDING, BUT NOT LIMITED TO DEMOLITION, STREET CUTS, UTILITY INTERFERENCES, TRAFFIC CONTROL, GRADING, AND UTILITY FROM ALL APPLICABLE AGENCIES; AND FOR COMPLYING WITH ALL PROVISIONS INCLUDED THEREIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL OTHER APPLICABLE PERMITS NOT SPECIFICALLY REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
- 7. THE CONTRACTOR SHALL UTILITY STAKE PROJECT AT LEAST 2 WORKING DAYS PRIOR TO BEGINNING EXCAVATION OR GRADING, TO HAVE ALL REGISTERED UTILITY LOCATIONS MARKED. OTHER UNREGISTERED UTILITY ENTITIES (I.E. DITCH COMPANY) ARE TO BE LOCATED BY CONTACTING THE RESPECTIVE REPRESENTATIVE.
- THE CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATING AND VERIFYING ELEVATIONS OF ALL EXISTING SEWER MAINS, WATER MAINS, CURBS, GUTTERS, AND OTHER UTILITIES AT THE POINTS OF CONNECTION SHOWN ON THE PLANS, AND AT ANY UTILITY CROSSINGS PRIOR TO INSTALLING ANY OF THE NEW IMPROVEMENTS. IF A CONFLICT EXISTS AND/OR A DESIGN MODIFICATION IS REQUIRED, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER TO MODIFY THE DESIGN. DESIGN MODIFICATION(S) MUST BE APPROVED BY THE APPROPRIATE AUTHORITY PRIOR TO BEGINNING CONSTRUCTION.
- 9. ANY DISRUPTION OF UTILITY SERVICE THAT IS REQUIRED TO ADJUST, EXTEND, RELOCATE OR OTHERWISE REARRANGE ANY UTILITY WITHIN THE PROJECT AREA SHALL BE COORDINATED IN ADVANCE WITH THE AFFECTED UTILITY ENTITY.
- 10. RIM ELEVATIONS SHOWN ARE APPROXIMATE ONLY AND ARE NOT TO BE TAKEN AS FINAL ELEVATIONS. THE CONTRACTOR SHALL USE PRECAST CONCRETE ADJUSTMENT RINGS, GROUT, AND STEEL SHIMS TO ADJUST THE MANHOLE FRAMES TO FINAL GRADE IN CONFORMANCE WITH THE CITY OR UTILITY COMPANY/DISTRICT STANDARD SPECIFICATIONS. ALL FRAMES SHALL BE ADJUSTED TO FINAL GRADE PRIOR TO THE FINAL LIFT OF ASPHALT.
- 11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASPECTS OF PROJECT SAFETY INCLUDING, BUT NOT LIMITED TO, EXCAVATION, TRENCHING, SHORING, TRAFFIC CONTROL, AND SECURITY.
- 12. THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN, IN ACCORDANCE WITH THE M.U.T.C.D. TO THE APPROPRIATE RIGHT-OF-WAY AUTHORITY (CITY, COUNTY, OR STATE) FOR APPROVAL, PRIOR TO ANY CONSTRUCTION ACTIVITIES WITHIN, OR AFFECTING, THE RIGHT-OF-WAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY AND ALL TRAFFIC CONTROL DEVICES AS MAY BE REQUIRED BY THE CONSTRUCTION ACTIVITIES. ALL WORK WITHIN THE RIGHT OF WAY SHALL BE DONE IN ACCORDANCE WITH THE GOVERNING AUTHORITY'S STANDARDS AND SPECIFICATIONS.
- 13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEANING AND RESTORATION OF ANY EXISTING IMPROVEMENTS INCLUDING, BUT NOT LIMITED TO STREET PAVEMENT, FENCES, SOD, LANDSCAPING, SPRINKLER SYSTEMS, AND UTILITIES DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL LOCATION AND CONDITION.
- 14. INCLUDED IN THESE PLANS IS THE DEMOLITION AND DISPOSAL OF ALL EXISTING UTILITIES, SITE IMPROVEMENTS, STRUCTURES, AND SITE FURNISHINGS NEEDED FOR CONSTRUCTION OF THE IMPROVEMENTS SHOWN HEREON. ALL QUESTIONS IN REGARD TO DEMOLITION SHALL BE SUBMITTED TO THE OWNER IN WRITING PRIOR TO BID.
- 15. ALL DEMOLITION, REMOVAL, DISPOSAL, AND ABANDONMENT OF UTILITIES, STRUCTURES, SITE IMPROVEMENTS. AND SITE FURNISHINGS SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL STANDARDS AND SPECIFICATIONS, AND PERMIT REQUIREMENTS.
- 16. ALL DISTURBED SOIL, ON- OR OFF-SITE AND RELATED TO WORK AT THIS PROJECT SITE. IS REQUIRED TO BE PROTECTED FROM WIND AND STORM WATER EROSION. TO MITIGATE EROSION, THE CONTRACTOR SHALL USE STANDARD EROSION CONTROL TECHNIQUES DESCRIBED IN THE GESC PLAN SET AND GESC REPORT FOR THIS PROJECT.
- 17. ALL STRUCTURAL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY GROUND-DISTURBING ACTIVITY. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED IN GOOD REPAIR BY THE CONTRACTOR UNTIL SUCH TIME AS THE ENTIRE DISTURBED AREA IS STABILIZED WITH HARD SURFACE OR PERMANENT LANDSCAPING. THE CONTRACTOR IS RESPONSIBLE FOR REFERRING TO ANY EROSION AND SEDIMENT CONTROL, STORMWATER MANAGEMENT, STORMWATER POLLUTION PREVENTION, OR SIMILAR PLAN AND/OR NARRATIVE AND ASSOCIATED PERMITS INCLUDING, BUT NOT LIMITED TO GRADING PERMITS, AND COMPLYING WITH THE REQUIREMENTS THEREIN.
- 18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL WORK, INSPECTIONS, AND CERTIFICATIONS AS REQUIRED BY THE CITY. STATE OR LOCAL DISTRICTS. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL CONNECTION OF SERVICES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COST ASSOCIATED WITH THE INSPECTION AND CERTIFICATION UNLESS OTHERWISE ARRANGED WITH THE OWNER/DEVELOPER. THE CONTRACTOR SHALL COORDINATE ALL CERTIFICATIONS, AND PROVIDE FIELD SURVEYED AS-BUILT INFORMATION FOR REVIEW BY THE OWNER/DEVELOPER AND/OR ENGINEER AS EARLY AS POSSIBLE IN THE CONSTRUCTION SCHEDULE TO AVOID POTENTIAL DELAYS.
- 19. CONTRACTOR IS RESPONSIBLE FOR AS-BUILT DRAWINGS, TESTS, REPORTS, AND/OR ANY OTHER CERTIFICATES OR INFORMATION AS REQUIRED FOR ACCEPTANCE OF WORK FROM CITY, UTILITY DISTRICTS, OR ANY OTHER GOVERNING AGENCY, OR TO THE OWNER/DEVELOPER AS REQUIRED BY AND IN ACCORDANCE WITH THE GOVERNING AUTHORITY OR OWNER/DEVELOPER'S CRITERIA. CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING AS-BUILT INFORMATION AN A SET OF RECORD DRAWINGS KEPT AT THE CONSTRUCTION SITE AND AVAILABLE TO THE GOVERNING CITY, COUNTY, AND/OR STATE AND UTILITY DISTRICT INSPECTOR AT ALL TIMES. THE CONTRACTOR SHALL CONFIRM ANY REQUIREMENTS AS EARLY AS POSSIBLE IN THE CONSTRUCTION SCHEDULE TO ACCOUNT FOR PREPARATION AND REVIEW OF THE INFORMATION TO AVOID POTENTIAL DELAYS.
- 20. IF, DURING THE CONSTRUCTION PROCESS, CONDITIONS ARE ENCOUNTERED BY THE CONTRACTOR, HIS SUBCONTRACTORS, OR OTHER AFFECTED PARTIES, WHICH COULD INDICATE A SITUATION THAT IS NOT IDENTIFIED IN THE PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL CONTACT THE OWNER/DEVELOPER AND THE ENGINEER IMMEDIATELY.
- 21. DIMENSIONS FOR LAYOUT AND CONSTRUCTION ARE NOT TO BE SCALED FROM ANY DRAWING. IF PERTINENT DIMENSIONS ARE NOT SHOWN, CONTACT THE CONSULTING ENGINEER FOR CLARIFICATION AND ANNOTATE THE DIMENSION ON THE AS-BUILT RECORD DRAWING.
- 22. BENCHMARK VERIFICATION: THE CONTRACTOR SHALL VERIFY THE EXISTING CONDITIONS AND THE PROPOSED ELEVATIONS IN THIS CONSTRUCTION PLAN SET AGAINST THE PROJECT BENCHMARK, IDENTIFIED HEREIN, PRIOR TO COMMENCING WORK.
- 23. DOUGLAS COUNTY STANDARD DETAILS SHALL NOT BE MODIFIED. ANY NON-STANDARD DETAILS WILL BE CLEARLY IDENTIFIED AS
- 24. ALL ELEVATIONS ARE ON UNITED STATES COAST AND GEODETIC SURVEY (USC&GS) (NAVD-88) DATUM WITH DATE. THE RANGE POINT OR MONUMENTS SHALL BE SHOWN ON CONSTRUCTION DRAWINGS.
- 25. THE PROFESSIONAL ENGINEER, REGISTERED IN THE STATE OF COLORADO, SIGNING THESE PLANS IS RESPONSIBLE FOR ENSURING THAT THE DETAILS INCLUDED ARE COMPATIBLE WITH THE STANDARD DOUGLAS COUNTY DETAILS CONTAINED IN THE LATEST VERSIONS OF THE CRITERIA MANUALS. THIS INCLUDES, BUT IS NOT LIMITED TO:
- DOUGLAS COUNTY ROADWAY DESIGN AND CONSTRUCTION STANDARDS
- DOUGLAS COUNTY STORM DRAINAGE DESIGN AND TECHNICAL CRITERIA DOUGLAS COUNTY GRADING, EROSION AND SEDIMENT CONTROL CRITERIA
- CDOT M&S STANDARDS
- URBAN STORM DRAINAGE CRITERIA MANUAL VOLUMES 1, 2, & 3

CITY OF LONE TREE GENERAL NOTES

- 1. THE CITY OF LONE TREE ENGINEER'S SIGNATURE AFFIXED TO THIS DOCUMENT INDICATES THE ENGINEERING DIVISION HAS REVIEWED THE DOCUMENT AND FOUND IT IN GENERAL CONFORMANCE WITH THE CITY OF LONE TREE SUBDIVISION RESOLUTION OR APPROVED VARIANCES TO THOSE REGULATIONS. THE CITY OF LONE TREE ENGINEER, THROUGH ACCEPTANCE OF THIS DOCUMENT, ASSUMES NO RESPONSIBILITY, OTHER THAN STATED ABOVE, FOR THE COMPLETENESS AND/OR ACCURACY OF THESE DOCUMENTS. THE OWNER AND ENGINEER UNDERSTAND THAT THE RESPONSIBILITY FOR THE ENGINEERING ADEQUACY OF THE FACILITIES DEPICTED IN THIS DOCUMENT LIES SOLELY WITH THE REGISTERED PROFESSIONAL ENGINEER WHOSE STAMP AND SIGNATURE IS AFFIXED TO THIS DOCUMENT
- 2. ALL ROADWAY CONSTRUCTION SHALL CONFORM TO CURRENT DOUGLAS COUNTY ROADWAY DESIGN AND CONSTRUCTION STANDARDS.
- 3. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY THE CITY OF LONE TREE ENGINEERING DIVISION. THE CITY RESERVES THE RIGHT TO ACCEPT OR REJECT ANY SUCH MATERIALS AND WORKMANSHIP THAT DOES NOT CONFORM TO ITS STANDARDS AND
- 4. THE CONTRACTOR SHALL NOTIFY THE CITY OF LONE TREE PUBLIC WORKS, INSPECTION SECTION, (303) 662-8112, A MINIMUM OF 48 HOURS AND A MAXIMUM OF 96 HOURS PRIOR TO STARTING CONSTRUCTION, AND/OR BEFORE RESTARTING CONSTRUCTION AFTER A SHUTDOWN OF MORE THAN 10 DAYS.
- 5. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO ACTUAL CONSTRUCTION. FOR INFORMATION, CONTACT: UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) AT (800) 922-1987 OR 811
- 6. THE CONTRACTOR SHALL HAVE ONE (1) SIGNED COPY (SIGNED BY BOTH DESIGN ENGINEER AND CITY OF LONE TREE) OF THE CONSTRUCTION PLANS AND GESC REPORT AND PLAN. AND ONE (1) COPY OF THE DOUGLAS COUNTY ROADWAY DESIGN AND CONSTRUCTION STANDARDS AT THE JOB SITE AT ALL TIMES.
- 7. ALL PROPOSED STREET CUTS TO EXISTING PAVEMENTS FOR UTILITIES, STORM SEWER, OR OTHER PURPOSES ARE LISTED AND REFERENCED BELOW:

RIDGEGATE PARKWAY

- 8. A ROW/CONSTRUCTION PERMIT MUST BE OBTAINED BEFORE ANY WORK WITHIN EXISTING OR PROPOSED PUBLIC ROW. THE PERMIT APPLICATION MUST BE SUBMITTED TO THE CITY OF LONE TREE ENGINEER FOR REVIEW/PROCESSING A MINIMUM OF 7 DAYS PRIOR TO REQUESTED START FOR THE WORK IN THE ROW.
- 9. A PLAN FOR TRAFFIC CONTROL DURING CONSTRUCTION SHALL BE SUBMITTED TO THE CITY OF LONE TREE ENGINEER FOR ACCEPTANCE WITH THE PERMIT APPLICATION. AN EXCAVATION OR PUBLIC IMPROVEMENTS CONSTRUCTION PERMIT WILL NOT BE ISSUED WITHOUT AN APPROVED TRAFFIC CONTROL PLAN FOR TRAFFIC CONTROL DURING CONSTRUCTION.
- 10. THE CONSTRUCTION PLANS SHALL BE CONSIDERED VALID FOR TWO (2) YEARS FROM THE DATE OF CITY OF LONE TREE ACCEPTANCE/APPROVAL. IF APPLICABLE CONSTRUCTION PERMITS HAVE NOT BEEN OBTAINED, AND CONSTRUCTION STARTED WITHIN THAT TIME, THESE PLANS SHALL BE VOID AND WILL BE SUBJECT TO RE-REVIEW AND RE-ACCEPTANCE BY THE CITY OF LONE TREE.
- 11. CONTRACTOR SHALL NOTIFY THE CITY OF LONE TREE ENGINEER INSPECTOR WHEN WORKING OUTSIDE OF THE PUBLIC RIGHT-OF-WAY ON ANY FACILITY WHICH WILL BE CONVEYED TO THE CITY, URBAN DRAINAGE AND FLOOD CONTROL DISTRICT, OR OTHER SPECIAL DISTRICT FOR MAINTENANCE (STORM SEWER, ENERGY DISSIPATERS, DETENTION OUTLET STRUCTURES, OR OTHER DRAINAGE INFRASTRUCTURES). FAILURE TO NOTIFY ENGINEERING INSPECTOR TO ALLOW THEM TO INSPECT THE CONSTRUCTION MAY RESULT IN NON-ACCEPTANCE OF THE FACILITIES/INFRASTRUCTURE BY CITY AND/OR URBAN DRAINAGE.
- 12. A TEMPORARY CONSTRUCTION ACCESS PERMIT FROM THE CITY OF LONE TREE MAY BE REQUIRED FOR ANY PROJECT.
- 13. THE CITY OF LONE TREE SHALL NOT BE RESPONSIBLE FOR MAINTENANCE OF ROADWAY AND APPURTENANT IMPROVEMENTS, INCLUDING STORM DRAINAGE INFRASTRUCTURE, FOR THE FOLLOWING PRIVATE STREETS: VIBRATO LANE AND MONTOSO ROAD

CITY OF LONE TREE SIGNAGE & STRIPING NOTES

- ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MOST RECENT VERSION OF THE FEDERAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), THE "COLORADO SUPPLEMENTAL MUTCD" AND THE DOUGLAS COUNTY "ROAD AND CONSTRUCTION STANDARDS MANUAL". FURTHER SPECIFICATIONS AND ILLUSTRATIONS ARE LOCATED IN THE COLORADO DIVISION OF HIGHWAYS "M AND S STANDARDS".
- 2. DELINEATION OF ROADWAYS SHALL BE AS SPECIFIED IN THE COLORADO "M AND S MANUAL".
- 3. SPECIAL CARE SHALL BE TAKEN IN SIGN LOCATION TO ENSURE AN UNOBSTRUCTED VIEW OF EACH SIGN. STREET NAME SIGNS SHALL BE MOUNTED SO THAT THEY CAN BE SEEN FROM ALL DIRECTIONS OF TRAVEL.
- 4. INSTALLATION OF SIGNS SHALL CONFORM TO THE MUTCD MOUNTING HEIGHT REQUIREMENTS, INCLUDING A 7-FOOT MINIMUM HEIGHT FROM THE BOTTOM OF THE LOWEST SIGN PANEL TO THE TOP GRADE OF SIDEWALK.
- 5. ALL NEWLY INSTALLED TRAFFIC SIGNS SHALL MEET THE MINIMUM RETRO-REFLECTIVITY AND ILLUMINATION STANDARDS AS SET FORTH BY THE MUTCD (LATEST EDITION). THESE MINIMUM REQUIREMENTS SHALL FALL UNDER THE REQUIREMENTS OF THE TWO (2) YEAR WARRANTY PERIOD FOR NEW CONSTRUCTION.
- 6. DIAMOND GRADE MATERIAL SHALL BE USED ON ALL STOP SIGNS.
- 7. THE CONTRACTOR INSTALLING SIGNS IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UNDERGROUND UTILITIES. LONE TREE PUBLIC WORKS SHALL BE CONTACTED A MINIMUM OF 72 HOURS PRIOR TO INSTALLATION AT 303-662-8112.
- 8. FOLLOWING INSTALLATION, THE CONTRACTOR SHALL NOTIFY THE CITY OF LONE TREE PUBLIC WORKS DEPARTMENT, 303-662-8112. A FIELD INSPECTION OF LOCATION AND INSTALLATION OF ALL SIGNS SHALL BE PERFORMED BY PUBLIC WORKS. ALL DISCREPANCIES IDENTIFIED DURING THE FIELD INSPECTION MUST BE CORRECTED BEFORE THE TWO-YEAR WARRANTY PERIOD WILL BEGIN.
- 9. SIGNAGE AND STRIPING HAS BEEN DETERMINED BY INFORMATION AVAILABLE AT THE TIME OF REVIEW. PRIOR TO INITIATION OF THE WARRANTY PERIOD, LONE TREE RESERVES THE RIGHT TO REQUIRE MODIFICATIONS TO EXISTING OR INSTALLATION OF ADDITIONAL SIGNAGE AND/OR STRIPING IF THEY DETERMINE THAT AN UNFORESEEN CONDITION WARRANTS SUCH MODIFICATION ACCORDING TO THE MUTCD OR THE CDOT M AND S STANDARDS. ALL SIGNAGE AND STRIPING SHALL FALL UNDER THE REQUIREMENTS OF THE TWO (2) YEAR WARRANTY PERIOD FOR
- 10. FINAL STRIPING AND CROSSWALK LAYOUT TO BE APPROVED BY THE CITY OF LONE TREE PRIOR TO INSTALLATION. LONE TREE PUBLIC WORKS SHALL BE CONTACTED A MINIMUM OF 72 HOURS PRIOR TO INSTALLATION AT 303-662-8112.
- 11. CROSSWALKS SHALL: BE CONSTRUCTED USING 125 MIL PREFORMED THERMOPLASTIC. LINE UP WITH THE HANDICAP RAMPS AT BOTH ENDS. BE CENTERED ON LANE LINES SO AS TO BE STRADDLED BY VEHICLES.
- 12. ALL PAVEMENT MARKINGS SHALL BE AS FOLLOWS: FOR CONCRETE SURFACE: METHYL METHACRYLATE OR EPOXY PAINT. FOR ASPHALT SURFACE: PAINT, 90 MIL PREFORMED THERMOPLASTIC, INLAID MARKING TAPE, METHYL METHACRYLATE, OR EPOXY PAINT. TURN ARROWS AND ONLYS: 125 MIL PREFORMED THERMOPLASTIC.
- 13. ALL PAVEMENT MARKING SHALL BE PRECEDED BY THE APPROPRIATE SURFACE PREPARATION.
- 14. ANY SIGNAGE AND/OR OTHER TRAFFIC CONTROL DEVICES REMOVED SHALL BE RETURNED TO THE CITY OF LONE TREE.
- 15. TYPE III LIGHTED BARRICADES SHALL BE SET AT ENDS OF ROADWAYS, SEPARATING FINISHED AND UNFINISHED CONSTRUCTION AREAS AND WILL BE MAINTAINED BY THE CONTRACTOR/DEVELOPER.
- NOTE: ALSO SEE CITY OF LONE TREE "STREET SIGN DETAILS" FOR ADDITIONAL INTERSECTION STREET SIGNAGE REQUIREMENTS.

ROADWAY NOTES

- 1. GUTTERS SHALL BE AT LEAST 6" THICK.
- 2. ALL CURBS SHALL USE THE CATCH SECTION UNLESS OTHERWISE NOTED.
- 3. ALL COMBINATION CURB, GUTTER AND SIDEWALKS TO BE 6" THICK (MIN.). SIDEWALKS WITH VERTICAL CURB AND GUTTER TO BE 6" THICK (MIN.).
- 4. NON-LANDSCAPED MEDIAN ISLANDS SHALL BE COVERED WITH AN ACCEPTABLE IMPERMEABLE SURFACE.
- 5. IF ANY SECTION OF A DETACHED SIDEWALK IS TO BE PLACED OUTSIDE OF THE ROAD RIGHT-OF-WAY, THEN A SIDEWALK EASEMENT SHALL BE REQUIRED TO
- MAINTAIN PUBLIC USE. 6. PLACEMENT, MOISTURE AND DENSITY CONTROL FOR SUBGRADE, SUBBASE, AND SURFACING MATERIALS SHALL BE IN COMPLIANCE WITH THE REQUIREMENTS OF
- STANDARDS. 7. ALL STATIONING IS BASED ON CENTERLINE OF ROADWAYS UNLESS OTHERWISE NOTED.

