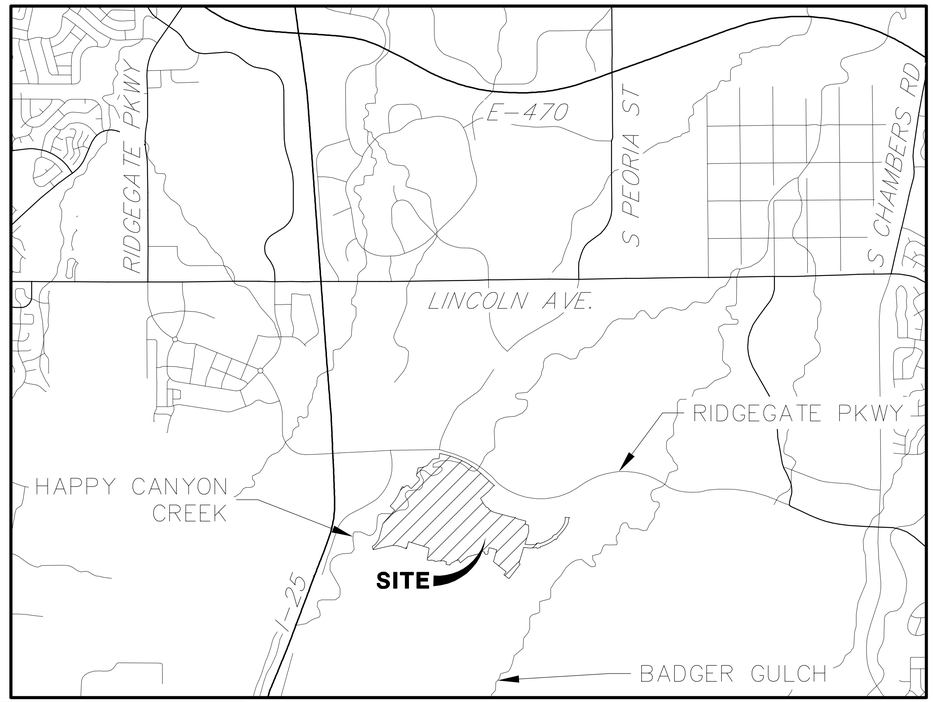
RIDGEGATE SOUTHWEST VILLAGE FILING 1

A PORTION OF THE RIDGEGATE PLANNED DEVELOPMENT DISTRICT, EAST SIDE PROPERTY
A PART OF SECTION 14, SECTION 22, SECTION 23, AND SECTION 24, TOWNSHIP 6 SOUTH, RANGE 67 WEST
OF THE 6TH P.M., CITY OF LONE TREE, COUNTY OF DOUGLAS, STATE OF COLORADO