CHAPTER 8 OF THE DOUGLAS COUNTY ROADWAY DESIGN AND CONSTRUCTION

- 8. PAVING, INCLUDING CONSTRUCTION OF CURB AND GUTTER (WHEN USED), SHALL NOT START UNTIL A PAVEMENT DESIGN REPORT AND SUBGRADE COMPACTION TESTS ARE ACCEPTED BY THE ENGINEERING INSPECTION DIVISION FOR ALL PUBLIC AND PRIVATE
- 9. STANDARD DOUGLAS COUNTY HANDICAP RAMPS ARE TO BE CONSTRUCTED AT ALL CURB RETURNS AND AT MID-BLOCK LOCATIONS OPPOSITE OF ONE OF THE CURB RETURNS OF ALL "T" INTERSECTIONS AS IDENTIFIED ON THESE PLANS.

STORM SEWER NOTES:

- SEE COVER SHEET FOR BENCHMARK 2. ALL STATIONING IS PIPE CENTERLINE UNLESS OTHERWISE NOTED. INLET STATIONING IS TO CENTER OF INLET.
- 4. PIPE LENGTHS ARE FROM INSIDE INLET WALL TO INSIDE INLET WALL. FROM CENTER OF MANHOLE TO INSIDE INLET WALL, OR FROM CENTER OF
- MANHOLE TO CENTER OF MANHOLE. PIPE LENGTHS INCLUDE FES. 5. ALL ON-GRADE INLETS ARE TO MATCH TBC ELEVATIONS AT EACH END, FOLLOWING STREET GRADES.
- 6. PIPE BEDDING SHALL CONFORM TO THE DOUGLAS COUNTY ROADWAY DESIGN AND CONSTRUCTION STANDARDS.
- 7. ALL INLETS ARE TYPE R INLETS UNLESS OTHERWISE NOTED. 8. ALL TYPE R INLET RIM ELEVATIONS REFERENCE TBC ELEVATION AT CENTER OF INLET UNLESS OTHERWISE NOTED.
- 9. COORDINATES FOR RCP END SECTIONS ARE SHOWN AT THE DOWNSTREAM END ALONG CENTERLINE OF PIPE
- 10. UNLESS OTHERWISE SHOWN, RCP SHALL BE BACKFILLED ACCORDING TO THE STANDARD TRENCH SECTION SHOWN ON THE STORM SEWER DETAILS. 11. LENGTHS SHOWN FOR RCP REPRESENT HORIZONTAL LENGTHS AND NOT FOR
- LENGTHS ALONG THE PIPE SLOPE. 12. ALL RCP STORM SEWER MUST USE ASTM C44S WATERTIGHT GASKETS PER THE CURRENT DOUGLAS COUNTY AND URBAN DRAINAGE DESIGN CRITERIA.
- 13. ALL RCP SHALL BE CLASS III STORM SEWER PIPE UNLESS OTHERWISE SPECIFIED. 14. JOINT RESTRAINTS ARE REQUIRED FOR A MINIMUM OF THE LAST TWO PIPE
- JOINTS AND FLARED END SECITONS OF AN RCP OUTFALL. 15. PRECAST INLETS AND MANHOLE BASES ARE NOT ALLOWED 16. TOE WALLS ARE REQUIRED ON FLARED END SECTIONS AT THE OUTLET END
- OF CULVERTS AND STORM SEWER OUTFALLS. FILTER FABRIC IS REQUIRED UNDER ALL RIPRAP PADS. 17. TWO MANHOLE ACCESS POINTS ARE REQUIRED ON ALL TYPE R CURB INLETS
- GREATER THAN OR EQUAL TO TEN FEET IN LENGTH.

DRAINAGE STRUCTURE NOTES

- 1. CONCRETE WORK SHALL CONFORM TO ACI 301, ACI 350.
- 2. ALL REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM-615, GRADE
- 3. ALL EXPOSED CONCRETE SHALL HAVE A CDOT CLASS 2 OR 5 FINISH.
- 4. ALL EXPOSED CONCRETE CORNERS SHALL HAVE 3/4" CHAMFERS.
- 5. DETAILING, FABRICATION, AND PLACING OF REBAR SHALL BE IN ACCORDANCE WITH ACI
- 6. CONSTRUCTION TOLERANCES SHALL BE IN ACCORDANCE WITH ACI 347.
- 7. ALL MANHOLES SHALL BE SLAB BASE UNLESS SPECIFIED OTHERWISE. MANHOLE SHALL BE FABRICATED IN ACCORDANCE WITH CDOT STANDARD M-604-20.
- 8. COORDINATES FOR MANHOLES AND AREA INLETS ARE SHOWN AT THE CENTER OF THE STRUCTURE. COORDINATES FOR MOUNTABLE CURB INLETS ARE SHOWN ALONG THE FLOWLINE AT CENTER OF THE STRUCTURE.
- 9. ALL TYPE C AND D INLETS SHALL HAVE CLOSE MESH GRATES UNLESS SPECIFIED OTHERWISE
- 10. LENGTH OF FABRICATED BAR GRATING PANELS IS LENGTH OF BEARING BARS, WIDTH REFERS TO DIMENSION PERPENDICULAR TO BEARING BARS. CONTRACTOR IS RESPONSIBLE FOR VERIFYING PANEL DIMENSIONS GIVEN PRIOR TO FABRICATION.
- 11. TWO MANHOLE ACCESS POINTS ARE REQUIRED ON ALL TYPE R CURB INLETS GREATER THAN OR EQUAL TO TEN FEET IN LENGTH.
- 12. EPOXY COATED REBAR IS REQUIRED ON ALL DRAINAGE STRUCTURES.
- 13. THE CITY OF LONE TREE REQUIRES CLASS D CONCRETE FOR ALL DRAINAGE STRUCTURES.
- 14. ALL RCP STORM SEWERS MUST USE ASTM C443 WATERTIGHT GASKETS PER THE CURRENT DOUGLAS COUNTY AND URBAN DRAINAGE DESIGN CRITERIA.
- 15. ALL RCP SHALL BE CLASS III STORM SEWER PIPE UNLESS OTHERWISE SPECIFIED.
- 16. JOINT RESTRAINTS ARE REQUIRED FOR A MINIMUM OF THE LAST TWO PIPE JOINTS AND FLARED END SECTIONS OF AN RCP OUTFALL.
- 17. PRECAST INLETS AND MANHOLE BASES ARE NOT ALLOWED.
- 18. TOE WALLS ARE REQUIRED ON FLARED END SECTIONS AT THE OUTLET END OF CULVERTS AND STORM SEWER OUTFALLS. FILTER FABRIC IS REQUIRED UNDER ALL

DRAINAGE GENERAL NOTES

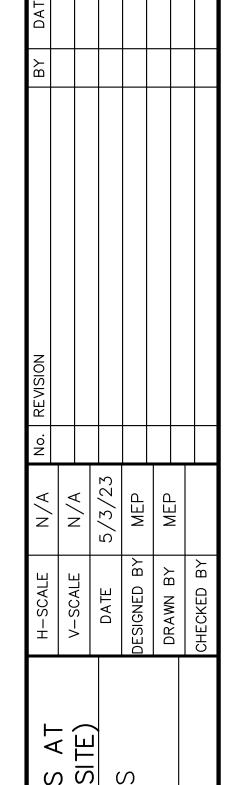
- 1. PROJECT FACILITIES ARE TO BE LOCATED BASED ON THE SURVEY COORDINATES, ELEVATIONS, DIMENSIONS, AND/OR GEOMETRIC DESIGN DATA PROVIDED ON THE DRAWINGS.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PROVIDING STABLE EXCAVATIONS AND TEMPORARY SLOPES AND FOR SATISFYING ALL APPLICABLE OSHA, FEDERAL, STATE, AND LOCAL REGULATIONS. TEMPORARY EXCAVATIONS SHALL PROVIDE, AT MINIMUM, THE TRENCH DIMENSIONS AND CLEARANCES SHOWN OR SPECIFIED. TEMPORARY CONSTRUCTION SLOPES SHALL BE SLOPED, SHORED, SHEETED, AND/OR BRACED IN ACCORDANCE WITH STABILITY REQUIREMENTS AND APPLICABLE REGULATIONS. AND SHALL BE NO STEEPER THAN THE SLOPES SHOWN OR SPECIFIED WITHOUT THE APPROVAL OF THE ENGINEER. ANY SUCH APPROVALS BY THE ENGINEER WILL NOT RELIEVE THE CONTRACTOR FROM SOLE RESPONSIBILITY FOR PROVIDING STABLE EXCAVATIONS AND TEMPORARY SLOPES.
- EXISTING FACILITIES NOT INDICATED TO BE REMOVED SHALL BE PROTECTED IN PLACE OR REMOVED AND REPLACED IN KIND, AS APPROVED BY ENGINEER.
- 4. THE WORK WILL TAKE PLACE IN AND AROUND DRAINAGE SWALES AND THE HAPPY CANYON CREEK, SUBJECT TO PERIODIC FLOODING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF SURFACE AND SUBSURFACE WATER DURING THE COURSE OF THE WORK. ANY DAMAGE TO THE WORK RESULTING FROM SURFACE FLOWS, BASE FLOWS, OR FLOOD FLOWS INCLUDING BUOYANCY FORCES ON PIPELINES AND OTHER FACILITIES SHALL BE CORRECTED BY THE CONTRACTOR AT THE CONTRACTOR'S SOLE COST. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND SATISFYING THE REQUIREMENTS OF ANY APPLICABLE PERMITS PERTAINING TO WATER AND EROSION CONTROL.
- 5. CONTACT THE ENGINEER FOR CLARIFICATIONS OF ANY ABBREVIATIONS SHOWN ON THE DRAWINGS.
- THE SITE WHERE THE WORK IS TO BE PERFORMED SHALL BE OVERLOT GRADED. TOPSOIL SHALL BE SPREAD IN OPEN SPACE AREAS TO A DEPTH OF APPROXIMATELY 6-INCHES. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED, AND SOME AREAS COVERED WITH EROSION CONTROL BLANKETS, UNLESS OTHERWISE DIRECTED IN THE PLANS OR BY THE ENGINEER. CARE SHALL BE TAKEN TO AVOID DISTURBING ANY OPEN SPACE AREAS EXCEPT THE MINIMUM NECESSARY TO PERFORM THE WORK. TOPSOIL IN ANY WORK AREAS OR ACCESS ROADS WITHIN THE OPEN SPACE SHALL BE STRIPPED AND STOCKPILED PRIOR TO THE WORK, PROTECTED FROM MIXING WITH ANY OTHER MATERIALS DURING THE WORK, AND REPLACED TO A LOOSE DEPTH OF 7- TO 8- INCHES (FINAL DEPTH AFTER SETTLEMENT SHALL BE 6- INCHES MINIMUM) AS THE WORK IS BEING COMPLETED. WHERE BLANKETS EXIST, THE MINIMUM AREA OF BLANKET TO ALLOW WORK TO PROGRESS SHALL BE REMOVED AND THEN THE REMOVED OR NEW BLANKET REPLACED AFTER UNDERLYING WORK IS COMPLETE (EXCEPT NO TEMPORARY BLANKET NEEDS TO BE REPLACED OVER ROCK OR COIR BLANKET SHOWN IN THE PLANS). JUST PRIOR TO REPLACEMENT OF TOPSOIL AFTER UNDERLYING WORK IS COMPLETE AND APPROVED. THE UNDERLYING SUBGRADE IN OPEN SPACE AREAS SHALL BE LOOSENED BY TILLING TO A DEPTH OF 12- INCHES UNTIL CLODS ARE NO LARGER THAN 3 INCHES, AND APPROVED BY THE ENGINEER. THIS NOTE ALSO APPLIES TO AREAS WHERE COIR MAT IS TO BE INSTALLED.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ANY COMPLETED WORK FROM DISTURBANCE OR DAMAGE DURING THE COURSE OF THE WORK. IF REQUESTED BY THE CONTRACTOR AND APPROVED BY THE OWNER, SIGNIFICANT COMPLETED SECTIONS OF THE WORK MAY BE ACCEPTED AS FINAL PRIOR TO THE COMPLETION OF THE ENTIRE PROJECT. ANY SUCH EARLY ACCEPTANCE WILL NEED TO BE IN WRITING BY THE ENGINEER AND OWNER AND THOSE PORTIONS OF THE WORK SHALL BE PROTECTED BY THE CONTRACTOR AGAINST VEHICLES RUNNING OVER THE AREA BY ENCIRCLING THE WORK WITH FLAGGING OR FENCING OR BY OTHER MEANS AGREED TO BY THE OWNER AND MAINTAINED BY THE CONTRACTOR UNTIL THE END OF THE PROJECT.
- ALL FINE GRADING REQUIRED TO CONSTRUCT DRAINAGE IMPROVEMENTS AND PROVIDE FINISHED GRADES ADJACENT TO IMPROVEMENTS SHALL BE DONE BY THE DRAINAGE CONTRACTOR AND SHALL BE CONSIDERED PART OF THE WORK, AND NOT PAID FOR SEPARATELY.
- ALL STORM SEWER IMPROVEMENTS (PUBLIC AND PRIVATE) INCLUDING, BUT NOT LIMITED TO, INLETS, PIPES, CULVERTS, CHANNELS, DITCHES, HYDRAULIC STRUCTURES, RIPRAP, DETENTION BASINS, FOREBAYS, MICROPOOLS, AND WATER QUALITY FACILITIES REQUIRE PERMITTING AND INSPECTIONS.

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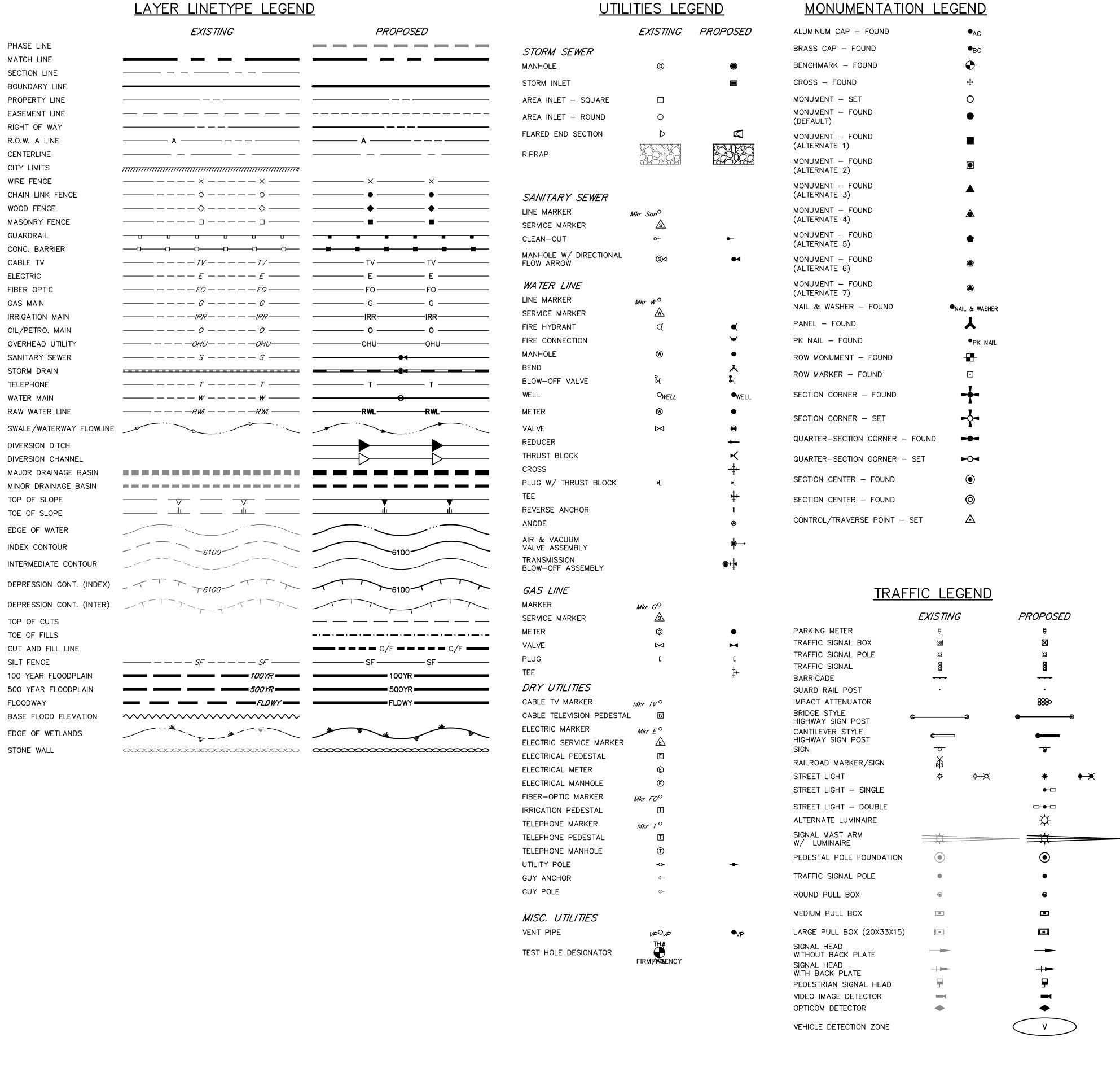
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JOB NO. **15950.04**

ENGINEER'S STATEMENT RE PREPARED UNDER MY SUPERVISION 36742 AARON L. CLUTTER, P.E. COLORADO P.E. 36742 Call before you dig. FOR AND ON BEHALF OF JR ENGINEER MACONIAC

Know what's below.



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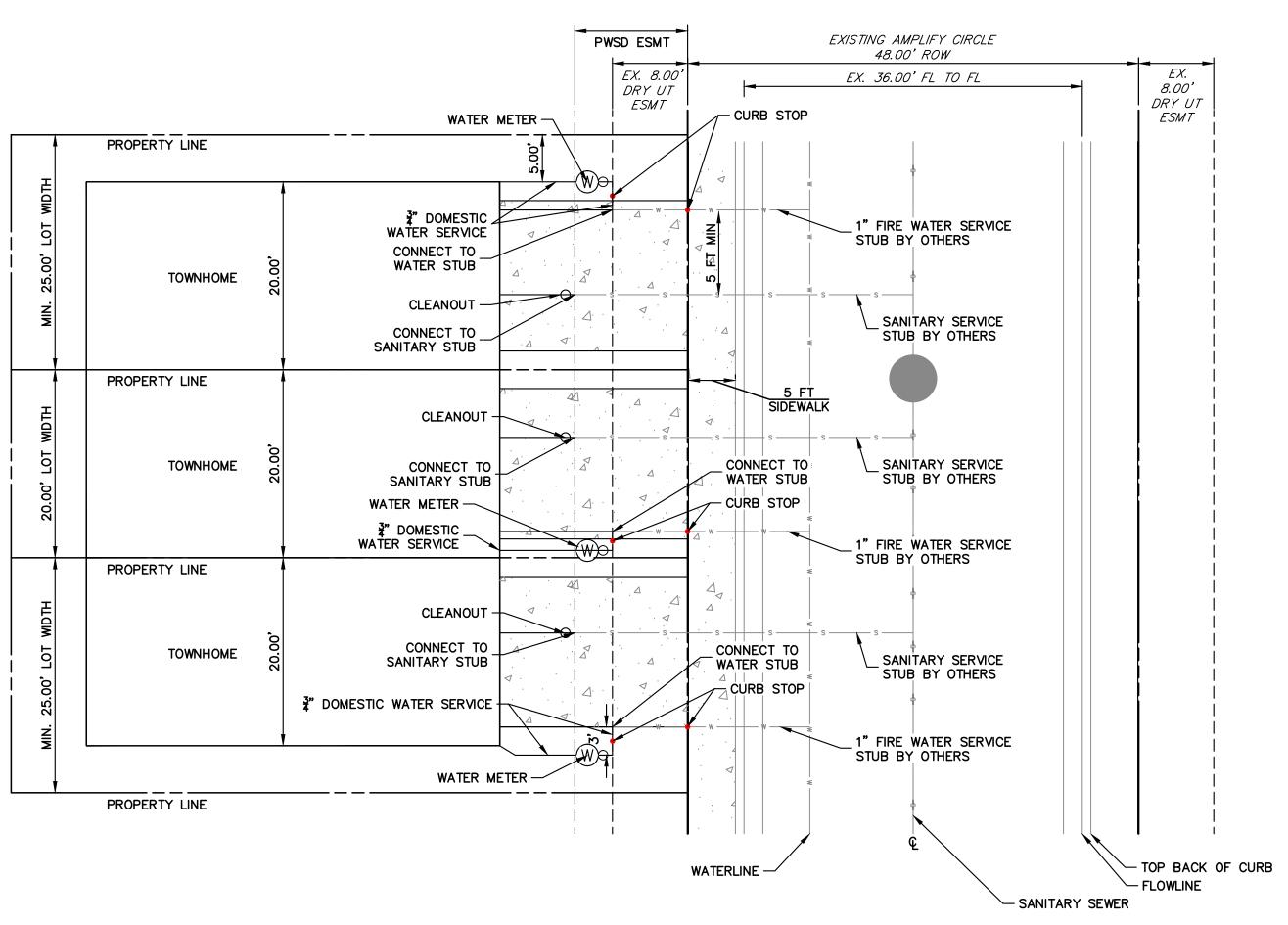
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AARON L. CLUTTER, P.E. COLORADO P.E. 36742

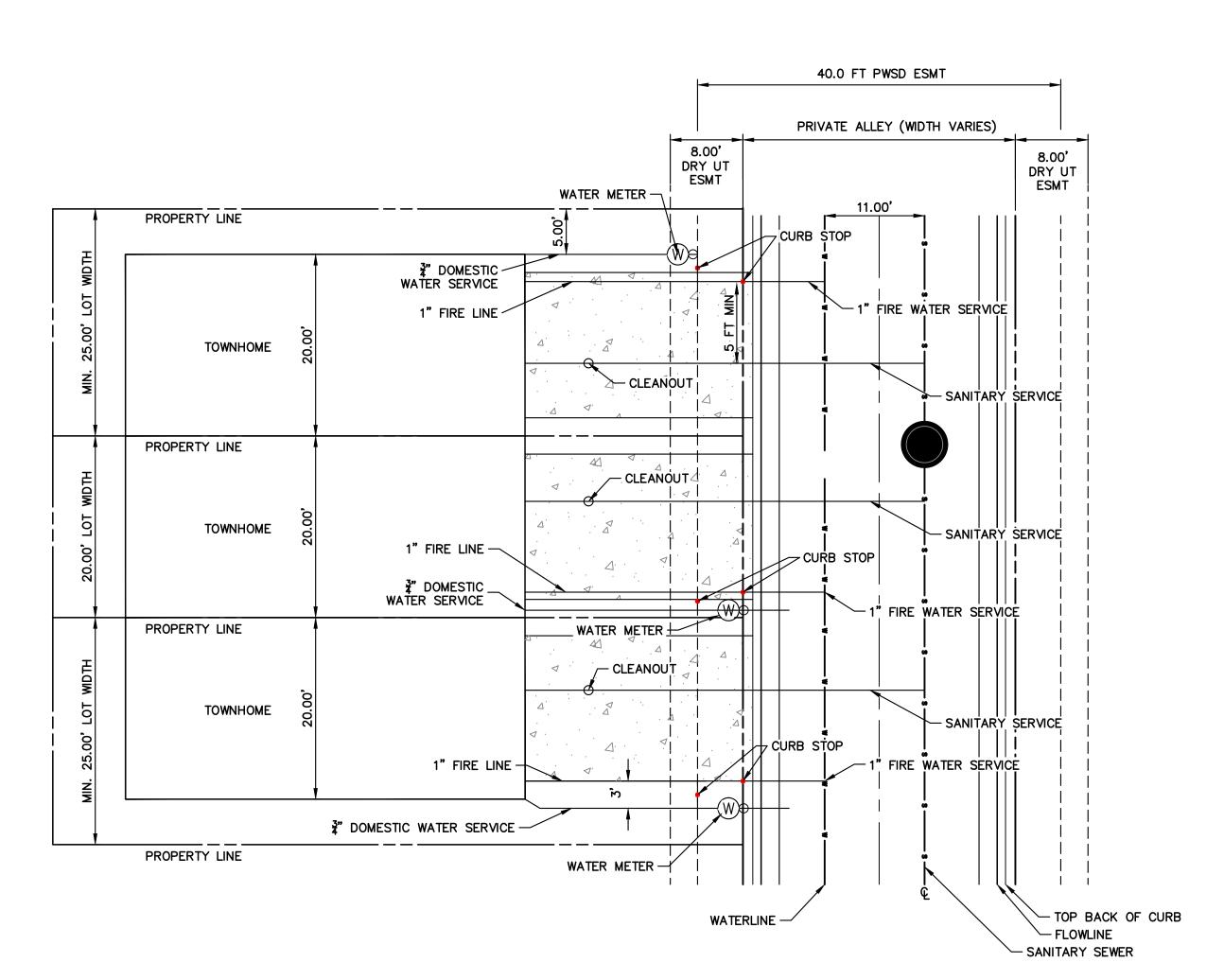
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SHEET 3 OF 17

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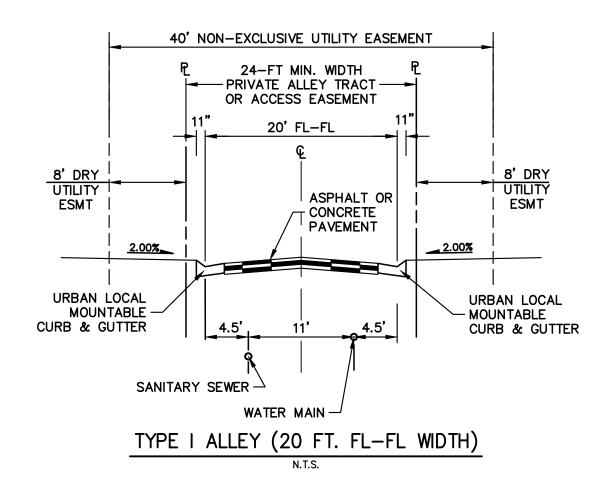


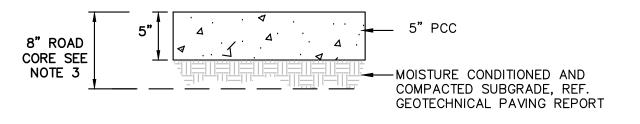
TYPICAL UTILITY SERVICE LOCATION (AMPLIFY CIRCLE) N.T.S.



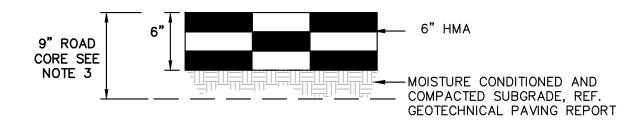
TYPICAL UTILITY SERVICE LOCATION (PRIVATE ALLEY)

N.T.S.

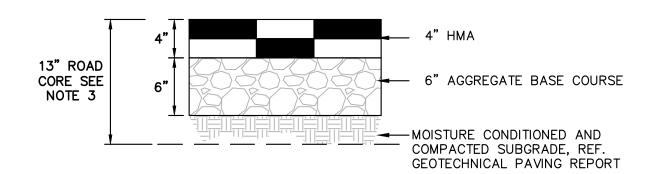




MINIMUM ALLEY PAVEMENT SECTION



MINIMUM ALLEY PAVEMENT SECTION N.T.S.



MINIMUM ALLEY PAVEMENT SECTION

1. MINIMUM PAVEMENT SECTIONS FOR BUDGETING PURPOSES ARE PRESENTED HEREON. SUBGRADE INVESTIGATION AND PAVEMENT DESIGNS ARE TO BE COMPLETED BY THE GEOTECHNICAL ENGINEER AFTER OVERLOT GRADING. 2. ASPHALT, BASE COURSE DEPTH, AND SUBGRADE

PRAPARTATION IS TO BE IN ACCORDANCE WITH GEOTECHNICAL PAVING RECOMMENDATIONS. 3. CONTOURS SHOWN WITHIN THIS PLAN SET ARE TO TOP OF PAVING. ROAD CORE IS TO EXTEND 3" BELOW BOTTOM OF PAVING AND ROAD BASE SECTION.

CITY OF LONE TREE
DATE
THESE CONSTRUCTION PLANS HAVE BEEN REVIEWED BY THE CITY OF LONE TREE FOR STREET AND DRAINAGE, SIGNAGE AND STRIPING IMPROVEMENTS ONLY.

ENGINEERING DIVISION ACCEPTANCE BLOCK

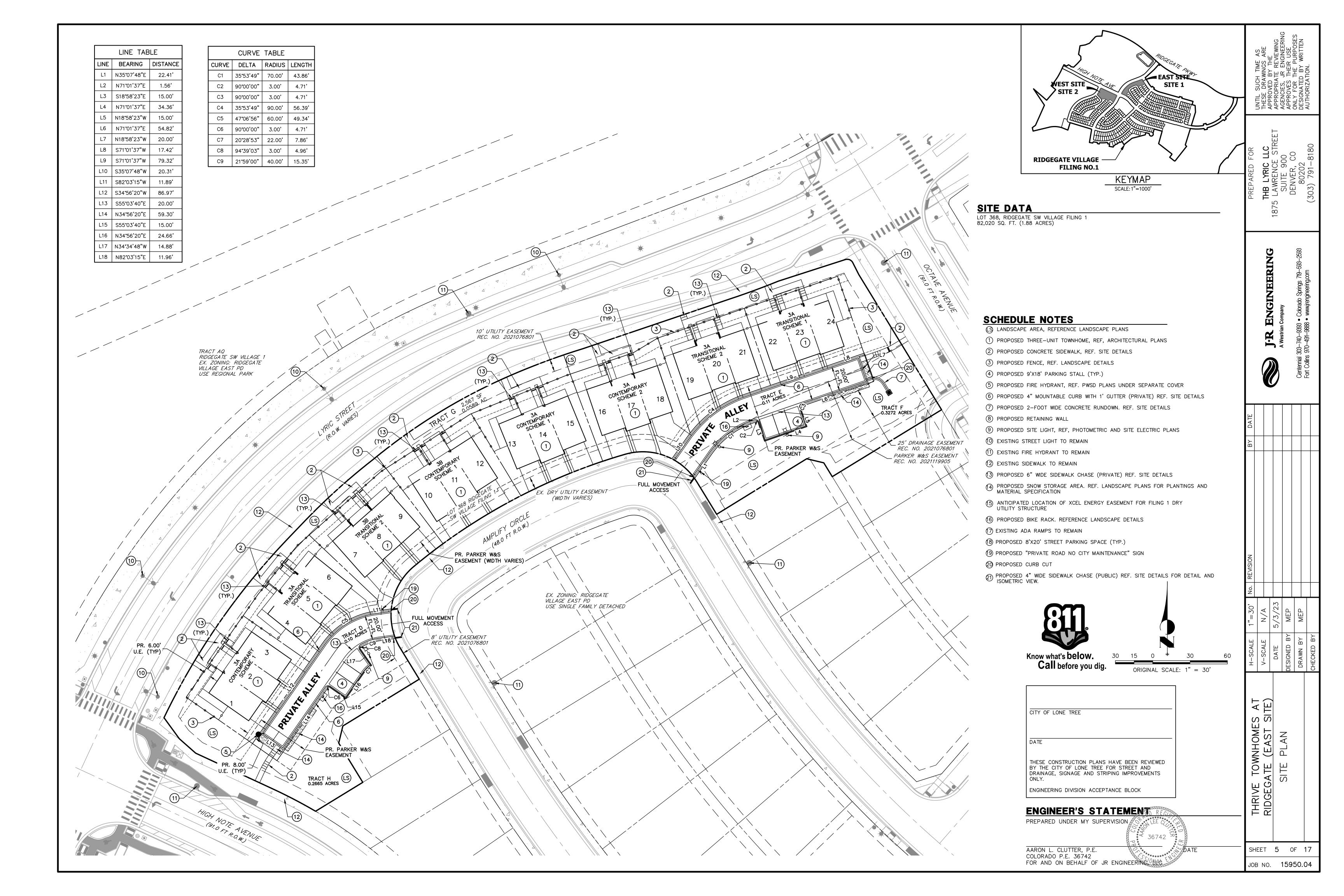
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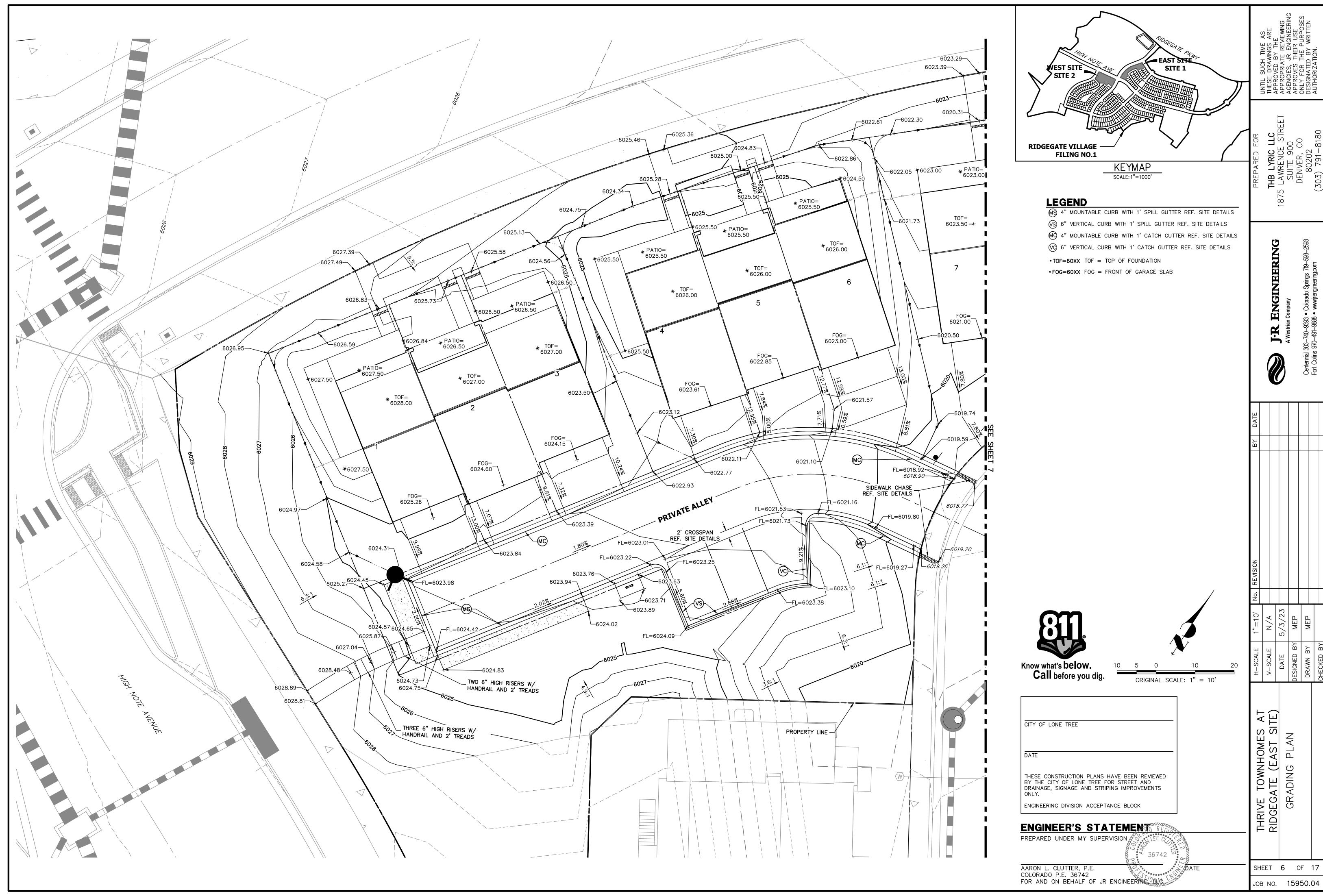
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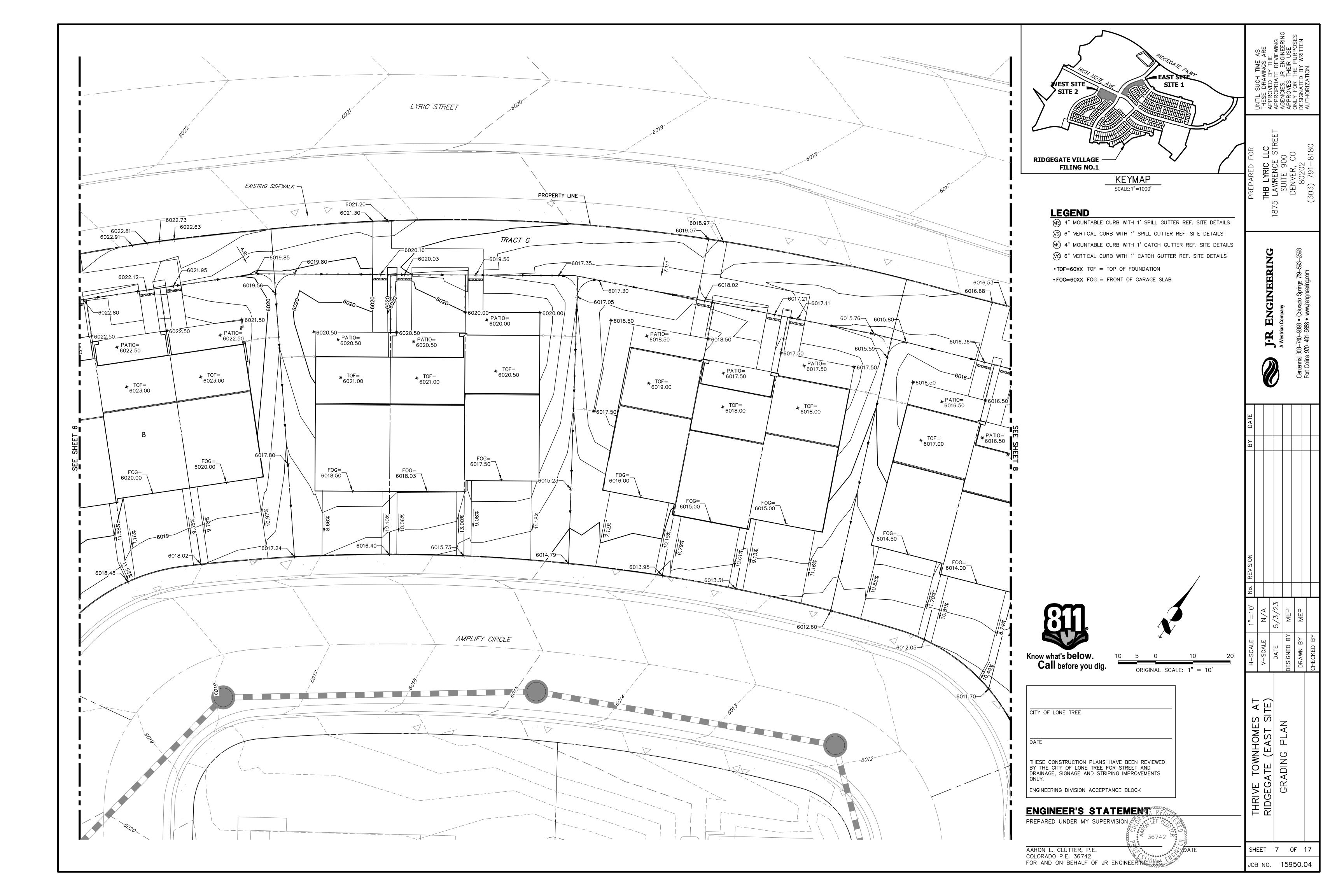
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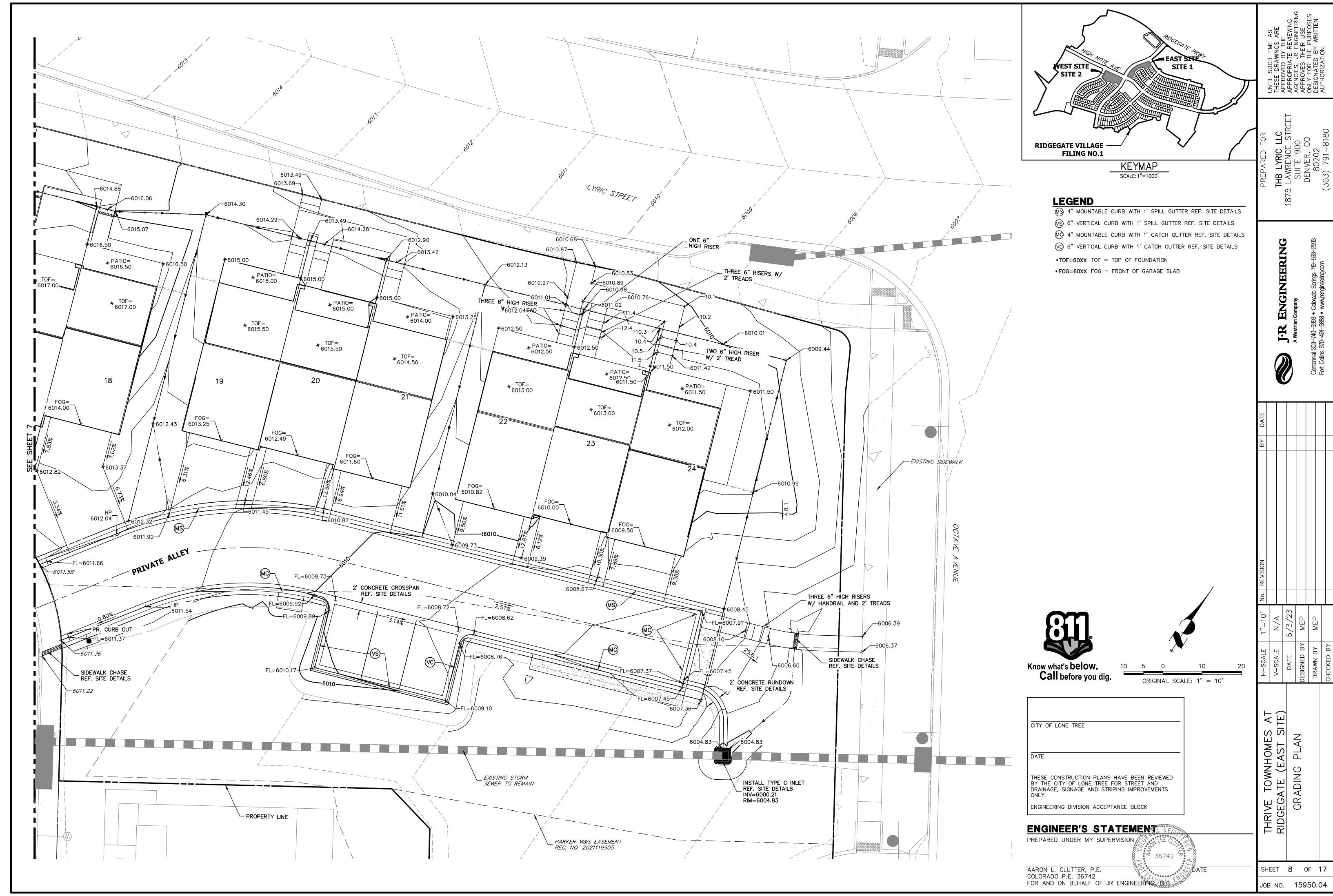
THRIVE TOWNHOMES AT RIDGEGATE (EAST SITE)
OT TYPICALS AND STREET CROSS SECTIONS S AND STREET SECTIONS