INFRASTRUCTURE GRADING, EROSION, AND SEDIMENT CONTROL PLANS

ABBREVIATIONS

AC	ACRE
AD	ALGEBRAIC DIFFERENCE
AH	AHEAD
ARCH	ARCHITECT
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASSY	ASSEMBLY
AVE	AVENUE
BB	BOX BASE
BK	BACK
BNDY	BOUNDARY
BOP	BOTTOM OF PIPE
BOV	BLOW OFF VALVE
BFV	BUTTERFLY VALVE
BLVD	BOULEVARD
BW	BOTTOM OF WALL
C&G	CURB & GUTTER
CATV	CABLE TELEVISION
CB	CATCH BASIN
CBC	CONCRETE BOX CULVERT
CDOT	COLORADO DEPARTMENT OF TRANSPORTATION
CDS	CUL-DE-SAC
CFS	CUBIC FEET PER SECOND
CL	CENTER LINE
CLOMR	CONDITIONAL LETTER OF MAP REVISION
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CO	CLEAN OUT
CONC	CONCRETE
CR	CIRCLE
CSP	CORRUGATED STEEL PIPE
CT	COURT
CTRB	CONCRETE THRUST REDUCER BLOCK
CY	CUBIC YARD
DBPS	DRAINAGE BASIN PLANNING STUDY
DE	DRAINAGE EASEMENT
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DR	DRIVE
DRC	DESIGN REVIEW COMMITTEE
DU	DWELLING UNITS
E	EAST
EA	EACH
EGL	ENERGY GRADE LINE
EL	ELEVATION
ELEC	ELECTRIC
EOA	EDGE OF ASPHALT
ESMT	EASEMENT
EST	ESTIMATE
EX	EXISTING
FDP	FINAL DEVELOPMENT PLAN
FDR	FINAL DRAINAGE REPORT
FES	FLARED END SECTION
FG	FINISHED GRADE
FH	FIRE HYDRANT
FL	FLOWLINE
FIL	FILING
FO	FIBER OPTIC CABLE
GB	GRADE BREAK
GE	GAS EASEMENT
GIS	GEOGRAPHIC INFORMATION SYSTEM
GL	GAS LINE
GPS	GLOBAL POSITIONING SYSTEM
GV	GATE VALVE
HC	HANDICAP
HDC	HIGH DEFLECTION COUPLING
HDPE	HIGH DENSITY POLYETHYLENE
HGL	HYDRAULIC GRADE LINE
HOA	HOME OWNERS ASSOCIATION
HP	HIGH POINT
I	INLET
IE	IRRIGATION EASEMENT
INT	INTERSECTION
INV	INVERT
IRR	IRRIGATION
KB	KICK (THRUST) BLOCK
LE	LANDSCAPE EASEMENT
LF	LINEAR FEET
LN	LANE
LOMR	LETTER OF MAP REVISION
LP	LOW POINT
LS	LUMP SUM
LT	LEFT
MAX	MAXIMUM
MDDP	MASTER DEVELOPMENT DRAINAGE PLAN
MH	MANHOLE
MIN	MINIMUM
N	NORTH
NRCP	NON-REINFORCED CONCRETE PIPE
ODP	OFFICIAL DEVELOPMENT PLAN
OHE	OVERHEAD ELECTRIC
OHU	OVERHEAD UTILITY
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PCR	POINT OF CURB RETURN
PDP	PRELIMINARY DEVELOPMENT PLAN
PE	PROFESSIONAL ENGINEER
PI	POINT OF INTERSECTION
PKWY	PARKWAY
PL	PROPERTY LINE
PR	PROPOSED
PRC	POINT OF REVERSE CURVATURE
PT	POINT OF TANGENCY
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
ROW	RIGHT OF WAY
RT	RIGHT
S	SOUTH
STE	STEEL
SAN	SANITARY SEWER
SF	SQUARE FEET
ST	STREET
STA	STATION
STM	STORM SEWER
SY	SQUARE YARD
SY-IN	SQUARE YARD INCH
TB	THRUST BLOCK
TBC	TOP BACK OF CURB
TBW	TOP BACK OF WALK
TEL	TELEPHONE
TOA	TOP OF ASPHALT
TOB	TOP OF BOX
TOC	TOP OF CURB OR CONCRETE
TOE	TOE OF SLOPE
TOF	TOP OF FOUNDATION
TOP	TOP OF PIPE
TS	TOP OF SLOPE
TW	TOP OF WALL
TYP	TYPICAL
UDFCD	URBAN DRAINAGE AND FLOOD CONTROL DISTRICT
UE	UTILITY EASEMENT
U&DE	UTILITY & DRAINAGE EASEMENT
UGE	UNDERGROUND ELECTRIC
VCP	VITRIFIED CLAY PIPE
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
VTC	VEHICLE TRACKING CONTROL
W	WEST
WL	WATER LINE
WM	WATER MAIN
WRD	WATER RESOURCES DEPARTMENT
WS	WATER SURFACE
WSE	WATER SURFACE ELEVATION
WTR	WATER
YR	YEAR