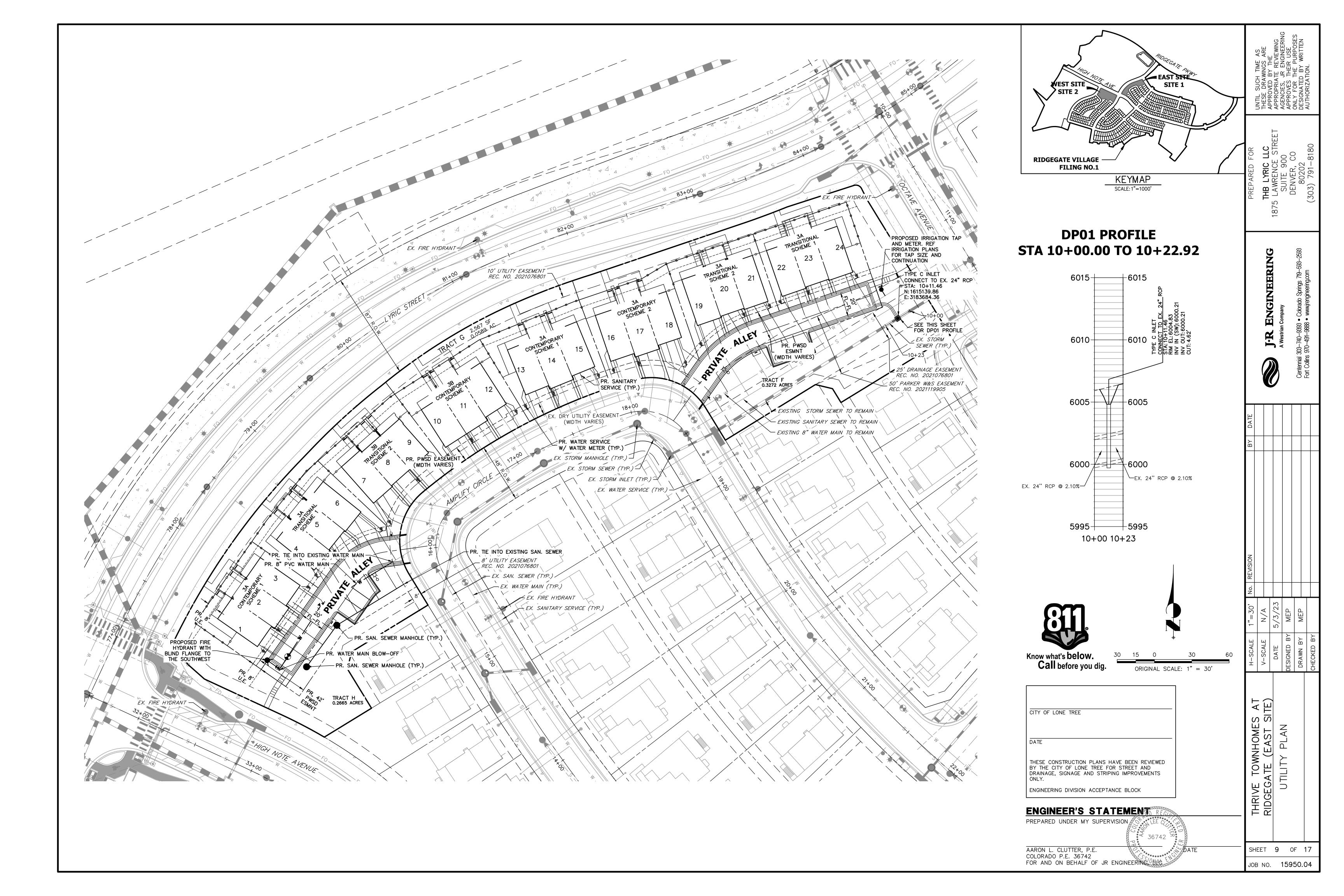
SHEET **4** OF **17** JOB NO. 15950.04

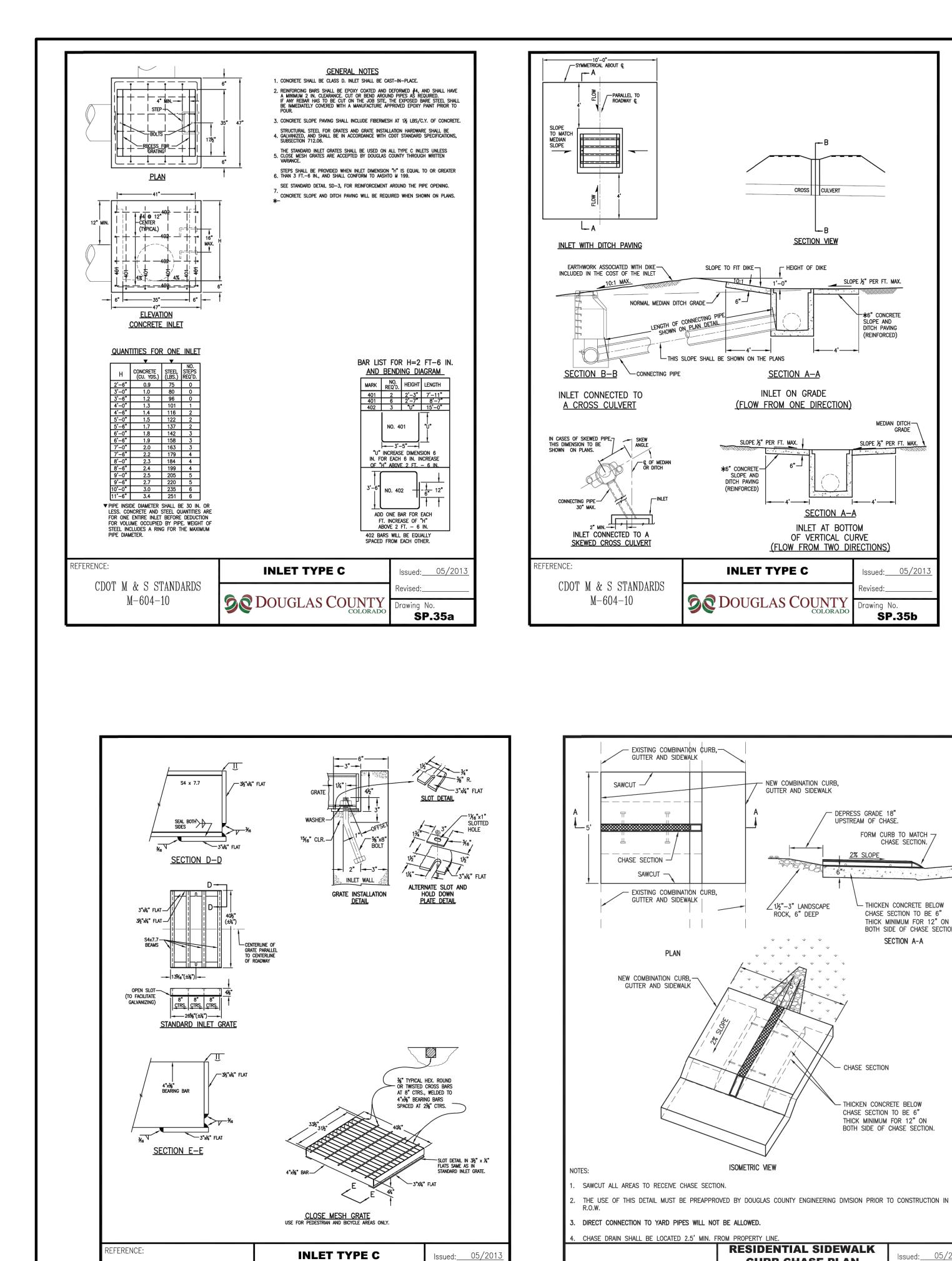












CDOT M & S STANDARDS

M-604-10

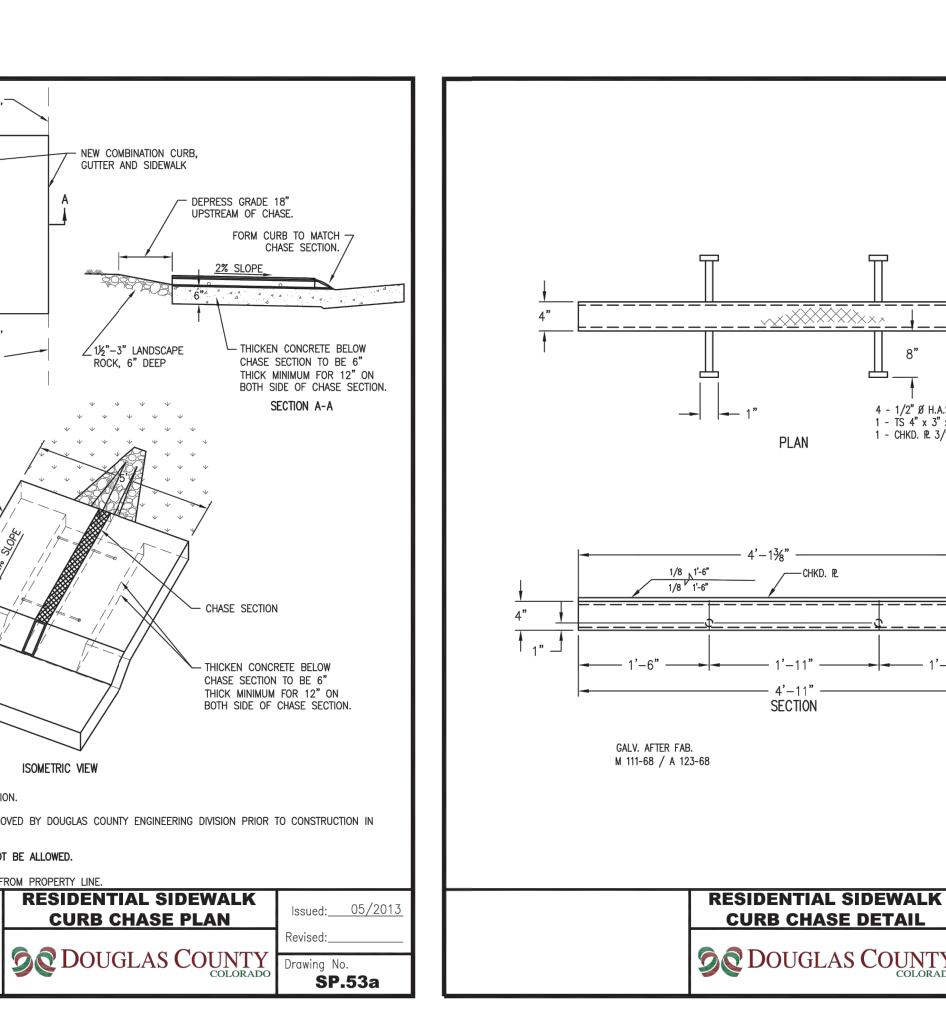
DOUGLAS COUNTY COLORADO

Drawing No. **SP.35c**

SIDEWALK CHASE

(FOR ATTACHED

SIDEWALK WITHIN ROW)



SECTION C-C

-- PLATE FLUSH WITH TOP OF WALK

-1/4"x3/4" F.H. MACHINE SCREWS

@ 2'4" O.C COUNTER SINK FLUSH

DATE: MARCH 2022

SIDEWALK CHASE

(PRIVATE)

— 6" #3 REBAR (4" LONG

W/ 2" HOOK), WELD TO

CHASE DRAIN

DETAILS

R24

DETAIL D

/--3/16" CLEARANCE

1/4" STEEL PLATE-

11/2"x11/2"x1/4" ANGLE IRON——

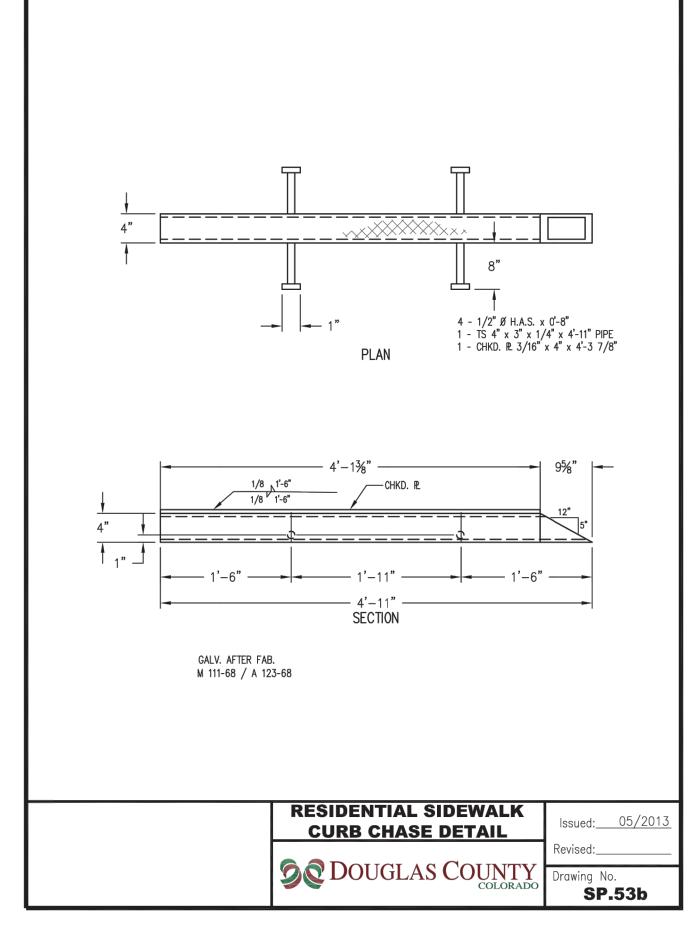
MULTIPLE CHASE

MAXIMUM 2 CHASES

DRILLED & TAPED FOR

1/4" MACHINE SCREWS

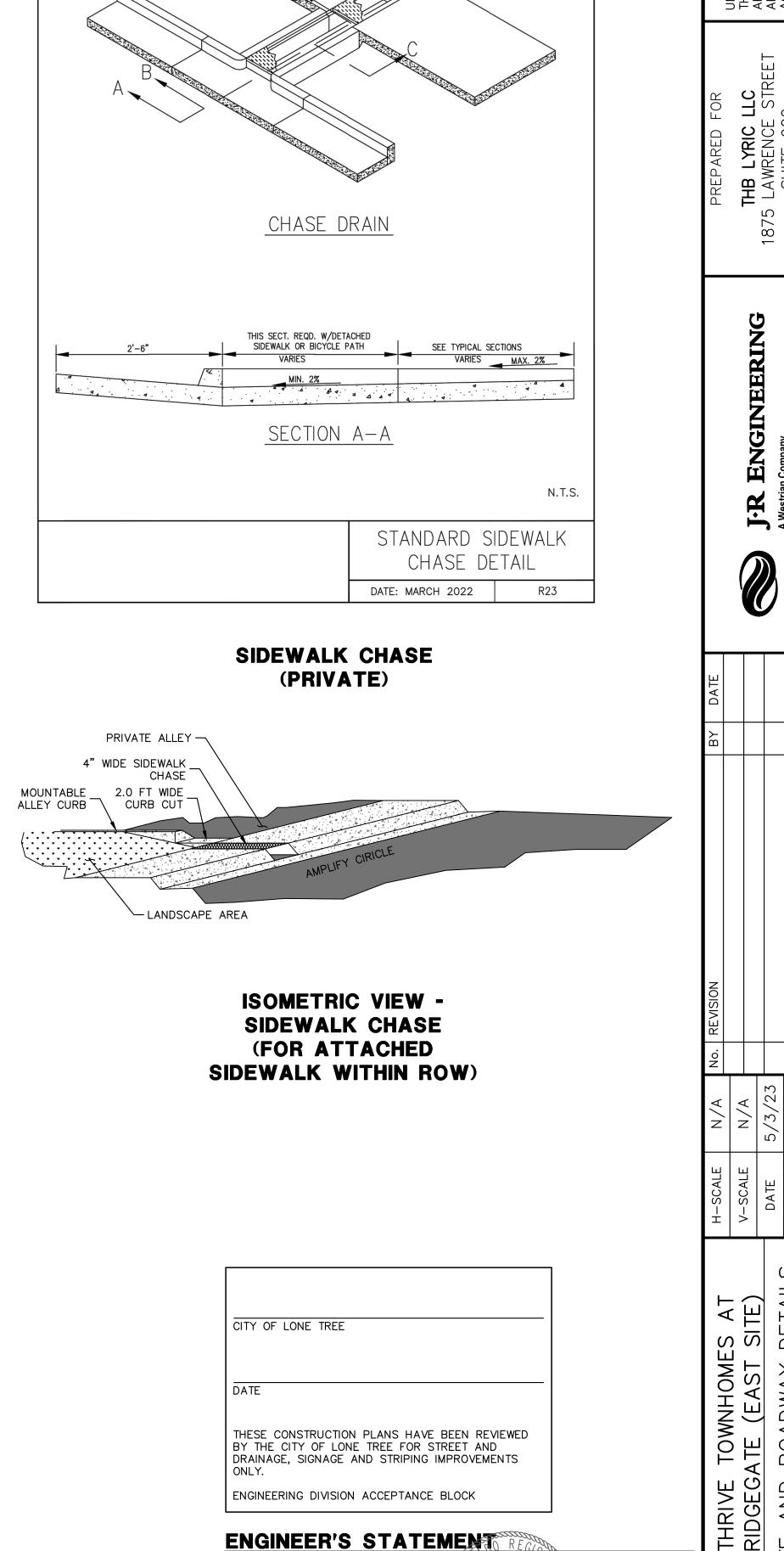
NON SLIP RAISED PATTERN



SIDEWALK CHASE

(FOR ATTACHED

SIDEWALK WITHIN ROW)



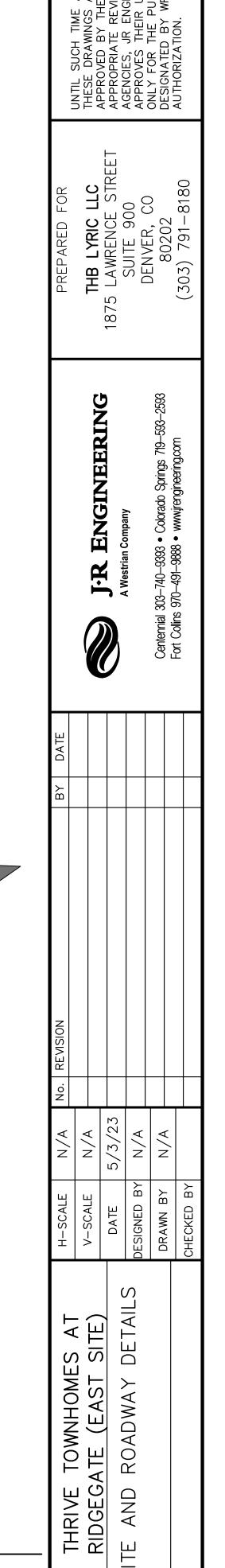
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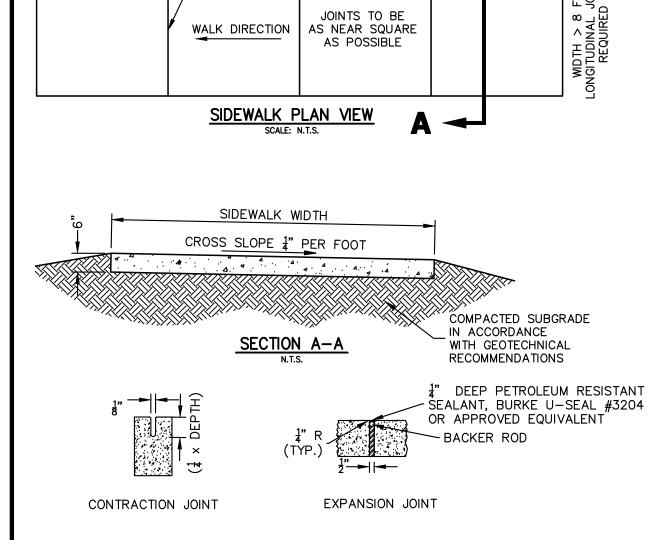
AARON L. CLUTTER, P.E.

COLORADO P.E. 36742

36742



SHEET 10 OF 17



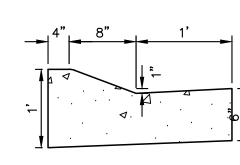
— CONTRACTION JOINT (TYP.)

NOTES:

- 1. EXPANSION JOINTS SHALL BE PLACED AT STRUCTURES, PCR'S AND
- EVERY 50 FEET MINIMUM.

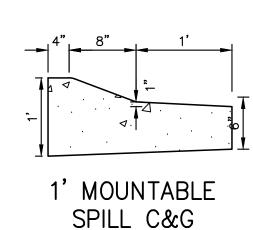
 2. EXPANSION JOINT FILLER SHALL MEET AASHTO M 213 CRITERIA AND BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- 3. SIDEWALK SURFACE SHALL HAVE A COARSE BROOM FINISH WITH STRIATIONS PERPENDICULAR TO THE DIRECTION OF TRAVEL UNLESS OTHERWISE NOTED IN CIVIL AND/OR ARCH PLANS.

SIDEWALK (PRIVATE) SCALE: N.T.S



1' MOUNTABLE CATCH

C&G SCALE: N.T.S. (PRIVATE)



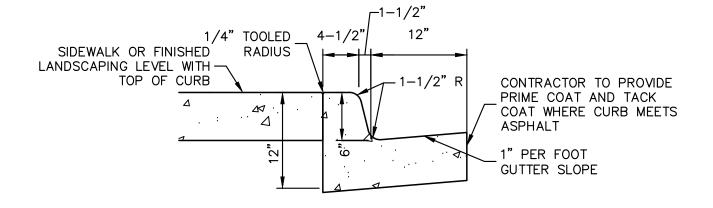
NOTES:

1. BASE OF CURB SHALL REST ON COMPACTED FILL IN ACCORDANCE WITH THE GEOTECHNICAL RECOMMENDATIONS.

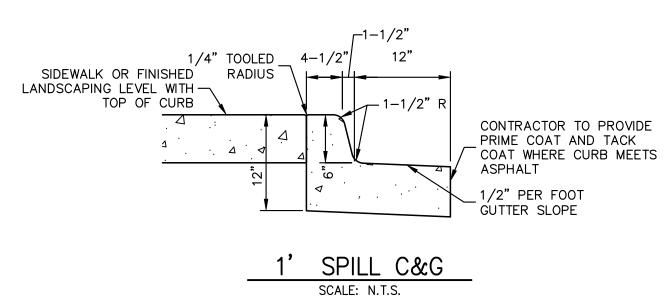
SCALE: N.T.S.

(PRIVATE)

- ALL EXPOSED CONCRETE SHALL HAVE A SACK FINISH. CONTROL JOINTS SHALL BE INSTALLED AT 10 FOOT MAXIMUM INTERVALS AND AT THE END OF CURB RETURNS.
- 4. EXPANSION JOINTS SHALL BE INSTALLED AT 500 FOOT MAXIMUM INTERVALS AND/OR TO MATCH LOCATION OF EXPANSION JOINTS IN PAVING.



CATCH C&G SCALE: N.T.S. (PRIVATE)



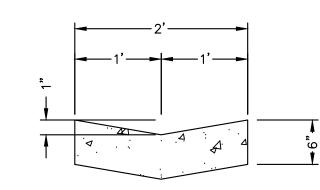
NOTES:

1. BASE OF CURB SHALL REST ON COMPACTED FILL IN ACCORDANCE

(PRIVATE)

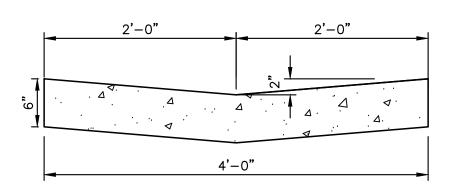
- WITH THE GEOTECHNICAL RECOMMENDATIONS.

 2. ALL EXPOSED CONCRETE SHALL HAVE A SACK FINISH.
- 3. CONTROL JOINTS SHALL BE INSTALLED AT 10 FOOT MAXIMUM INTERVALS AND AT THE END OF CURB RETURNS. 4. EXPANSION JOINTS SHALL BE INSTALLED AT 500 FOOT MAXIMUM INTERVALS AND/OR TO MATCH LOCATION OF EXPANSION JOINTS IN



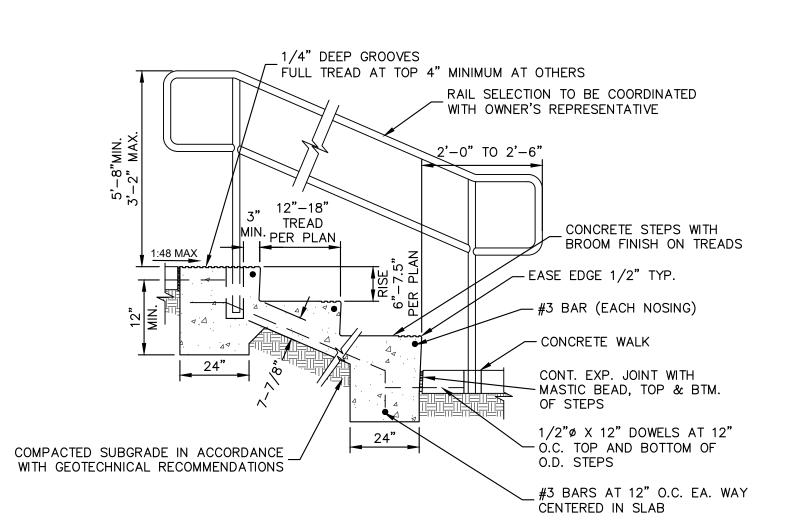
2' CONCRETE PAN SCALE: N.T.S.

(PRIVATE) CLASS B CONCRETE W/ FIBERMESH REINFORCEMENT AT 1-1.5 LBS PER CY



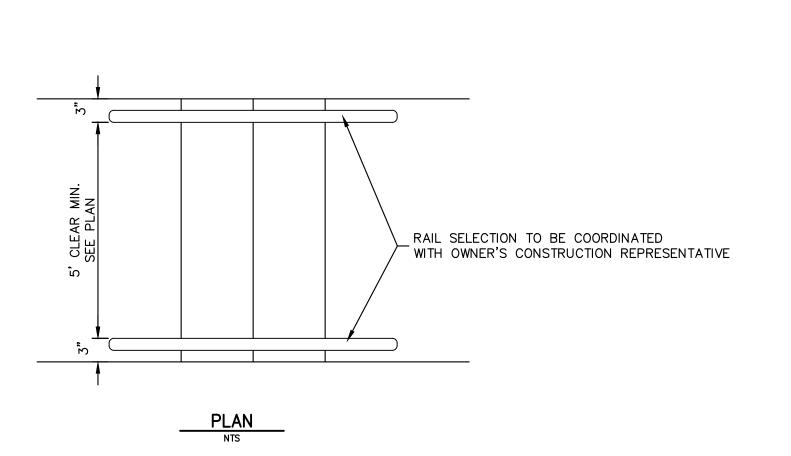
4' CONCETE PAN

SCALE: N.T.S. REINFORCING: #4's @ 18" O.C. EACH WAY (PRIVATE)



PEDESTRIAN RAILING NOTE

1. HANDRAILS WHERE INDICATED PER PLAN. SELECTION AND INSTALLATION TO BE COMPLIANT WITH ADA STANDARDS FOR ACCESSIBLE DESIGN, LATEST EDITION.



ELEVATION NTS CONCRETE STEP AND

> HANDRAIL SCALE: N.T.S. (PRIVATE)

> > CITY OF LONE TREE THESE CONSTRUCTION PLANS HAVE BEEN REVIEWED BY THE CITY OF LONE TREE FOR STREET AND DRAINAGE, SIGNAGE AND STRIPING IMPROVEMENTS

ENGINEER'S STATEMENT REG

36742

PREPARED UNDER MY SUPERVISION

ENGINEERING DIVISION ACCEPTANCE BLOCK

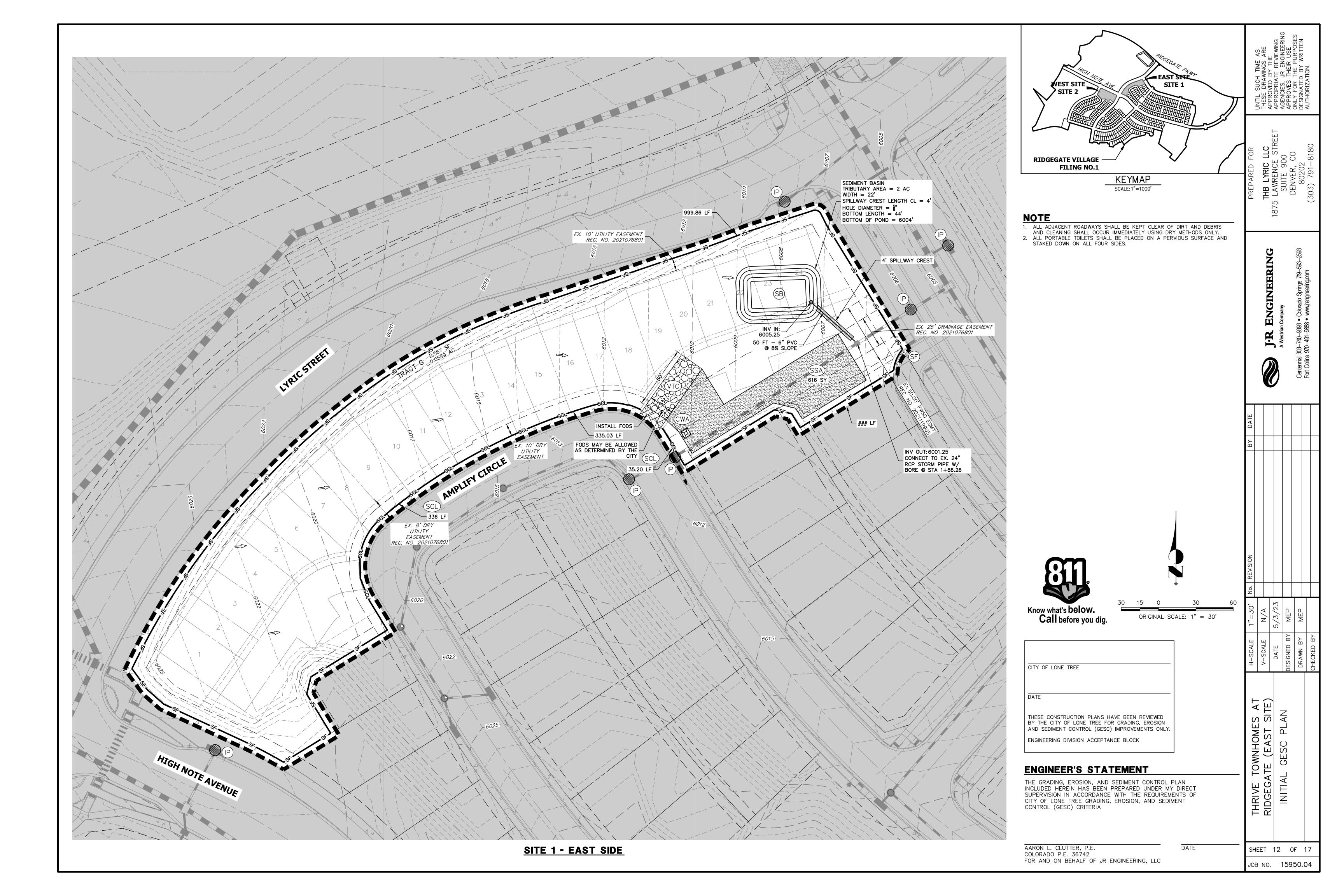
AARON L. CLUTTER, P.E. COLORADO P.E. 36742 FOR AND ON BEHALF OF JR ENGINEERING

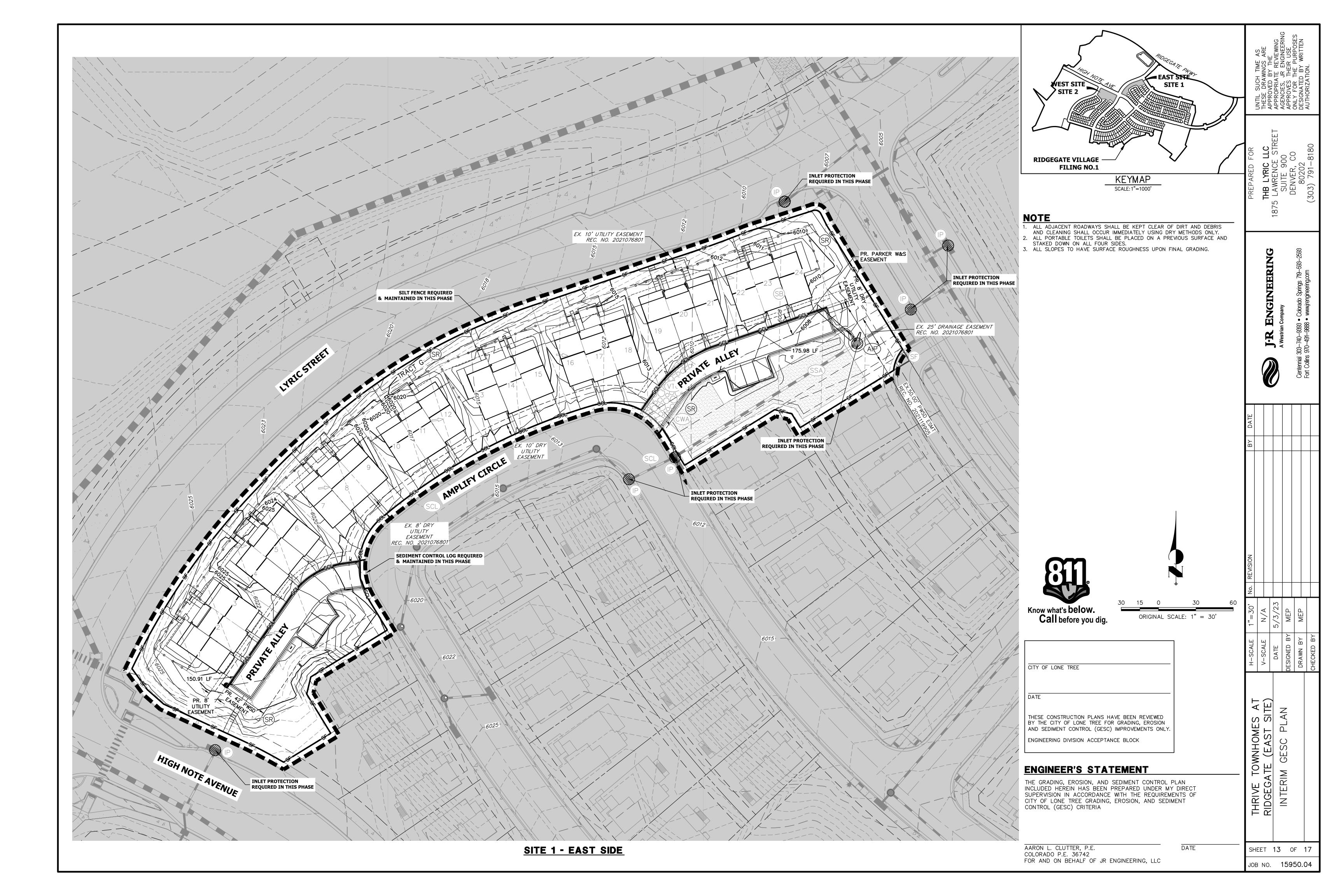
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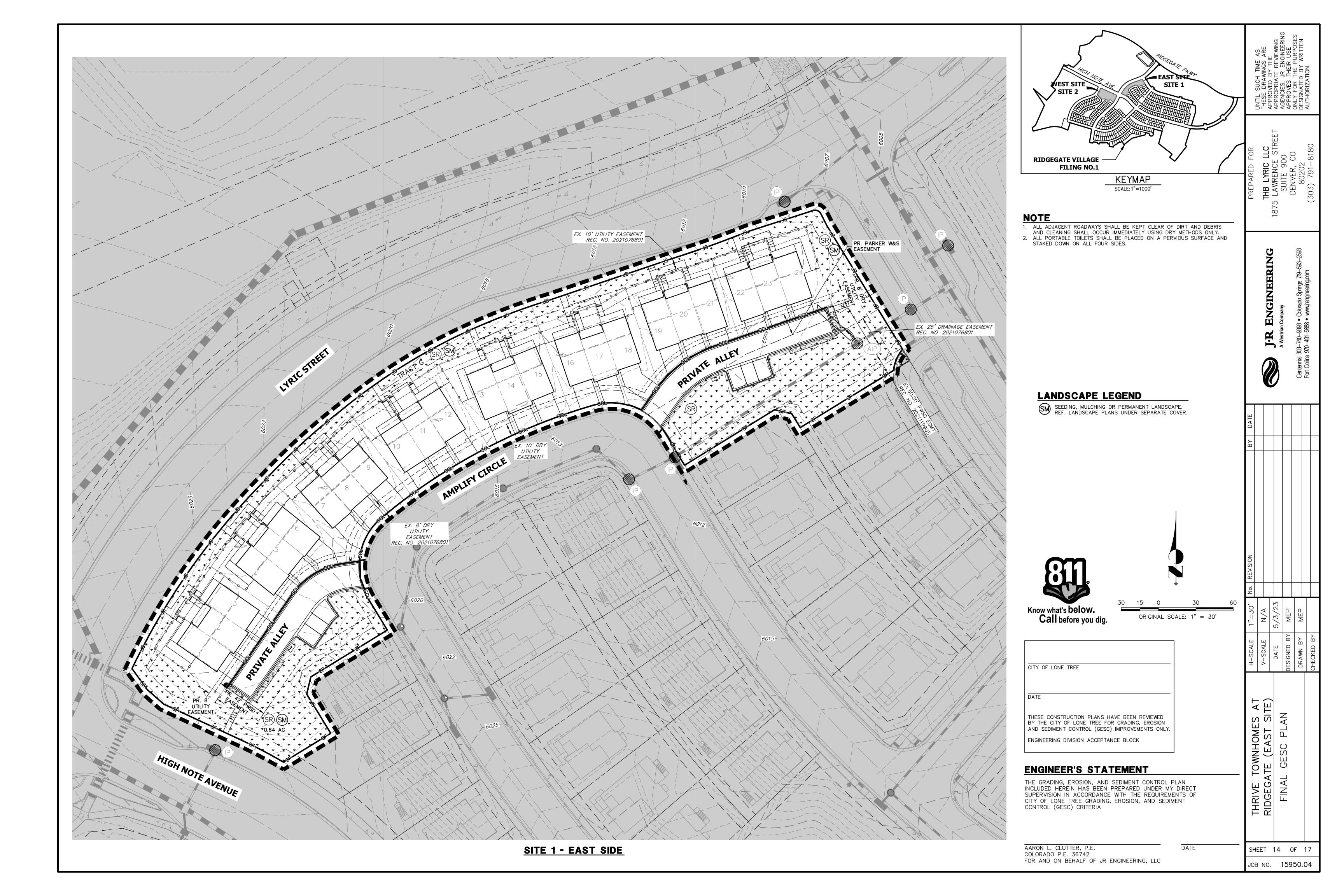
ENGINEERING

THRIVE TOWNHOMES RIDGEGATE (EAST SITE AND ROADWAY D \overline{S}

SHEET 11 OF 17









- PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION, HAS REVIEWED THE DOCUMENT AND FOUND IT IN GENERAL COMPLIANCE WITH THE CITY OF LONE TREE SUBDIVISION REGULATIONS AND/OR THE GRADING. EROSION AND SEDIMENT CONTROL (GESC) CRITERIA MANUAL. THE CITY OF LONE TREE ENGINEER, THROUGH ACCEPTANCE OF THIS OCUMENT, ASSUMES NO RESPONSIBILITY (OTHER THAN AS STATED ABOVE) FOR THE COMPLETENESS AND/OR ACCURACY OF THESE DOCUMENTS.
- . THE ADEQUACY OF THIS GESC PLAN LIES WITH THE ORIGINAL DESIGN ENGINEER.
- THE GESC PLAN SHALL BE CONSIDERED VALID FOR TWO (2) YEARS FROM THE DATE OF ACCEPTANCE BY THE CITY OF LONE TREE, AFTER WHICH TIME THE PLAN SHALL BE VOID AND WILL BE SUBJECT TO RE-REVIEW AND RE-ACCEPTANCE BY THE CITY OF LONE TREE.
- ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY THE CITY OF LONE TREE ENGINEERING DIVISION. THE CITY OF LONE TREE RESERVES THE RIGHT TO ACCEPT OR REJECT ANY SUCH MATERIALS AND WORKMANSHIP THAT DOES NOT CONFORM TO THE GESC MANUAL, GESC PLAN OR GESC PERMIT.
- THE PLACEMENT OF FROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPs) SHALL BE III
- ACCORDANCE WITH THE CITY OF LONE TREE ACCEPTED GESC PLAN AND THE CITY OF LONE TREE GESC MANUAL ANY VARIATION IN MATERIAL, TYPE OR LOCATION OF EROSION AND SEDIMENT CONTROL BMPs FROM THE CITY OF
- LONE TREE ACCEPTED GESC PLAN WILL REQUIRE APPROVAL FROM AN ACCOUNTABLE REPRESENTATIVE OF THE CITY OF LONE TREE ENGINEERING DIVISION. AFTER THE GESC PLAN HAS BEEN ACCEPTED, THE GESC PERMIT APPLIED FOR, FEES AND FISCAL SECURITY
- SUBMITTED TO THE CITY, AND THE GESC FIELD MANUAL OBTAINED AND REVIEWED, THE CONTRACTOR MAY INSTALL THE INITIAL—STAGE EROSION AND SEDIMENT CONTROL BMPs INDICATED ON THE ACCEPTED GESC PLAN.
- MEANS OF DEFINING THE LIMITS OF CONSTRUCTION, INCLUDING CONSTRUCTION LIMITS ADJACENT TO STREAM CORRIDORS AND OTHER AREAS TO BE PRESERVED. AFTER INSTALLATION OF THE INITIAL-STAGE EROSION AND SEDIMENT CONTROL BMPs, THE PERMITTEE SHALL CALL
- THE CITY OF LONE TREE CONSTRUCTION INSPECTOR AT (303) 662—8112 TO SCHEDULE A PRECONSTRUCTION MEETING AT THE PROJECT SITE. THE REQUEST SHALL BE MADE A MINIMUM OF THREE BUSINESS DAYS PRIOR TO THE REQUESTED MEETING TIME. NO CONSTRUCTION ACTIVITIES SHALL BE PLANNED WITHIN 24 HOURS AFTER THE DESCENSE PLANNED WITHIN 24 HOURS AFTER THE PRECONSTRUCTION MEETING. 10. THE OWNER OR OWNER'S REPRESENTATIVE, THE GESC MANAGER, THE GENERAL CONTRACTOR, AND THE GRADING SUBCONTRACTOR, IF DIFFERENT FROM THE GENERAL CONTRACTOR, MUST ATTEND THE PRECONSTRUCTION MEETING. IF ANY OF THE REQUIRED PARTICIPANTS FAIL TO ATTEND THE PRECONSTRUCTION MEETING, OR IF THE GESC FIELD MANUAL IS NOT ON SITE, OR IF THE INSTALLATION OF THE INITIAL BMPs ARE NOT APPROVED BY THE CITY OF LONE TREE GESC INSPECTOR, THE APPLICANT WILL HAVE TO PAY A REINSPECTION FEE, ADDRESS ANY PROBLEMS WITH

BMP INSTALLATION, AND CALL TO RESCHEDULE THE MEETING, WITH A CORRESPONDING DELAY IN THE START OF CONSTRUCTION. THE CITY OF LONE TREE STRONGLY ENCOURAGES THE APPLICANT TO HAVE THE ENGINEER OF

RECORD AT THE PRECONSTRUCTION MEETING. FAILURE OF THE ENGINEER OF RECORD TO ATTEND MAY RESULT IN A CONSTRUCTION SHALL NOT BEGIN UNTIL THE CITY OF LONE TREE GESC INSPECTOR APPROVES THE INSTALLATION OF THE INITIAL BMPs AND THE APPROVED GESC PERMIT IS PICKED UP FROM THE CITY AND IS IN-HAND ON THE SITE.

THE COMPLETED PERMIT WILL BE AVAILABLE WITHIN 24-HOURS AFTER THE INSTALLATION OF THE INITIAL BMPs ARE

- 12. THE GESC MANAGER SHALL STRICTLY ADHERE TO THE CITY OF LONE TREE—APPROVED LIMITS OF CONSTRUCTION AT ALL TIMES. THE CITY OF LONE TREE ENGINEERING DIVISION MUST APPROVE ANY CHANGES TO THE LIMITS OF CONSTRUCTION AND, AT THE DISCRETION OF THE ENGINEERING DIVISION, ADDITIONAL EROSION/SEDIMENT CONTROLS MAY BE REQUIRED IN ANY ADDITIONAL AREAS OF CONSTRUCTION.
- 3. THE MAXIMUM AREA OF CONSTRUCTION SHALL BE LIMITED TO 40 ACRES (70 ACRES IF APPROVED FOR SOIL MITIGATION OPERATIONS) TO REDUCE THE AMOUNT OF LAND DISTURBED AT ANY ONE TIME. LARGER SITES SHALL BE DIVIDED INTO PHASES THAT ARE EACH 40 (OR 70) ACRES OR LESS IN SIZE, THESE PROJECTS SHALL CONDUCT CITY OF LONE TREE AT THE START AND COMPLETION OF EACH PHASE SHALL BE CONDUCTED IN ACCORDANCE WITH THE PROCEDURES OUTLINED IN THE GESC MANUAL AND/OR GESC FIELD MANUAL.
- 14. PRIOR TO ACTUAL CONSTRUCTION, THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES. FOR INFORMATION, CONTACT THE DENVER INTER-UTILITY GROUP AT 1-800-922-1987 OR FAX AT (303) 534-6700.
- 15. NATURAL VEGETATION SHALL BE RETAINED AND PROTECTED WHEREVER POSSIBLE. EXPOSURE OF SOIL TO EROSION BY REMOVAL OR DISTURBANCE OF VEGETATION SHALL BE LIMITED TO THE AREA REQUIRED FOR IMMEDIATE CONSTRUCTION OPERATIONS.
- 16. THE GESC PERMIT SHALL BE VALID FOR A PERIOD OF ONE (1) YEAR, UNLESS EXTENDED.
- 17. A COPY OF THE GESC PERMIT, ACCEPTED GESC PLANS AND THE GESC FIELD MANUAL SHALL BE ON SITE AT ALL 18. THE GESC MANAGER SHALL BE RESPONSIBLE FOR ENSURING THAT THE SITE REMAINS IN COMPLIANCE WITH THE
- GESC PERMIT AND SHALL BE THE PERMITTEE'S CONTACT PERSON WITH THE CITY FOR ALL MATTERS PERTAINING TO THE GESC PERMIT. THE GESC MANAGER SHALL BE PRESENT AT THE SITE THE MAJORITY OF THE TIME AND SHALL BE AVAILABLE THROUGH A 24-HOUR CONTACT NUMBER. IN THE EVENT THAT THE CONTRACTOR'S GESC MANAGER IS NOT ON SITE AND CANNOT BE REACHED DURING A VIOLATION, THE ALTERNATE GESC MANAGER SHALL BE CONTACTED. IF NEITHER THE GESC MANAGER NOR ALTERNATE GESC MANAGER CAN BE CONTACTED DURING ANY
- 19. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE THROUGH THE CITY OF LONE TREE-APPROVED ACCESS POINT. A VEHICLE TRACKING CONTROL PAD IS REQUIRED AT ALL ACCESS POINTS ON THE SITE. ADDITIONAL STABILIZED CONSTRUCTION ENTRANCES MAY BE ADDED WITH AUTHORIZATION FROM THE CITY OF LONE TREE
- 20. THE GESC MANAGER IS RESPONSIBLE FOR CLEANUP OF SEDIMENT OR CONSTRUCTION DEBRIS TRACKED ONTO ADJACENT PAVED AREAS. PAVED AREAS INCLUDING STREETS ARE TO BE KEPT CLEAN THROUGHOUT BUILD-OUT AND SHALL BE CLEANED, WITH A STREET SWEEPER OR SIMILAR DEVICE, AT FIRST NOTICE OF ACCIDENTAL TRACKING OR AT THE DISCRETION OF THE CITY OF LONE TREE GESC INSPECTOR. STREET WASHING IS NOT ALLOWED. THE CITY OF LONE TREE RESERVES THE RIGHT TO REQUIRE ADDITIONAL MEASURES TO ENSURE AREA STREETS ARE KEPT FREE OF SEDIMENT AND/OR CONSTRUCTION DEBRIS.