VICINITY MAP
SCALE: 1"=2000'

APPLICANT/OWNER

SHEA HOMES
9380 STATION ST.
SUITE 600
LONE TREE, CO 80124
P~303.791.8180

CIVIL ENGINEER/SURVEYOR

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

TRAFFIC ENGINEER

JR ENGINEERING
7200 SOUTH ALTON WAY, SUITE C400
CENTENNIAL, CO
P~303.267.6183

GEOTECHNICAL ENGINEER

CTL THOMPSON, INC
1971 WEST 12TH VAE.
DENVER, CO 80204
P~303.825.0777

SOIL PREPARATION NOTE:

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

GEOTECHNICAL ENGINEER: CTL THOMPSON, INC
ROJECT NUMBER: DN49,935-115-R2

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.

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).

BASIS OF BEARING

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.

GENERAL NOTES:

1. THE SITE SHALL BE STRIPPED OF ALL VEGETATIVE AND ORGANIC MATERIAL A MINIMUM OF 6" IN ALL AREAS. ALL STRIPPING MATERIALS SHALL BE STOCKPILED ON SITE TO BE USED IN LANDSCAPING.
2. THE CONTRACTOR SHALL PROTECT ALL ADJACENT PROPERTY TO THE PROJECT WORK SITE (SEE THE GESC PLAN APPROVED BY CITY OF LONE TREE).
3. ALL SILT FENCE SHALL BE INSTALLED ALONG THE CONTOUR.
4. THE MAXIMUM HEIGHT OF ALL STOCKPILES SHALL BE 20' FROM FINISHED GROUND.
5. 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 REGULATIONS. 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).
6. 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.
7. ALL REFERENCES TO ANY PUBLISHED STANDARDS SHALL REFER TO THE LATEST REVISION OF SAID STANDARDS, UNLESS SPECIFICALLY STATED OTHERWISE.
8. 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.
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. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASPECTS OF PROJECT SAFETY INCLUDING, BUT NOT LIMITED TO, EXCAVATION, TRENCHING, SHORING, TRAFFIC CONTROL, AND SECURITY.
11. 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 ACCORDIANCE WITH THE GOVERNING AUTHORITY'S STANDARDS AND SPECIFICATIONS.
12. 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.
13. 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.
14. 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 THESE PLANS.
15. 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.
16. 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.
17. 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.
18. IF DEWATERING IS REQUIRED, A STATE CONSTRUCTION DEWATERING DISCHARGE PERMIT IS REQUIRED FOR DISCHARGES TO A STORM SEWER, CHANNEL, IRRIGATION DITCH, ANY STREET THAT IS TRIBUTARY TO THE AFOREMENTIONED FACILITIES OR ANY WATER OF THE UNITED STATES.
19. A STATE AIR QUALITY PERMIT IS REQUIRED FOR LAND DISTURBANCE ACTIVITIES THAT ARE MORE THAN 25 CONTIGUOUS ACRES OR MORE THAN 6 MONTHS IN DURATION. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL BE RESPONSIBLE FOR OBTAINING THE REQUIRED AIR QUALITY PERMIT AND FOR COMPLYING WITH ALL PROVISIONS INCLUDED THEREIN.
20. ALL ROADWAY OVER EXCAVATION TO BE DONE IN ACCORDANCE WITH GEOTECHNICAL RECOMMENDATIONS. FINAL PAVEMENT DESIGN TO BE PROVIDED BY GEOTECHNICAL ENGINEER AFTER OVERLOT GRADING IS COMPLETE. CONTRACTOR TO CONFIRM ROADWAY OVER EXCAVATION REQUIREMENTS WITH OWNER AND GEOTECHNICAL ENGINEER.

SHEET INDEX

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4	OVERALL SHEET INDEX
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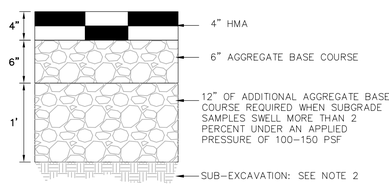
COMPACTION REQUIREMENTS

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

- PRIOR TO FILL PLACEMENT, THE GROUND SURFACE IN AREAS TO BE FILLED SHOULD BE STRIPPED OF DEBRIS, VEGETATION/ORGANICS AND OTHER DELETERIOUS MATERIAS, SCARIFIED AND MOISTURE CONDITIONED TO BETWEEN 1 AND 4 PERCENT ABOVE OPTIMUM MOISTURE CONTENT FOR CLAY OR WITHIN 2 PERCENT OF OPTIMUM FOR SAND AND GRAVEL, AND COMPACTED TO AT LEAST 95 PERCENT OF STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D 698)
- UTILITY TRENCH BACKFILL SHOULD BE MOISTENED BETWEEN OPTIMUM AND 4 PERCENT WETTER AND COMPACTED TO AT LEAST 95 PERCENT OF STANDARD PROCTOR MAXIMUM DRY DENSITY FOR CLAY AND MOISTENED WITHIN 2 PERCENT OF OPTIMUM AND COMPACTED TO 100 PERCENT OF STANDARD PROCTOR FOR SAND.
- SUB-EXCAVATION FILL SHOULD BE MOISTURE-CONDITIONED BETWEEN OPTIMUM AND 4 PERCENT ABOVE OPTIMUM MOISTURE CONTENT FOR CLAY OR WITHIN 2 PERCENT OF OPTIMUM FOR SAND. FILL SHOULD BE COMPACTED AT LEAST 95 PERCENT OF STANDARD PROCTOR MAXIMUM DRY DENSITY.

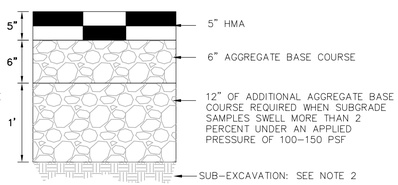
NOTICE TO CONTRACTOR:

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 ENGINEER.
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 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 TO SAID FACILITIES.



MINIMUM RESIDENTIAL LOCAL PAVEMENT SECTION
N.T.S.

NOTES:
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. ADDITIONAL SUB-EXCAVATION (3 TO 5 FEET) MAY BE MERITED.
3. ASPHALT, BASE COURSE DEPTH, AND SUBGRADE PRAPARTATION IS TO BE IN ACCORDANCE WITH GEOTECHNICAL RECOMMENDATIONS.



MINIMUM RESIDENTIAL COLLECTOR PAVEMENT SECTION
N.T.S.

NOTES:
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. ADDITIONAL SUB-EXCAVATION (3 TO 5 FEET) MAY BE MERITED.
3. ASPHALT, BASE COURSE DEPTH, AND SUBGRADE PRAPARTATION IS TO BE IN ACCORDANCE WITH GEOTECHNICAL RECOMMENDATIONS.

CITY OF LONE TREE

DATE

THESE CONSTRUCTION PLANS HAVE BEEN REVIEWED BY CITY OF LONE TREE FOR GRADING, EROSION AND SEDIMENT CONTROL (GESC) IMPROVEMENTS ONLY.

ENGINEERING DIVISION ACCEPTANCE BLOCK

Know what's **below.** **Call** before you dig.

ENGINEER'S STATEMENT

THE GRADING, EROSION, AND SEDIMENT CONTROL PLAN INCLUDED HEREIN HAS BEEN PREPARED UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH THE REQUIREMENTS OF CITY OF LONE TREE GRADING, EROSION, AND SEDIMENT CONTROL (GESC) CRITERIA

COLORADO REGISTERED AARON LEE CLUTTER 36742 PROFESSIONAL ENGINEER

DATE

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

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR
SHEA HOMES
9380 STATION STREET
SUITE 600
LONE TREE, CO
80124
(303) 791-8180