√(DETAIL 24)

GROUND SURFACE -

12" MIN

8'x8' MIN.

OR AS REQUIRED TO CONTAIN WASTE CONCRETE

SECTION B SCALE: 1" = 10'-0"

2. THE CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.

VEHICLE TRACKING CONTROL (DETAIL 24) IS REQUIRED AT THE ACCESS POINT.

5. EXCAVATED MATERIAL SHALL BE UTILIZED IN PERIMETER BERM CONSTRUCTION.

THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.

AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN APPROVED WASTE SITE.

WHEN THE CONCRETE WASHOUT AREA IS REMOVED, THE DISTURBED AREA SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.

4. INSPECT WEEKLY, DURING AND AFTER ANY STORM EVENT.

CWA CONCRETE WASHOUT AREA 4

CONCRETE WASHOUT AREA MAINTENANCE NOTES

4. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.

CONCRETE WASHOUT AREA INSTALLATION NOTES

SEE PLAN VIEW FOR:
 LOCATIONS OF CONCRETE WASHOUT AREA

- APPROVED EROSION AND SEDIMENT CONTROL BMPS SHALL BE MAINTAINED AND KEPT IN GOOD REPAIR FOR DURATION OF THIS PROJECT. AT A MINIMUM, THE GESC MANAGER SHALL INSPECT ALL BMPS IN ACCORDANCE WITH THE ACCEPTED GESC PLAN AND GESC MANUAL. ALL NECESSARY MAINTENANCE AND REPAIR ACTIVITIES SHALL BE COMPLETED WITHIN 48 HOURS FOR LEVEL III VIOLATIONS, AND IMMEDIATELY FOR LEVEL II VIOLATIONS, OR AS RECTED BY A CITY OF LONE TREE GESC INSPECTOR. ACCUMULATED SEDIMENT AND CONSTRUCTION DEBRIS SHALL BE REMOVED AND PROPERLY DISPOSED.
- 22. STRAW BALES ARE NOT A GESC-ACCEPTED SEDIMENT CONTROL BMP.
- 23. TOPSOIL SHALL BE STRIPPED AND STOCKPILED IN THE LOCATION SHOWN ON THE ACCEPTED GESC PLAN. THE GESC MANAGER SHALL SCHEDULE AN INSPECTION WITH THE CITY OF LONE TREE GESC INSPECTOR AS SOON AS TOPSOIL STRIPPING IS COMPLETED. FAILURE TO SCHEDULE SUCH INSPECTION OR FAILURE TO STOCKPILE TOPSOIL SHALL RESULT IN ISSUANCE OF A STOP WORK ORDER. THE STOP WORK ORDER SHALL REMAIN IN PLACE UNTIL TOPSOIL IS STOCKPILED ON SITE OR APPROPRIATE SOIL AMENDMENTS ARE STOCKPILED ON SITE.
- 24. THE ACCEPTED GESC PLAN MAY REQUIRE CHANGES OR ALTERATIONS AFTER APPROVAL TO MEET CHANGING SITE OR PROJECT CONDITIONS OR TO ADDRESS INEFFICIENCIES IN DESIGN OR INSTALLATION. THE GESC MANAGER SHALL OBTAIN PRIOR APPROVAL FROM THE DESIGN ENGINEER AND THE CITY OF LONE TREE ENGINEERING FOR ANY
- 25. LINING OF TEMPORARY SWALES AND DITCHES SHALL BE IN ACCORDANCE WITH THE GESC CRITERIA MANUAL.
- 26. NO PERMANENT EARTH SLOPES GREATER THAN 3:1 SHALL BE ALLOWED.
- 27. ANY SETTLEMENT OR SOIL ACCUMULATIONS BEYOND THE LIMITS OF CONSTRUCTION DUE TO GRADING OR EROSION SHALL BE REPAIRED IMMEDIATELY BY THE GESC MANAGER, THE GESC MANAGER SHALL BE HELD RESPONSIBLE FOR OBTAINING ACCESS RIGHTS TO ADJACENT PROPERTY, IF NEEDED, AND REMEDIATING ANY ADVERSE IMPACTS TO ADJACENT WATERWAYS, WETLANDS, PROPERTIES, ETC. RESULTING FROM WORK DONE AS PART OF THIS PROJECT.
- 28. A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
- 29. SOILS THAT WILL BE STOCKPILED FOR MORE THAN THIRTY (30) DAYS SHALL BE SEEDED AND MULCHED WITHIN FOURTEEN (14) DAYS OF STOCKPILE CONSTRUCTION, NO STOCKPILES SHALL BE PLACED WITHIN ONE HUNDRED (100) FEET OF A DRAINAGE WAY UNLESS APPROVED BY THE CITY OF LONE TREE ENGINEERING DIVISION.
- ALL CHEMICAL OR HAZARDOUS MATERIAL SPILLS WHICH MAY ENTER WATERS OF THE STATE OF COLORADO, WHICH INCLUDE BUT ARE NOT LIMITED TO, SURFACE WATER, GROUND WATER AND DRY GULLIES OR STORM SEWER LEADING TO SURFACE WATER, SHALL BE IMMEDIATELY REPORTED TO THE CDPHE PER CRS 25-8-601, AND THE CITY OF LONE TREE. RELEASES OF PETROLEUM PRODUCTS AND CERTAIN HAZARDOUS SUBSTANCES LISTED UNDER THE EDERAL CLEAN WATER ACT (40 CFR PART 116) MUST BE REPORTED TO THE NATIONAL RESPONSE CENTER AS WELL AS THE CDPHE. THE APPLICABLE CONTACT INFORMATION (SEE APPENDIX A, DOUGLAS COUNTY GESC MANUAL - SUBJECT TO CHANGE) IS: COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT TOLL-FREE 24-HOUR ENVIRONMENTAL EMERGENCY SPILL REPORTING LINE 1-877-518-5608: NATIONAL RESPONSE CENTER (24-HOUR NATIONAL SPILL RESPONSE) 1-800-424-8802; CITY OF LONE TREE PUBLIC WORKS (303) 662-8112. SPILLS THAT POSE AN IMMEDIATE RISK TO HUMAN LIFE SHALL BE REPORTED TO 911. FAILURE TO REPORT AND CLEAN UP ANY SPILL SHALL RESULT IN ISSUANCE OF A STOP WORK ORDER.
- . ALL WORK ON SITE SHALL STAY A MINIMUM OF ONE HUNDRED (100) FEET AWAY FROM ANY DRAINAGE WAY, WETLAND, ETC. UNLESS OTHERWISE NOTED ON AN ACCEPTED CITY OF LONE TREE GESC PLAN.
- ALL PROJECTS SHALL BALANCE EARTHWORK QUANTITIES ON SITE. IN THE EVENT A VARIANCE IS GRANTED BY THE CITY ENGINEER TO ALLOW IMPORT OR EXPORT OF MATERIAL, THE PERMITEE SHALL HAVE A GESC PERMIT IN HAND FOR THE IMPORT OR EXPORT SITE PRIOR TO ANY TRANSPORTING OF EARTHEN MATERIAL. THE GESC MANAGER SHALL NOTIFY THE CITY OF LONE TREE GESC INSPECTOR OF THE LOCATION AND GESC PERMIT NUMBERS OF BOTH
- THE EXPORTING AND IMPORTING SITES PRIOR TO ANY IMPORT/EXPORT OPERATIONS. 33. THE USE OF REBAR, STEEL STAKES OR STEEL FENCE POSTS FOR STAKING OR SUPPORT OF ANY EROSION OR SEDIMENT CONTROL BMP IS PROHIBITED (EXCEPT STEEL TEE-POSTS FOR USE IN SUPPORTING CONSTRUCTION
- . THE CLEANING OF CONCRETE DELIVERY TRUCK CHUTES IS RESTRICTED TO APPROVED CONCRETE WASH OUT LOCATIONS ON THE JOB SITE. THE DISCHARGE OF WATER CONTAINING WASTE CONCRETE TO THE STORM SEWER SYSTEM IS PROHIBITED. ALL CONCRETE WASTE SHALL BE PROPERLY CLEANED UP AND DISPOSED AT AN
- 35. ALL DEWATERING ON SITE SHALL BE COORDINATED WITH A CITY OF LONE TREE GESC INSPECTOR AND BE FREE OF SEDIMENT IN ACCORDANCE WITH THE GESC CRITERIA MANUAL.
- ALL PERMANENT INSTALLATIONS OF PIPES FOR STORM SEWERS, SLOPE DRAINS, AND CULVERTS, TOGETHER WITH RIPRAP APRONS OR OTHER INLET AND OUTLET PROTECTION, REQUIRE INSPECTION BY THE CITY OF LONE TREE ENGINEERING (SEPARATE FROM GESC INSPECTIONS).
- 37. ALL DISTURBED AREAS SHALL BE DRILL SEEDED AND CRIMP MULCHED IN ACCORDANCE WITH THE DOUGLAS COUNTY GESC MANUAL CRITERIA AND THE CITY OF LONE TREE SEEDING AND MULCHING DETAIL (#17) INCLUDED HEREIN WITHIN THIRTY DAYS OF INITIAL EXPOSURE OR WITHIN SEVEN DAYS OF SUBSTANTIAL COMPLETION (AS DEFINED BY THE CITY OF LONE TREE) OF AN AREA, WHICHEVER IS LESS. THIS MAY REQUIRE MULTIPLE MOBILIZATIONS FOR
- HYDRAULIC SEEDING AND HYDRAULIC MULCHING ARE NOT AN ACCEPTABLE METHOD OF SEEDING OR MULCHING IN THE CITY OF LONE TREE.
- NO CURB AND GUTTER PERMITS SHALL BE ISSUED UNTIL ALL DISTURBED AREAS ARE DRILL SEEDED AND CRIMP
- 40. NO PAVING PERMITS SHALL BE ISSUED UNTIL ALL INTERIM INLET PROTECTION IS INSTALLED AND APPROVED BY THE

ORANGE PLASTIC OR OTHER APPROVED FENCE MATERIAL

- TYPE OF CONSTRUCTION LIMIT INDICATOR (FENCE OR MARKERS).
- LOCATION AND LENGTH OF FENCE OR LINE OF MARKERS.

STEEL TEE POSTS SHALL BE UTILIZED FOR SUPPORT OF CONSTRUCTION FENCE MAXIMUM SPACING FOR TEE POSTS SHALL BE 15'.

2. FENCE OR MARKERS SHALL BE REMOVED AT THE END OF CONSTRUCTION. IF ANY DISTURBED AREA EXISTS AFTER FENCE REMOVAL, IT SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.

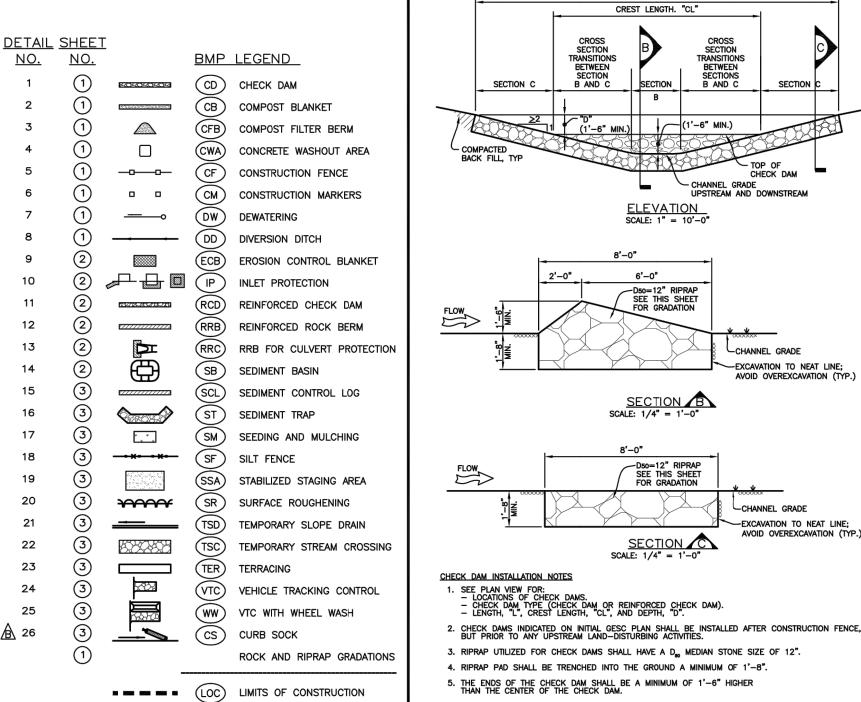
1. ANY DAMAGED FENCE OR MARKERS SHALL BE REPAIRED ON A DAILY BASIS.

CONSTRUCTION FENCE INSTALLATION NOTES

1. SEE PLAN VIEW FOR:

---- CF CONSTRUCTION FENCE 5

41. A FINAL GESC INSPECTION SHALL BE CONDUCTED A MINIMUM OF TWO WEEKS PRIOR TO THE ANTICIPATED REQUEST FOR CERTIFICATE OR TEMPORARY CERTIFICATE OF OCCUPANCY OR INITIAL ACCEPTANCE.



LID W/ HOLE CUT FOR SUCTION LINE

SUCTION LINE

DEWATERING SUMP FOR SUBMERSIBLE PUMP - DETAIL A

THE GESC MANAGER SHALL INSPECT DEWATERING SYSTEMS AND PERFORM ANY NECESSARY REPAIRS OR MAINTENANCE ON A HOURLY BASIS.

2. TEMPORARY SETTLING BASINS SHALL BE REMOVED WHEN NO LONGER NEEDED FOR DEWATERING OPERATIONS. ANY DISTURBED AREA SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.

DEWATERING 7

SURFACE AREA, "A"

1 SF/PER 1 GPM

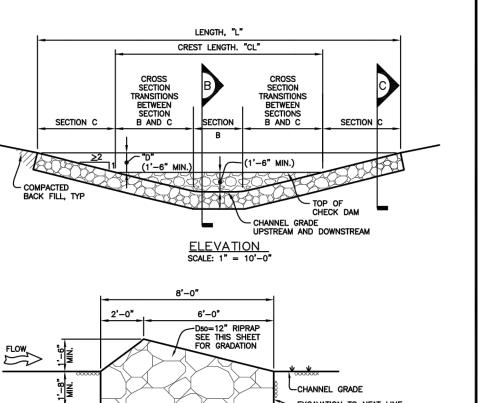
PLASTIC 5-GALLON BUCKET WITH

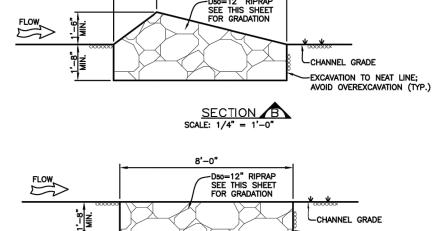
SCALE: 1/4" = 1'-0" LOWEST SUBGRADE ELEVATION TO BE DEWATERED

PLASTIC 5-GALLON BUCKET WITH
3/8" HOLES DRILLED AT 2" MAX.

—RIPRAP BEDDING SEE SHEET 1 FOR GRADATION

BUCKET FILLED WITH RIPRAP BEDDING SEE SHEET 1 FOR GRADATION

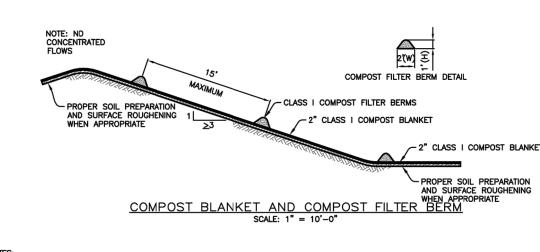




- 2. CHECK DAMS INDICATED ON INITIAL GESC PLAN SHALL BE INSTALLED AFTER CONSTRUCTION FENCE, BUT PRIOR TO ANY UPSTREAM LAND-DISTURBING ACTIVITIES.
- 5. THE ENDS OF THE CHECK DAM SHALL BE A MINIMUM OF 1'-6" HIGHER THAN THE CENTER OF THE CHECK DAM. CHECK DAM MAINTENANCE NOTES
- THE GESC MANAGER SHALL INSPECT CHECK DAMS WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT AS NECESSARY.
- 2. SEDIMENT ACCUMULATED UPSTREAM OF CHECK DAMS SHALL BE REMOVED WHEN THE SEDIMENT DEPTH UPSTREAM OF CHECK DAM IS WITHIN \$\frac{1}{2}\$ OF THE HEIGHT OF THE CREST.
- 3. CHECK DAMS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS APPROVED BY THE CITY. 4. WHEN CHECK DAMS ARE REMOVED, EXCAVATIONS SHALL BE FILLED WITH SUITABLE COMPACTED BACK FILL. ANY DISTURBED AREA SHALL BE SEEDED AND MULCHED AND COVERED WITH EROSION CONTROL BLANKET OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.
 - CHECK DAM (1)

COMPACTED EMBANKMENT MATERIAL

INTERMEDIATE ANCHOR
TRENCH AT ONE-HALF
ROLL-LENGTH SEE DETAIL 9



COMPOST FILTER BERM NOTES:

1. SEE PLAN VEW FOR LENGTH OF COMPOST FILTER BERM.

3. FILTER BERMS SHALL RUN PARALLEL TO THE CONTOUR.

4. FILTER BERMS SHALL BE A MINIMUM OF 1' H x 2' W.

2. SHALL BE APPLIED TO ALL SLOPES RECEIVING A COMPOST BLANKET AT 15' INCREMENTS.

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

SHALL ONLY BE UTILIZED IN AREAS WHERE SHEET FLOW CONDITIONS PREVAIL; SHALL BE PROHIBITED IN AREAS OF POSSIBLE CONCENTRATED FLOW.

SOIL PREPARATION SHALL BE COMPLETE PER THE SPECIFICATIONS OUTLINED IN THESE CRITERIA PRIOR TO APPLICATION.

8. WHEN TURF GRASS FINISH IS NOT DESIRED, SURFACE ROUGHENING ON SLOPES SHALL TAKE PLACE PRIOR TO APPLICATION.

SEEDING SHALL BE DRILLED BEFORE THE APPLICATION OF COMPOST OR SEED MAY BE COMBINED AND BLOWN WITH THE PNEUMATIC BLOWER.

10. THE GESC MANAGER SHALL INSPECT WEEKLY, DURING AND AFTER ANY STORM EVENT.

GERMINATION AND HEALTH

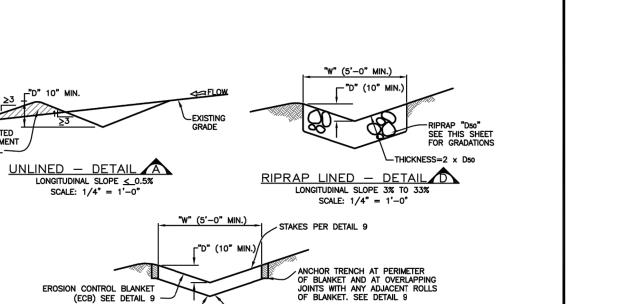
- 1. SEE PLAN VIEW FOR AREA OF COMPOST BLANKET.
- 2. MAY BE USED IN PLACE OF STRAW MULCH OR EROSION CONTROL BLANKET IN AREAS WHERE ACCESS IS DIFFICULT DUE TO LANDSCAPING OR OTHER OBJECTS OR IN AREAS WHERE A SMOOTH TURF GRASS FINISH IS DESIRED.
- SHALL ONLY BE UTILIZED IN AREAS WHERE SHEET FLOW CONDITIONS PREVAIL; SHALL BE PROHIBITED IN AREAS OF POSSIBLE CONCENTRATED FLOW. 4. SOIL PREPARATION SHALL BE COMPLETE PER THE SPECIFICATIONS OUTLINED IN THESE CRITERIA PRIOR TO APPLICATION.
- WHEN TURF GRASS FINISH IS NOT DESIRED, SURFACE ROUGHENING ON SLOPES SHALL TAKE PLACE PRIOR TO APPLICATION. 6. SHALL BE EVENLY APPLIED AT A DEPTH OF 2 INCH.
- 7. MAYBE APPLIED UTILIZING PNEUMATIC BLOWER, OR BY HAND
- 8. SEEDING SHALL BE DRILLED PRIOR TO THE APPLICATION OF COMPOST OR SEED MAY BE COMBINED AND BLOWN WITH THE PNEUMATIC BLOWER. COMPOST FILTER BERM SHALL BE UTILIZED ON SLOPES WITH A MAXIMUM SPACING OF 15 FEET PER THE REQUIREMENTS FOUND IN THE COMPOST FILTER BERM SECTION.