J·R ENGINEERING
A Westrian Company
Centennial 303-740-9393 • Colorado Springs 719-593-2593
Fort Collins 970-491-9888 • www.jrengineering.com

No.	REVISION	BY	DATE

H-SCALE	1"=2000'
V-SCALE	N/A
DATE	2/12/21
DESIGNED BY	MEP
DRAWN BY	MEP
CHECKED BY	

RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

COVER SHEET

SHEET 1 OF 41

JOB NO. 15950.01

LAYER LINETYPE LEGEND

	EXISTING	PROPOSED
PHASE LINE		
MATCH LINE		
SECTION LINE		
BOUNDARY LINE		
PROPERTY LINE		
EASEMENT LINE		
RIGHT OF WAY		
R.O.W. A LINE	A	A
CENTERLINE		
CITY LIMITS		
WIRE FENCE	X	X
CHAIN LINK FENCE	O	●
WOOD FENCE	◇	◆
MASONRY FENCE	□	■
GUARDRAIL		
CONC. BARRIER		
CABLE TV	TV	TV
ELECTRIC	E	E
FIBER OPTIC	FO	FO
GAS MAIN	G	G
IRRIGATION MAIN	IRR	IRR
OIL/PETRO. MAIN	O	O
OVERHEAD UTILITY	OHU	OHU
SANITARY SEWER	S	
STORM DRAIN		
TELEPHONE	T	T
WATER MAIN	W	
RAW WATER LINE	RWL	RWL
SWALE/WATERWAY FLOWLINE		
DIVERSION DITCH		
DIVERSION CHANNEL		
MAJOR DRAINAGE BASIN		
MINOR DRAINAGE BASIN		
TOP OF SLOPE		
TOE OF SLOPE		
EDGE OF WATER		
INDEX CONTOUR	6100	6100
INTERMEDIATE CONTOUR		
DEPRESSION CONT. (INDEX)	6100	6100
DEPRESSION CONT. (INTER)		
TOP OF CUTS		
TOE OF FILLS		
CUT AND FILL LINE		C/F C/F
SILT FENCE	SF SF	SF SF
100 YEAR FLOODPLAIN	100YR	100YR
500 YEAR FLOODPLAIN	500YR	500YR
FLOODWAY	FLDWY	FLDWY
BASE FLOOD ELEVATION		
EDGE OF WETLANDS		
STONE WALL		
PROPOSED FLOW ARROW		
EXISTING FLOW ARROW		

UTILITIES LEGEND

	EXISTING	PROPOSED
STORM SEWER		
MANHOLE	D	●
STORM INLET		▣
AREA INLET – SQUARE	□	
AREA INLET – ROUND	○	
FLARED END SECTION	▷	
RIPRAP		
SANITARY SEWER		
LINE MARKER	Mkr San	
SERVICE MARKER	S	
CLEAN-OUT		
MANHOLE W/ DIRECTIONAL FLOW ARROW	S	
WATER LINE		
LINE MARKER	Mkr W	
SERVICE MARKER	W	
FIRE HYDRANT		
FIRE CONNECTION		
MANHOLE	W	●
BEND		
BLOW-OFF VALVE	B	
WELL	WELL	WELL
METER	W	●
VALVE		
REDUCER		
THRUST BLOCK		
CROSS		
PLUG W/ THRUST BLOCK		
TEE		
REVERSE ANCHOR		
ANODE		
AIR & VACUUM VALVE ASSEMBLY		
TRANSMISSION BLOW-OFF ASSEMBLY		
GAS LINE		
MARKER	Mkr G	
SERVICE MARKER	G	
METER	G	●
VALVE		
PLUG		
TEE		
DRY UTILITIES		
CABLE TV MARKER	Mkr TV	
CABLE TELEVISION PEDESTAL	TV	
ELECTRIC MARKER	Mkr E	
ELECTRIC SERVICE MARKER	E	
ELECTRICAL PEDESTAL	E	
ELECTRICAL METER	E	
ELECTRICAL MANHOLE	E	
FIBER-OPTIC MARKER	Mkr FO	
IRRIGATION PEDESTAL	I	
TELEPHONE MARKER	Mkr T	
TELEPHONE PEDESTAL	T	
TELEPHONE MANHOLE	T	
UTILITY POLE		
GUY ANCHOR		
GUY POLE		
MISC. UTILITIES		
VENT PIPE	VP VP	VP
TEST HOLE DESIGNATOR	TH# FIRM FREQUENCY	