OF TO TEET TER THE REGULEMENT	TOOLD IN THE COM COT TIETER BERM SECTION.
10. THE GESC MANAGER SHALL INSPECT	WEEKLY, DURING AND AFTER ANY STORM EVENT.
	OF THE COMPOST BLANKET SHALL BE A CLASS I DWING PHYSICAL, CHEMICAL, AND BIOLOGICAL PARAMETE
PARAMETERS	CLASS I COMPOST FOR COMPOST BLANKET
MINIMUM STABILITY INDICATOR	STABLE TO VERY STABLE
SOLUBLE SALTS	MAXIMUM 5mmhos/cm
PH	6.0 - 8.0
AG INDEX	> 10
MATURITY INDICATOR EXPRESSED AS PERCENTAGE OF GERMINATION/VIGOR	80+/80+
MATURITY INDICATOR EXPRESSED AS AMMONIA N/ NITRATE N RATIO	< 4
MATURITY INDICATOR EXPRESSED AS CARBON TO NITROGEN RATIO	20:1
TESTED FOR CLOPYRALID	YES/NEGATIVE RESULT
MOISTURE CONTENT	30-60 %
ORGANIC MATTER CONTENT	25-45 % OF DRY WEIGHT
PARTICLE SIZE DISTRIBUTION	3" (75mm) 100% PASSING 1" (25mm) 95% TO 100% PASSING 3/4" (19mm) 85% TO 90% PASSING 3/8" (9.5mm) 50% TO 60% PASSING #4 20 TO 35% PASSING
PRIMARY, SECONDARY NUTRIENTS; TRACE ELEMENT	MUST BE REPORTED
TESTING AND TEST REPORT SUBMITTAL REQUIREMENTS	STA + CLOPYRALID
ORGANIC MATTER PER CUBIC YARD	MUST REPORT
CHEMICAL CONTAMINANTS	MEET OR EXCEED US EPA CLASS A STANDARD, 40 CFR 503.1 TABLES 1 & 3 LEVELS
MINIMUM MANUFACTURING/PRODUCTION REQUIREMENT	FULLY PERMITTED UNDER COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, HAZARDOUS MATERIALS AND WASTE MANAGEMENT DIVISION
RISK FACTOR RELATING TO PLANT GERMINATION AND HEALTH	LOW

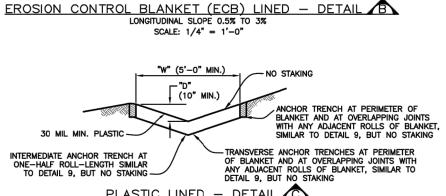
(CB) COMPOST BLANKET (2)

11. COMPOST USED IN THE APPLICATION OF THE COMPOST FILTER BERM SHALL BE A CLASS I COMPOST AS DEFINED BY THE FOLLOWING PHYSICAL, CHEMICAL, AND BIOLOGICAL PARAMETERS: PARAMETERS CLASS I COMPOST FOR COMPOST FILTER BERM

NOTE: A LAB TEST DETAILING THE CHEMICAL, PHYSICAL, AND BIOLOGICAL PARAMETERS SHALL BE PROVIDED UPON REQUEST BY CITY OF LONE TREE. CFB COMPOST FILTER BERM (3)



-Transverse anchor trenches at perimeter of Blanket and at overlapping joints with any Adjacent rolls of Blanket, see Detail 9



- THE GESC MANAGER SHALL INSPECT DIVERSION DITCHES WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT AS NECESSARY.
- 2. DIVERSION DITCHES ARE TO REMAIN IN PLACE UNTIL THE END OF CONSTRUCTION, OR, IF APPROVED BY THE CITY, LEFT IN PLACE.
- 3. IF DIVERSION DITCHES ARE REMOVED, THE DISTURBED AREA SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.

DIVERSION DITCH 8 A

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MINIMUM STABILITY INDICATOR	STABLE TO VERY STABLE		
SOLUBLE SALTS	MAXIMUM 5mmhos/cm		
PH	6.0 - 8.0		
AG INDEX	> 10		
MATURITY INDICATOR EXPRESSED AS PERCENTAGE OF GERMINATION/VIGOR	80+/80+		
MATURITY INDICATOR EXPRESSED AS AMMONIA N/ NITRATE N RATIO	< 4		
MATURITY INDICATOR EXPRESSED AS CARBON TO NITROGEN RATIO	20:1		
TESTED FOR CLOPYRALID	YES/NEGATIVE RESULT		
MOISTURE CONTENT	30-60 %		
ORGANIC MATTER CONTENT	25-45 % OF DRY WEIGHT		
PARTICLE SIZE DISTRIBUTION	3" (75mm) 100% PASSING 1" (25mm) 95% TO 100% PASSING 3/4" (19mm) 85% TO 90% PASSING 3/8" (9.5mm) 50% TO 60% PASSING #4 20 TO 35% PASSING		
PRIMARY, SECONDARY NUTRIENTS; TRACE ELEMENT	MUST BE REPORTED		
TESTING AND TEST REPORT SUBMITTAL REQUIREMENTS	STA + CLOPYRALID		
ORGANIC MATTER PER CUBIC YARD	MUST REPORT		
CHEMICAL CONTAMINANTS	MEET OR EXCEED US EPA CLASS A STANDARD, 40 CFR 503.1 TABLES 1 & 3 LEVELS		
MINIMUM MANUFACTURING/PRODUCTION REQUIREMENT	FULLY PERMITTED UNDER COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, HAZARDOUS MATERIALS AND WASTE MANAGEMENT DIVISION		
RISK FACTOR RELATING TO PLANT GERMINATION AND HEALTH	LOW		
NOTE: IF A BIOSOLID COMPOST IS TO BE UTILIZED IT SHALL BE PRODUCED BY A FACILITY IN POSSESSION OF A VALID NOTICE OF AUTHORIZATION (NOA) FOR THE UNRESTRICTED USE A DISTRIBUTION BY THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT. THE SHALL BE PROVIDED UPON REQUEST TO CITY OF LONE TREE.			

TABLE 1. RIPRAP GRADATIONS

D50 MEDIAN STONE SIZE	% OF MATERIAL SMALLER THAN	TYPICAL STONE EQUIVALENT	TYPICAL STONE WEIGHT (POUNDS
(INCHES)	TYPICAL STONE	DIAMETER (INCHES)	WEIGHT (FOONDS
6	70 - 100 50 - 70 35 - 50 2 - 10	12 9 6 2	85 35 10 0.4
9	70 - 100 50 - 70 35 - 50 2 - 10	15 12 9 3	160 85 35 1.3
12	70 - 100 50 - 70 35 - 50 2 - 10	21 18 12 4	440 275 85 3
18	100 50 - 70 35 - 50 2 - 10	30 24 18 6	1280 650 275 10
24	100 50 - 70 35 - 50 2 - 10	42 33 24 9	3500 1700 650 35

TABLE 2. RIPRAP BEDDING

•		1 1 1 1 7 1	BEBB
	SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES	
		CLAS	S A
	3"	100	
	1 1/2"	20 -	- 90
	NO. 4	0 - 20	
	NO. 200	0 - 3	
	MATCHES SPECIFICATIONS FOR CDOT CLASS A FILTER MATERIAL AND UDF TYPE 1 BEDDING. ALL ROCK SHALL I FRACTURED FACE, ALL SIDES.		ND UDFC

	Sheet Revisions		NOTE: SCALES
6/30/05	ADOPTED FROM DOUGLAS COUNTY GESC PLANS	MLP	SHOWN ARE FOR 24"x36"
5/ /08	EDIT UPDATES 🛕	GAW	SHEETS; ADJUST
1/ /08	ADD CURB SOCK DETAIL 🛕 (REF UDFCD, V3 FIGURE C5-23), MISC. NOTE EDITS	GAW	ACCORDINGLY FOR 11"x17"
			SHEETS.



(ALTERNATIVE TO CONSTRUCTION FENCE) SCALE: 1/4" = 1-0"

CONSTRUCTION MARKERS 6

CITY OF LONE TREE DEPARTMENT OF PUBLIC WORKS **Engineering Division**

D50 = 6"BASIN OUTLET - SECTION C
SCALE: 1" = 10'-0"

DEWATERING INSTALLATION NOTES

DEWATERING MAINTENANCE NOTES

GESC GRADING, EROSION, AND SEDIMENT CONTROL

GESC PLAN STANDARD NOTES AND DETAILS

SHEET 1 OF 3

SHEET **15** OF **17**

THRIVE T

4' SQUARE (MIN.) RIPRAP PAD TO DISSIPATE THE ENERGY OF THE FLOW EXITING THE DISCHARGE LINE SUMP DISCHARGE
SETTLING BASIN — DETAIL B
SCALE: 1" = 10'-0" PLASTIC LINED — DETAIL CLONGITUDINAL SLOPE 3% TO 33% SCALE: 1/4" = 1'-0"DIVERSION DITCH INSTALLATION NOTES 1. SEE PLAN VIEW FOR:

- LOCATION OF DIVERSION DITCH.

- TYPE OF DITCH (UNLINED, ECB LINED, PLASTIC LINED OR RIPRAP LINED).

- LENGTH OF EACH TYPE OF DITCH.

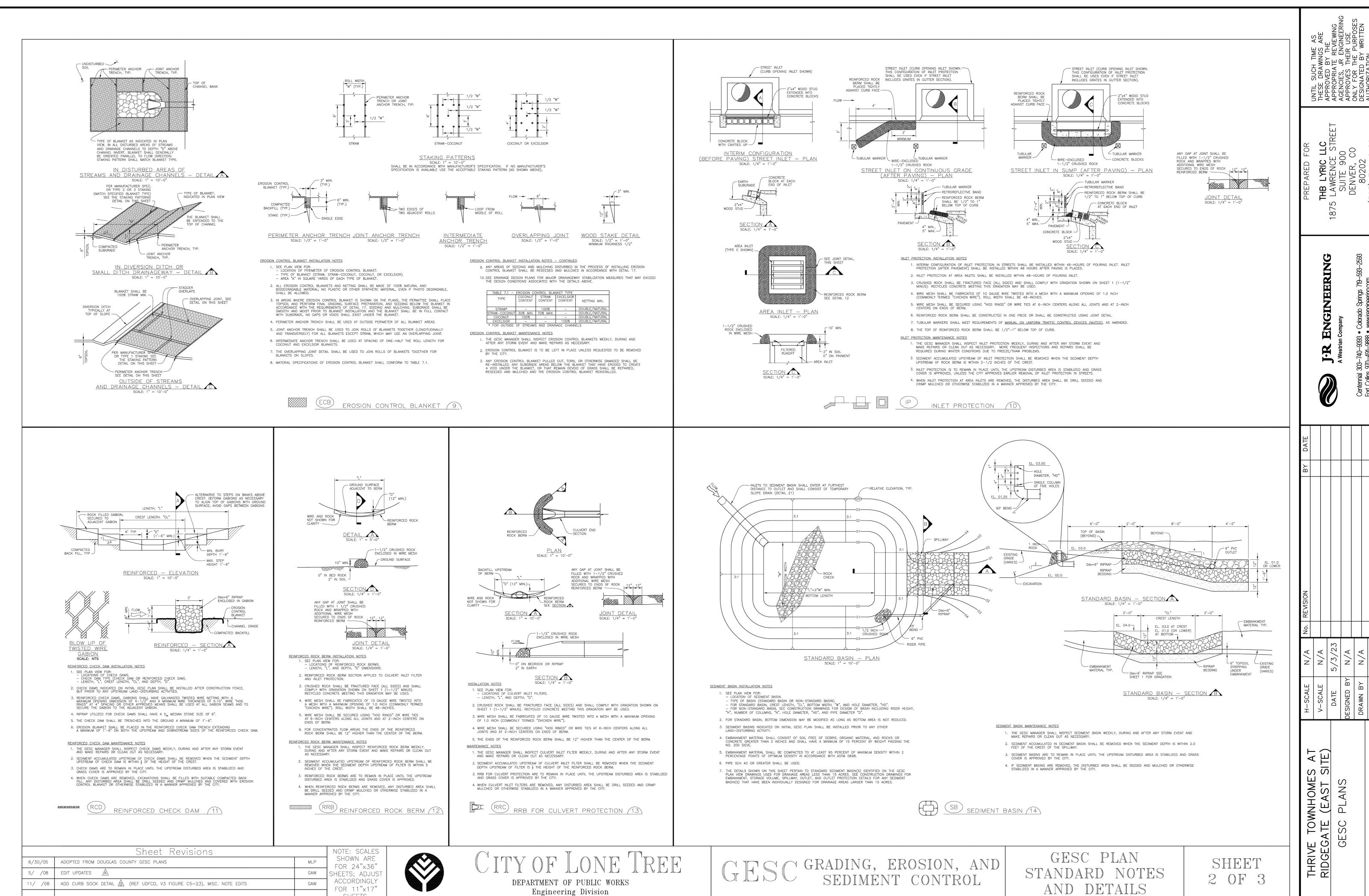
- DEPTH, "D", AND WIDTH, "W" DIMENSIONS.

- FOR ECB LINED DITCH, EROSION CONTROL BLANKET TYPE (SEE DETAIL 9).

- FOR RIPRAP LINED DITCH, SIZE OF RIPRAP, "D50". THE GESC MANAGER SHALL OBTAIN A CONSTRUCTION DISCHARGE (DEWATERING) PERMIT FROM THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT PRIOR TO ANY DEWATERING OPERATIONS. ALL DEWATERING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE DISCHARGE PERMIT AND SHALL BE COORDINATED WITH THE CITY OF LONE TREE GESC INSPECTOR. TABLE 3. 1 1/2" CRUSHED ROCK 2. THE GESC MANAGER SHALL PROVIDE, OPERATE, AND MAINTAIN DEWATERING SYSTEMS OF SUFFICIENT SIZE AND CAPACITY TO PERMIT EXCAVATION AND SUBSEQUENT CONSTRUCTION IN DRY CONDITIONS AND TO LOWER AND MAINTAIN THE GROUNDWATER LEVEL A MINIMUM OF 2-FEET BELOW THE LOWEST POINT OF EXCAVATION AND CONTINUOUSLY MAINTAIN EXCAVATIONS FREE OF WATER UNTIL BACKFILLED TO FINAL GRADE. . SEE DRAINAGE PLANS FOR DETAILS OF ANY PERMANENT CONVEYANCE FACILITIES OR DIVERSION DITCHES EXCEEDING A 2-YEAR FLOW RATE OF 10 CFS. SIEVE SIZE MASS PERCENT PASSING SQUARE MESH SIEVES 5. DEWATERING OPERATIONS SHALL USE ONE OR MORE OF THE DEWATERING SUMPS SHOWN ABOVE OR OTHER MEANS APPROVED BY THE CITY TO REDUCE THE PUMPING OF SEDIMENT, AND SHALL PROVIDE A TEMPORARY BASIN FOR SETTLING PUMPED DISCHARGES PRIOR TO RELEASE OFF SITE OR TO A RECEIVING WATER. SEDIMENT BASIN PER DETAIL 14 MAY BE USED IN LIEU OF SUMP DISCHARGE SETTLING BASIN SHOWN ABOVE. 3. DIVERSION DITCHES INDICATED ON INITIAL GESC PLAN SHALL BE INSTALLED PRIOR TO ANY LAND-DISTURBING ACTIVITIES. NO. 4 4. FOR ECB LINED DITCHES, INSTALLATION OF EROSION CONTROL BLANKET SHALL CONFORM TO THE REQUIREMENTS OF DETAIL 9. A. TE IN LOCATIONS WHERE CONSTRUCTION TRAFFIC MUST CROSS A DIVERSION DITCH, THE PERMITTEES SHALL INSTALL A TEMPORARY CULVERT WITH A MINIMUM DIAMETER OF 12-INCHES. 4. A 4' SQUARE (MIN) RIPRAP PAD SHALL BE PLACED AT DISCHARGE POINT. 1 1/2" 90 - 100 S 20 - 55 THE DISCHARGE END OF THE LINE SHALL BE STAKED IN PLACES TO PREVENT MOVEMENT OF RIPRAP PAD. TOWNHOMES

0 - 15 3/8" 0 - 5 MATCHES SPECIFICATIONS FOR NO. 4 COARSE AGGREGATE FOR CONCRETE PER AASHTO M43. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES.

ROCK AND RIPRAP GRADATIONS



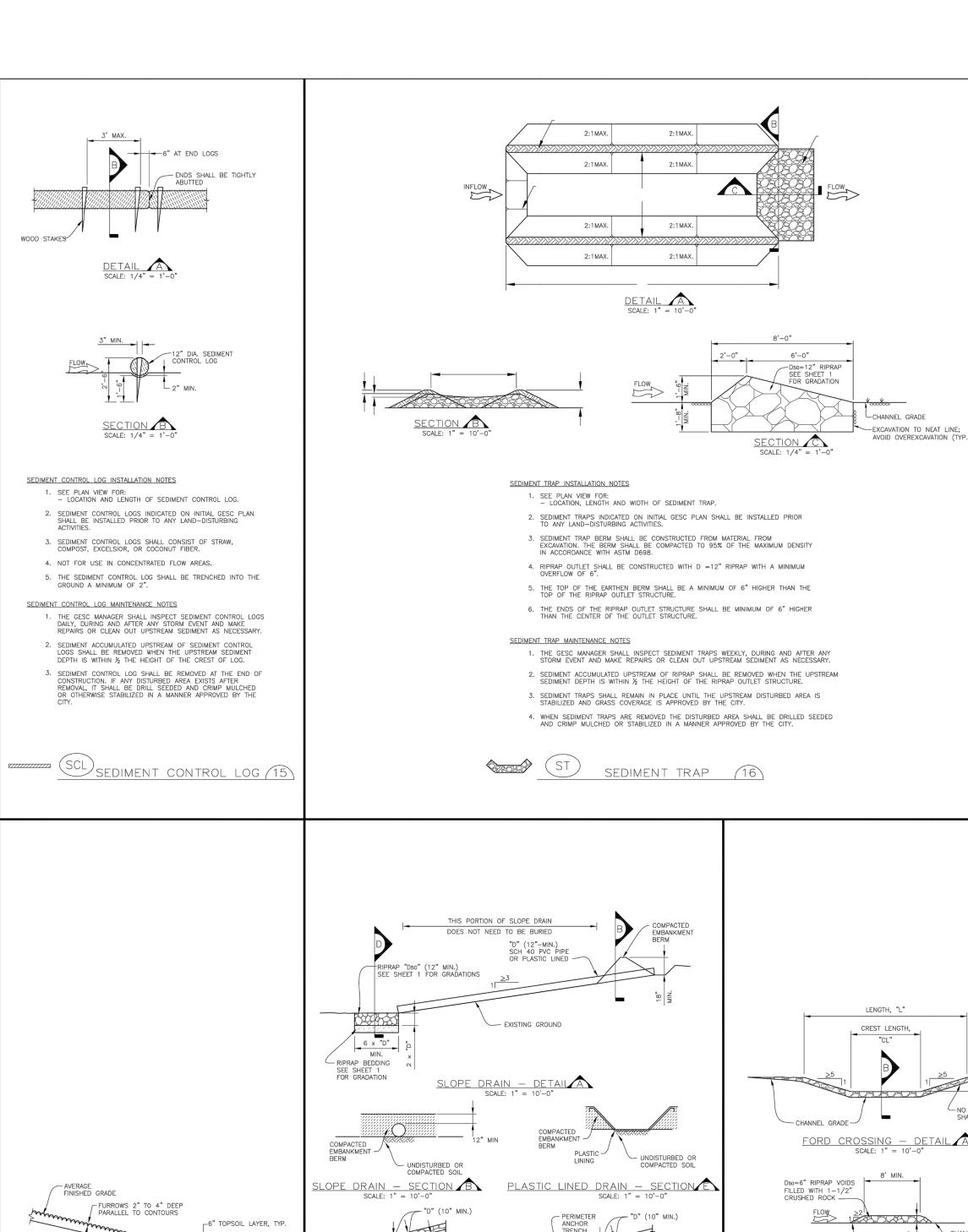
Engineering Division

SHEETS.

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2

SHEET 16 OF 17 JOB NO. **15950.04**



"D50" RIPRAP

- LOCATION AND LENGTH OF SLOPE DRAIN. - PIPE DIAMETER, "D", AND RIPRAP SIZE, "D50".

SLOPE DRAIN DIMENSIONS SHALL BE CONSIDERED MINIMUM DIMENSIONS; CONTRACTOR MAY ELECT TO INSTALL LARGER FACILITIES, ANY DAMAGE TO SLOPE OR SLOPE DRAIN DURING RUNOFF EVENTS SHALL BE THE

SLOPE DRAINS INDICATED ON INITIAL GESC PLAN SHALL BE INSTALLED PRIOR TO ANY UPSTREAM LAND—DISTURBING ACTIVITIES.

SLOPE; HOWEVER, 12" MIN. COVER AT TOP OF SLOPE SHALL BE PROVIDED

5. A RIPRAP PAD SHALL BE PLACED AT THE OUTFALL OF THE SLOPE DRAIN.

THE GESC MANAGER SHALL INSPECT SLOPE DRAINS WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS AS NECESSARY.

2. TEMPORARY SLOPE DRAINS ARE TO REMAIN IN PLACE UNTIL NO LONGER NEEDED, BUT SHALL BE REMOVED PRIOR TO THE END OF CONSTRUCTION. WHEN SLOPE DRAINS ARE REMOVED, THE DISTURBED AREA SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.

TSD TEMPORARY SLOPE DRAIN (21)

GAW

SHFFTS.

← 4X "D" MIN.

TERMINATION OF PLASTIC LINED

→ • -

∠ 4X "D" MIN.

TERMINATION OF RIPRAP LINED

1. SEE PLAN VIEW FOR:

SLOPE DRAIN - DETAIL D

SCALE: 1" = 10'-0"

CONTRACTOR'S RESPONSIBILITY.

SLOPE DRAIN INSTALLATION NOTES

SLOPE DRAIN MAINTENANCE NOTES

SECTION A SCALE: 1/4" = 1'-0"

1. SURFACE ROUGHENING SHALL BE PROVIDED ON ALL FINISHED GRADES (SLOPES AND "FLAT" AREAS) WITHIN 2 DAYS OF

TOPSOIL) OR WITHIN 2 DAYS OF TOPSOIL PLACEMENT.

COMPLETION OF FINISHED GRADE (FOR AREAS NOT RECEIVING

AREAS WHERE BUILDING FOUNDATIONS, PAVEMENT, OR SOD IS TO BE PLACED WITHIN 7—DAYS OF FINISHED GRADING DO NOT NEED TO BE SURFACE ROUGHENED.

DISTURBED SURFACES SHALL BE ROUGHENED USING RIPPING OR TILLING EQUIPMENT ON THE CONTOUR OR TRACKING UP AND DOWN A SLOPE USING EQUIPMENT TREADS.

. THE GESC MANAGER SHALL INSPECT THE SURFACE ROUGHENING WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT UPSTREAM SEDIMENT AS NECESSARY.

VEHICLES AND EQUIPMENT SHALL GENERALLY BE CONFINED TO ACCESS DRIVES AND SHALL NOT BE DRIVEN OVER AREAS THAT HAVE BEEN SURFACE ROUGHENED.

IN NON-TURF GRASS FINISHED AREAS, SEEDING AND MULCHING SHALL TAKE PLACE DIRECTLY OVER SURFACE ROUGHENED AREAS WITHOUT FIRST SMOOTHING OUT THE SURFACE.