MONUMENTATION LEGEND

ALUMINUM CAP – FOUND	AC
BRASS CAP – FOUND	BC
BENCHMARK – FOUND	
CROSS – FOUND	
MONUMENT – SET	
MONUMENT – FOUND (DEFAULT)	
MONUMENT – FOUND (ALTERNATE 1)	
MONUMENT – FOUND (ALTERNATE 2)	
MONUMENT – FOUND (ALTERNATE 3)	
MONUMENT – FOUND (ALTERNATE 4)	
MONUMENT – FOUND (ALTERNATE 5)	
MONUMENT – FOUND (ALTERNATE 6)	
MONUMENT – FOUND (ALTERNATE 7)	
NAIL & WASHER – FOUND	NAIL & WASHER
PANEL – FOUND	
PK NAIL – FOUND	PK NAIL
ROW MONUMENT – FOUND	
ROW MARKER – FOUND	
SECTION CORNER – FOUND	
SECTION CORNER – SET	
QUARTER-SECTION CORNER – FOUND	
QUARTER-SECTION CORNER – SET	
SECTION CENTER – FOUND	
SECTION CENTER – FOUND	
CONTROL/TRAVERSE POINT – SET	

TRAFFIC LEGEND

	EXISTING	PROPOSED
PARKING METER		
TRAFFIC SIGNAL BOX		
TRAFFIC SIGNAL POLE		
TRAFFIC SIGNAL		
BARRICADE		
GUARD RAIL POST		
IMPACT ATTENUATOR		
BRIDGE STYLE HIGHWAY SIGN POST		
CANTILEVER STYLE HIGHWAY SIGN POST		
SIGN		
RAILROAD MARKER/SIGN		
STREET LIGHT		
STREET LIGHT – SINGLE		
STREET LIGHT – DOUBLE		
LUMINAIRE		
ALTERNATE LUMINAIRE		
SIGNAL MAST ARM W/ LUMINAIRE		
PEDESTAL POLE FOUNDATION		
TRAFFIC SIGNAL POLE		
ROUND PULL BOX		
MEDIUM PULL BOX		
LARGE PULL BOX (20X33X15)		
SIGNAL HEAD WITHOUT BACK PLATE		
SIGNAL HEAD WITH BACK PLATE		
PEDESTRIAN SIGNAL HEAD		
VIDEO IMAGE DETECTOR		
OPTICOM DETECTOR		
VEHICLE DETECTION ZONE		V

STORM WATER MANAGEMENT

	KEY	SYMBOL
CHECK DAM	CD	
CONSTRUCTION MARKER	CM	
CONSTRUCTION ROAD STABILIZATION	CRS	
CURB SOCK INLET PROTECTION	CS	
CONCRETE WASHOUT AREA	CWA	
DIVERSION DITCH AND DIKE, TEMPORARY	DD	
DIVERSION CHANNEL, TEMPORARY	DV	
DEWATERING	DW	
EROSION CONTROL BLANKET	ECB	
INLET FILTER	IF	
INLET PROTECTION	IP	
SUMP INLET PROTECTION	SIP	
OUTLET PROTECTION	OP	
PAVED FLUME	PF	
REINFORCED CONCRETE DAM	RCD	
ROUGH CUT STREET CONTROL	RCS	
RRB	RRB	
SEDIMENT BASIN	SB	
SEDIMENT CONTROL LOG	SCL	
SILT FENCE	SF	SF
SEEDING, MULCHING, OR PERMANENT LANDSCAPE. REF. LANDSCAPE PLANS UNDER SEPARATE COVER.	SM	
SURFACE ROUGHENING	SR	
STABILIZED STAGING AREA	SSA	
SEDIMENT TRAP	ST	
STRAW BALE BARRIER	STB	
TERRACING	TER	
TEMPORARY STREAM CROSSING CULVERT/BRIDGE	TSC C	
TEMPORARY STREAM CROSSING FORD TYPE	TSC F	
TEMPORARY SLOPE DRAIN	TSD	
VEHICLE TRACKING CONTROL	VTC	
VEHICLE TRACKING CONTROL WITH WASH RACK	WR	