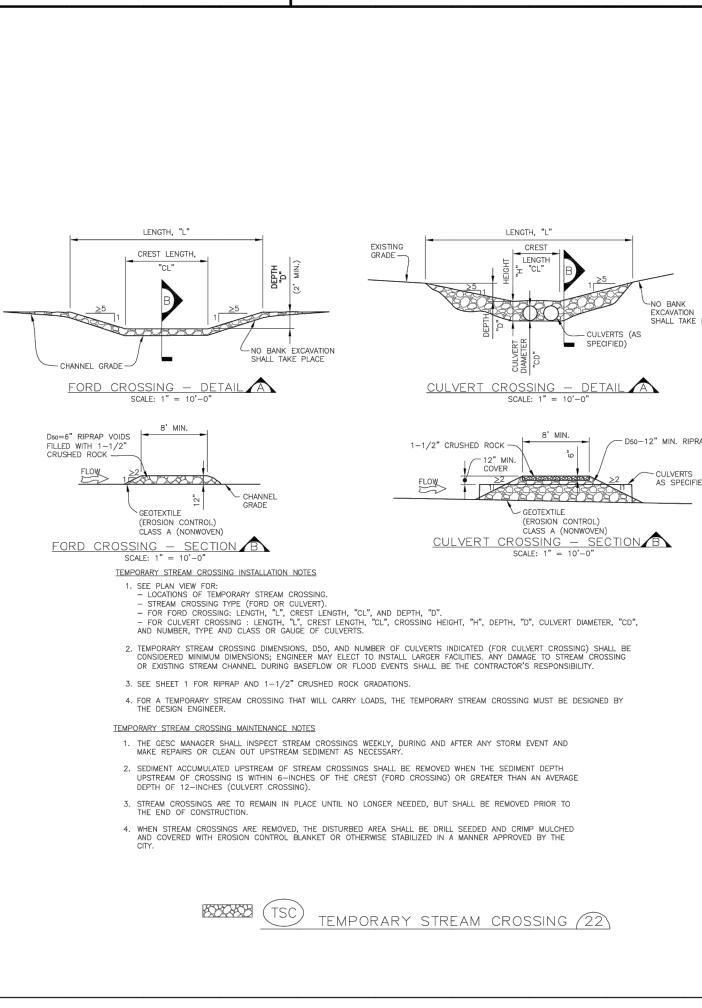
SR SURFACE ROUGHENING (20)

UPDATE VTC & WW 🔼

4. IN AREAS NOT SEEDED AND MULCHED AFTER SURFACE ROUGHENING, SURFACES SHALL BE RE-ROUGHENED AS NECESSARY TO MAINTAIN GROOVE DEPTH AND SMOOTH OVER ANY RILL

SURFACE ROUGHENING INSTALLATION NOTES

SURFACE ROUGHENING MAINTENANCE NOTES



SEEDING AND MULCHING INSTALLATION NOTES

- AREA OF SEEDING AND MULCHING.
- TYPE OF SEED MIX (PERMANENT, TEMPORARY, OR LOW-GROWTH).

4. DRILL SEEDING MIX SHALL CONFORM TO THE TABLE ON THE RIGHT:

2. ALL BRANDS FURNISHED SHALL BE FREE FROM SUCH NOXIOUS SEEDS AS RUSSIAN OR CANADIAN THISTLE, COARSE FESCUE, EUROPEAN BINDWEED, JOHNSON GRASS, KNAP WEED AND LEAFY SPURGE.

3. THE SEEDER SHALL FURNISH TO THE CONTRACTOR A SIGNED STATEMENT CERTIFYING THAT THE SEED FURNISHED IS FROM A LOT THAT HAS BEEN TESTED BY A RECOGNIZED LABORATORY. SEED WHICH HAS BECOME WET, MOLDY, OR OTHERWISE DAMAGED IN TRANSIT OR IN STORAGE WILL NOT BE ACCEPTABLE. SEED TICKETS SHALL BE PROVIDED TO CITY OF LONE TREE UPON REQUEST.

5. IF THE SEED AVAILABLE ON THE MARKET DOES NOT MEET THE MINIMUM PURITY AND GERMINATION PERCENTAGES SPECIFIED, THE SUBCONTRACTOR MUST COMPENSATE FOR A LESSER PERCENTAGE OF PURITY OR GERMINATION BY FURNISHING SUFFICIENT ADDITIONAL SEED TO EQUAL THE SPECIFIED PRODUCT. THE TAGS FROM THE SEED MIXES MUST BE SUPPLIED TO CONTRACTOR AND FORWARDED TO THE CITY OF LONE TREE GESC INSPECTOR.

6. THE FORMULA USED FOR DETERMINING THE QUANTITY OF PURE LIVE SEED (PLS) SHALL BE (POUNDS OF SEED) X (PURITY) X (GERMINATION) = POUNDS OF PURE LIVE SEED (PLS).

8. ALL AREAS TO BE SEEDED AND MULCHED SHALL HAVE NATIVE TOPSOIL OR APPROVED SOIL AMENDMENTS SPREAD TO A DEPTH OF AT LEAST 6 INCHES (LOOSE DEPTH). HAUL ROADS AND OTHER COMPACTED AREAS SHALL BE LOOSENED TO A DEPTH OF 6 INCHES PRIOR TO

9. SOIL IS TO BE THOROUGHLY LOOSENED (TILLED) TO A DEPTH OF AT LEAST 6 INCHES PRIOR TO SEEDING. THE TOP 6 INCHES OF THE SEED BED SHALL BE FREE OF ROCKS GREATER THAN 4 INCHES AND SOIL CLODS GREATER THAN 2 INCHES. SEEDING OVER ANY COMPACTED AREAS THAT HAVEN'T BEEN THOROUGHLY LOOSENED SHALL BE REJECTED.

10. SEED IS TO BE APPLIED USING A MECHANICAL DRILL TO A DEPTH OF 1/4 INCH. ROW SPACING SHALL BE NO MORE THAN 6 INCHES. MATERIAL USED FOR MULCH SHALL CONSIST OF LONG-STEMMED STRAW. AT LEAST 50 PERCENT OF THE MULCH, BY WEIGHT, SHALL BE 10 INCHES OR MORE IN LENGTH. MULCH SHALL BE APPLIED AND MECHANICALLY ANCHORED TO A DEPTH OF AT LEAST 2 INCHES. MULCH SHALL BE APPLIED AT A RATE OF 4000 LB. OF STRAW PER ACRE.

11. IF THE PERMITTEE DEMONSTRATES TO THE CITY THAT IT IS NOT POSSIBLE TO DRILL SEED, SEED IS TO BE UNIFORMLY BROADCAST AT TWO TIMES THE DRILLED RATE, THEN LIGHTLY HARROWED TO PROVIDE A SEED DEPTH OF APPROXIMATELY 1/4 INCH, THEN ROLLED TO COMPACT, THEN MULCHED AS SPECIFIED ABOVE.

12. SEEDING AND MULCHING SHALL BE COMPLETED WITHIN 30 DAYS OF INITIAL EXPOSURE OR 7 DAYS AFTER GRADING IS SUBSTANTIALLY COMPLETE IN A GIVEN AREA (AS DEFINED BY THE CITY). THIS MAY REQUIRE MULTIPLE MOBILIZATIONS FOR SEEDING AND MULCHING.

SEEDED AND MULCHED AREAS SHALL BE INSPECTED FOR REQUIRED COVERAGE MONTHLY FOR A PERIOD OF TWO YEARS FOLLOWING INITIAL SEEDING. REPAIRS AND RE-SEEDING AND MULCHING SHALL BE UNDERTAKEN AFTER THE FIRST GROWING SEASON FOR ANY AREAS FAILING TO MEET THE REQUIRED COVERAGE.

1. THREE (3) PLANTS PER SQUARE FOOT WITH A MINIMUM HEIGHT OF 3 INCHES.

THE 3 PLANTS PER SQUARE FOOT SHALL BE OF THE VARIETY AND SPECIES FOUND IN THE CITY OF LONE TREE—APPROVED MIX.

2. NO BARE AREAS LARGER THAN 4 SQUARE FEET (TWO-FEET BY TWO-FEET OR

4. FREE FROM INFESTATION OF NOXIOUS WEEDS IN ACCORDANCE WITH SECTION 6.4 OF THE GESC CRITERIA MANUAL.

2. NO BARE AREAS LARGER THAN 4 SQUARE FEET (TWO-FEET BY TWO-FEET OR

FREE FROM INFESTATION OF NOXIOUS WEEDS IN ACCORDANCE WITH SECTION 6.4
OF THE GESC CRITERIA MANUAL.

4. RILL AND GULLY EROSION SHALL BE FILLED WITH TOPSOIL PRIOR TO RESEEDING. THE RESEEDING METHOD SHALL BE APPROVED BY THE CITY.

2. REQUIRED COVERAGE FOR STANDARD, OPEN SPACE AND LOW GROWTH SEED MIXES SHALL BE DEFINED AS FOLLOWS:

3. REQUIRED COVERAGE FOR TURF GRASS AREAS SHALL BE DEFINED AS FOLLOWS:

1. AT LEAST 80% VEGETATIVE COVER OF GRASS SPECIES PLANTED.

13. MULCH SHALL BE APPLIED WITHIN 24-HOURS OF SEEDING.

SEEDING AND MULCHING MAINTENANCE NOTES

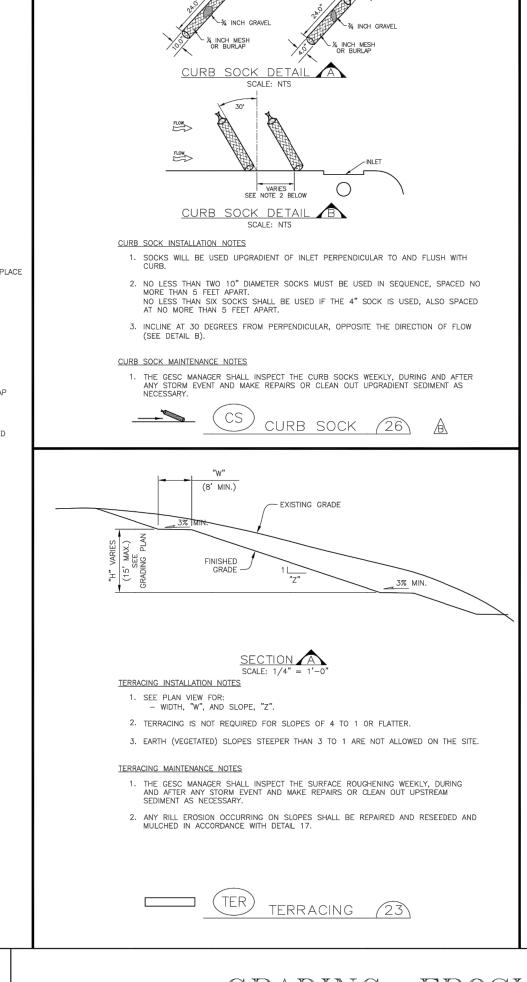
3. FREE OF ERODED AREAS

3. FREE OF ERODED AREAS.

14. TACKIFIER SHOULD BE UTILIZED TO HELP WITH STRAW DISPLACEMENT.

7. PERMANENT SEED MIX SHALL BE USED UNLESS OTHERWISE APPROVED BY THE CITY.

1. SEE PLAN VIEW FOR:



CITY OF LONE TREE PERMANENT DRILL SEEDING MIX

PNWS

PNWS

PNWS

PNWB

PNCS

PNWB

PNCS

PNWS

PNCB

PNCB

PNCS

PICS

PICS

PICS

AICB

PNWS

PNWB

PNCS

PNWB

PNCS

PNCS

SEEDING AND MULCHING 17

CITY OF LONE TREE LOW-GROWTH DRILL SEEDING MIX

CITY OF LONE TREE TEMPORARY DRILL SEEDING MIX

KAW

CHEYENNE

BLACKWELL

VAUGHN

HACHITA

CRITANA

GOSHEN

LODORM

PRYOR

SODAR

VARIETY

LINCOLN

OAHE

LUNA

TEXOKA

HACHITA

ARRIBA

VAUGHN

CRITANA

SODAR

SPECIES

BIG BLUESTEM

YELLOW INDIANGRASS

SWITCHGRASS

SIDEOATS GRAMA

WESTERN WHEATGRASS

BLUE GRAMA

THICKSPIKE WHEATGRASS

PRAIRIE SANDREED

GREEN NEEDLEGRASS

WHEATGRASS

SPECIES

SMOOTH BROMEGRASS

ANNUAL RYEGRASS

SPECIES

BUFFALOGRASS

BLUE GRAMA

WESTERN WHEATGRASS

SIDEOATS GRAMA

THICKSPIKE WHEATGRASS

NOTES % IN MIX POUNDS OF PLS PER ACRE

1.1

0.4

0.9

1.6

0.3

0.7

0.6

0.6

9.2

3.9

4.5

4.2

0.8

13.4

3.2

0.6

3.2

1.8

1.2

11.0

10

10

10

10

10

10

10

5

TOTAL

NOTES % IN MIX POUNDS OF PLS
PER ACRE

30

30

30

10

20

20

20

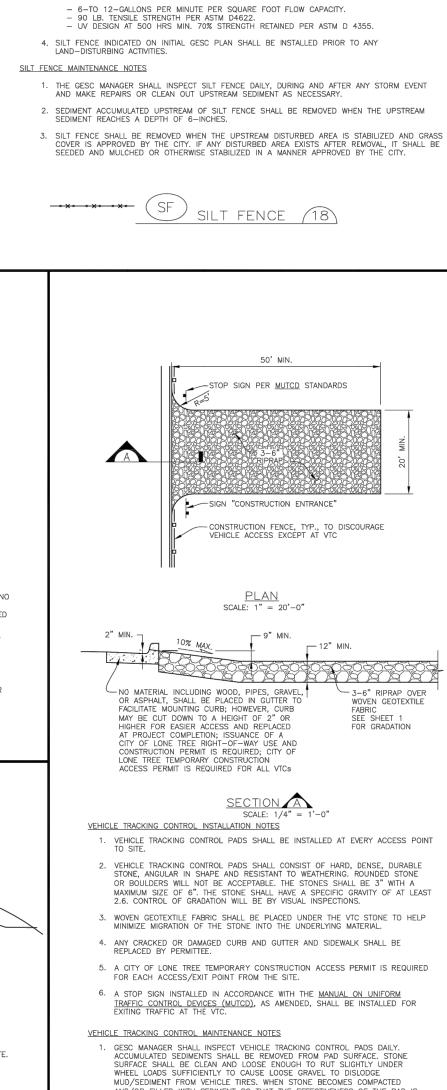
10

10

TOTAL

TOTAL

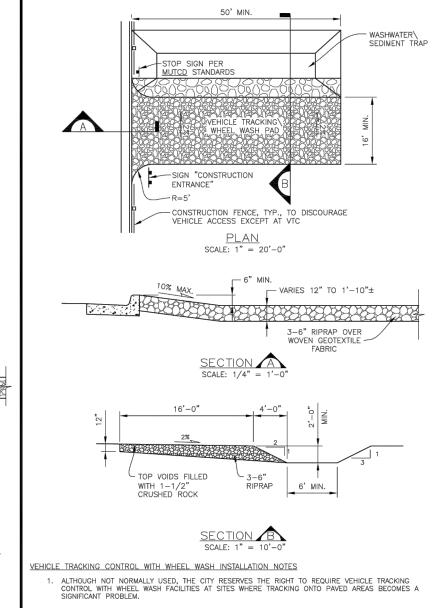
NOTES % IN MIX POUNDS OF PLS PER ACRE



AND/OR FILLED WITH SEDIMENT SO THAT THE EFFECTIVENESS OF THE PAD IS DIMINISHED, CONTRACTOR SHALL RIP, TURN OVER, OR OTHERWISE LOOSEN THE STONE, PLACE ADDITIONAL NEW STONE, OR REPLACE STONE AS NECESSARY TO RESTORE EFFECTIVENESS.

2. VEHICLE TRACKING CONTROL SHALL BE REMOVED AT THE END OF CONSTRUCTION, THE STONE MATERIAL AND GEOTEXTILE REMOVED OR, IF APPROVED BY THE CITY, USED ON SITE, AND THE AREA TOPSOILED, DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN CONFORMANCE WITH CITY APPROVED PLANS FOR SITE AND THE APPLICABLE GESC PERMIT.

VTC VEHICLE TRACKING CONTROL (24)



STAGING AREA FOR PARKING, STORAGE, LOADING AND UNLOADING STABILIZED WITH

3" MIN. THICKNESS GRANULAR MATERIAL (GRAVEL OR RECYCLED CONCRETE)

PAVED AREA

SEE PLAN VIEW FOR GENERAL LOCATION OF STAGING AREA. CONTRACTOR MAY MODIFY LOCATION AND SIZE OF STABILIZED STAGING AREA WITH CITY APPROVAL.

STABILIZED STAGING AREA SHALL BE LARGE ENOUGH TO FULLY CONTAIN PARKING, STORAGE, AND UNLOADING AND LOADING OPERATIONS.

IF REQUIRED BY THE CITY, SITE ACCESS ROADS SHALL BE STABILIZED IN THE SAME MANNER AS THE STAGING AREA.

4. STAGING AREA SHALL BE STABILIZED PRIOR TO ANY OTHER OPERATIONS ON THE SITE.

5. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM OF

3" OF GRANULAR MATERIAL (GRAVEL OR RECYCLED CONCRETE).

THE GESC MANAGER SHALL INSPECT THE STABILIZED STAGING AREA WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT UPSTREAM SEDIMENT AS NECESSARY.

2. GESC MANAGER SHALL PROVIDE ADDITIONAL THICKNESS OF GRANULAR MATERIAL IF ANY RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

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

4. ANY ACCUMULATED DIRT OR MUD SHALL BE REMOVED FROM THE SURFACE OF THE STABILIZED STAGING AREA.

5. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE CITY, USED ON SITE, AND THE AREA TOPSOILED, DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED.

(SSA) STABILIZED STAGING AREA (19) ,

STABILIZED STAGING AREA INSTALLATION NOTES

STABILIZED STAGING AREA MAINTENANCE NOTES

— VTC AT CONSTRUCTION ENTRANCE

CONSTRUCTION SITE ACCESS

1 1/2"x1 1/2" WOODEN FENCE POSTS 8'-4" MAX. SPACING

DETAIL A SCALE: 1/2" = 1'-0"

JOINTS — SECTION B SCALE: N.T.S.

2. ANCHOR TRENCH SHALL BE EXCAVATED WITH TRENCHER, OR WITH SILT FENCE INSTALLATION MACHINE; NO ROAD GRADERS, BACKHOES, ETC. SHALL BE USED. TRENCH SHALL BE COMPACTED BY HAND, WITH "JUMPING JACK", OR BY WHEEL ROLLING. COMPACTION SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.

3. SILT FENCE GEOTEXTILE SHALL MEET THE FOLLOWING REQUIREMENTS:

EXISTING GROUND -

COMPACTED BACKFILL

6" MIN. —

POST SHALL BE JOINED AS SHOWN, THEN ROTATED 180° IN DIRECTION SHOWN AND DRIVEN INTO THE GROUND

SILT FENCE INSTALLATION NOTES

SEE PLAN VIEW FOR:
 LOCATION AND LENGTH OF FENCE.

FLOW 😂

UNDISTURBED VEGETATION
ON DOWN GRADIENT SIDE
(FOR SILT FENCE SHOWN

IN INITIAL GESC PLAN)

2. IF VEHICLE TRACKING CONTROL WITH WHEEL WASH FACILITIES ARE REQUIRED, ALL WHEELS ON EVERY VEHICLE LEAVING THE SITE SHALL BE CLEANED OF MUD USING A PRESSURE—WASHER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A WATER SOURCE.

5. VEHICLE TRACKING CONTROL PADS SHALL CONSIST OF HARD, DENSE, DURABLE STONE, ANGULAR IN SHAPE AND RESISTANT TO WEATHERING. ROUNDED STONE OR BOULDERS WILL NOT BE ACCEPTABLE. THE STONES SHALL BE 3" WITH A MAXIMUM SIZE OF 6". THE STONE SHALL HAVE A SPECIFIC GRAVITY OF AT LEAST 2.6. CONTROL OF GRADATION WILL BE BY VISUAL INSPECTION. WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE VTC STONE TO HELP MINIMIZE MIGRATION OF THE STONE INTO THE UNDERLYING BASE MATERIAL.

5. ANY CRACKED OR DAMAGED CURB AND GUTTER AND SIDEWALK SHALL BE REPLACED BY PERMITEE. A CITY OF LONE TREE TEMPORARY CONSTRUCTION ACCESS PERMIT IS REQUIRED FOR EACH ACCESS/EXIT POINT FROM THE SITE.

A STOP SIGN INSTALLED IN ACCORDANCE WITH THE <u>MANUAL ON UNIFORM TRAFFIC CONTROL</u> <u>DEVICES (MUTCD)</u>, AS AMENDED, SHALL BE INSTALLED FOR EXITING TRAFFIC AT THE VTC.

HICLE TRACKING CONTROL WITH WHEEL WASH MAINTENANCE NOTES 1. GESC MANAGER SHALL INSPECT VEHICLE TRACKING CONTROL PADS DAILY. ACCUMULATED SEDIMENTS SHALL BE REMOVED FROM PAD SURFACE. STONE SURFACE SHALL BE CLEAN AND LOOSE ENOUGH TO RUT SLIGHTLY UNDER WHEEL LOADS SUFFICIENTLY TO CAUSE LOOSE GRAVEL TO DISLODGE MUD/SEDIMENT FROM VEHICLE TIRES. WHEN STONE BECOMES COMPACTED AND/OR FILLED WITH SEDIMENT SO THAT THE EFFECTIVENESS OF THE PAD IS DIMINISHED, CONTRACTOR SHALL RIP, TURN OVER, OR OTHERWISE LOOSEN THE STONE, PLACE ADDITIONAL NEW STONE, OR REPLACE STONE AS NECESSARY TO RESTORE EFFECTIVENESS.

ACCUMULATED SEDIMENT IN THE WASHWATER/SEDIMENT TRAP SHALL BE REMOVED WHEN THE SEDIMENT DEPTH REACHES AN AVERAGE OF 12-INCHES.

VEHICLE TRACKING CONTROL SHALL BE REMOVED AT THE END OF CONSTRUCTION, THE STONE MATERIAL AND GEOTEXTILE REMOVED OR, IF APPROVED BY THE CITY, USED ON SITE, AND THE AREA TOPSOILED, DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN CONFORMANCE WITH CITY APPROVED PLANS FOR SITE AND THE APPLICABLE GESC PERMIT.

WW VTC WITH WHEEL WASH 25

Sheet Revisions NOTE: SCALES SHOWN ARE ADOPTED FROM DOUGLAS COUNTY GESC PLANS OR 24"x36 EDIT UPDATES GAW 5/ /08 HEETS; ADJUS ACCORDINGLY ADD CURB SOCK DETAIL (REF UDFCD, V3 FIGURE C5-23), MISC. NOTE EDITS GAW FOR 11"x17



CITY OF LONE TREE DEPARTMENT OF PUBLIC WORKS Engineering Division

GESC GRADING, EROSION, AND SEDIMENT CONTROL

GESC PLAN STANDARD NOTES AND DETAILS

SHEET 3 OF 3

SHEET 17 OF 17

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