DRAINAGE REPORT PLANS

	KEY
BASIN DESIGNATION (NO COEFFICIENT)	# / #.##
BASIN DESIGNATION (1 COEFFICIENT)	# / #.# / #
BASIN DESIGNATION (2 COEFFICIENTS)	# / #.# / # / #
ANALISYS POINT IDENTIFIER	#
BASIN DESIGNATION (HISTORIC)	# / #.##
BASIN DESIGNATION (DEVELOPED)	# / #.##
SUB-BASIN DESIGNATION (DEVELOPED)	# / #.#
DRAINAGE PIPE IDENTIFIER	##
DRAINAGE POINT IDENTIFIER (HEXAGONAL)	##
DRAINAGE POINT IDENTIFIER (TRIANGULAR)	?
SWMM DESIGNATION 1	#
SWMM DESIGNATION 2	#
SWMM DESIGNATION 3	#
SWMM DESIGNATION 4	?

LANDSCAPE LEGEND

	EXISTING	PROPOSED
TREE – CONIFEROUS		
TREE – DECIDUOUS		
SHRUB/BUSH		
SHRUBS AND BUSHES		
IRRIGATION BOX		
IRRIGATION SPRINKLER		
IRRIGATION VALVE	FP	

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ENGINEER'S STATEMENT

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

DATE

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SUITE 600
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80124
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DRAWN BY	N/A
CHECKED BY	

RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

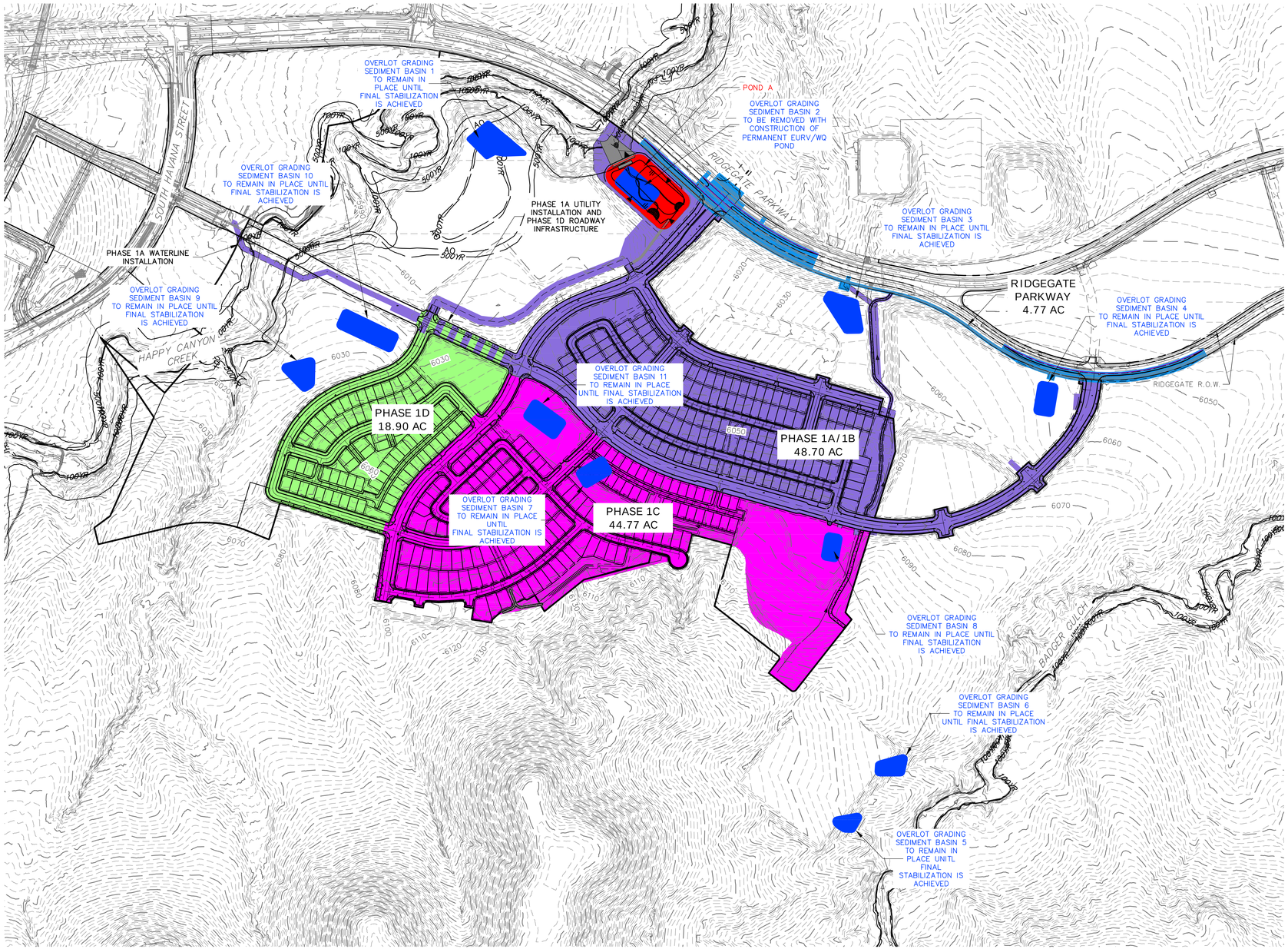
LEGEND

SHEET 2 OF 41

JOB NO. 15950.01

RIDGEGATE SOUTHWEST VILLAGE FILING 1

INFRASTRUCTURE OVERALL PHASING PLAN



LEGEND

PHASE 1A/1B (48.70 AC)	INSTALL UTILITY AND ROADWAY INFRASTRUCTURE, BRING TO FINAL GRADE, FINAL STABILIZATION
PHASE 1C (44.77 AC)	INSTALL UTILITY AND ROADWAY INFRASTRUCTURE, BRING TO FINAL GRADE, FINAL STABILIZATION
PHASE 1D (18.90 AC)	INSTALL UTILITY AND ROADWAY INFRASTRUCTURE, BRING TO FINAL GRADE, FINAL STABILIZATION
RIDGEGATE PARKWAY IMPROVEMENTS (4.77 AC)	CONSTRUCT ACCELERATION LANES, DECELERATION LANES, SIDEWALK, AND LANDSCAPING FOR RIDGEGATE PARKWAY
DETENTION PONDS	
SEDIMENTATION BASINS	

NOTE

TOTAL DISTURBANCE IS NOT TO EXCEED 70.0 ACRES AT ANY TIME. THE REGIONAL PARK AREA IS TO SERVE AS A GENERAL FILL AREA FOR ALL PHASES OF CONSTRUCTION. PORTIONS OF EACH PHASE MAY NEED TO BE STABILIZED PRIOR TO DISTURBING ADDITIONAL AREA WITHIN THAT PHASE SO THAT TOTAL DISTURBANCE DOES NOT EXCEED 70.0 ACRES.

300 150 0 300 600

ORIGINAL SCALE: 1" = 400'

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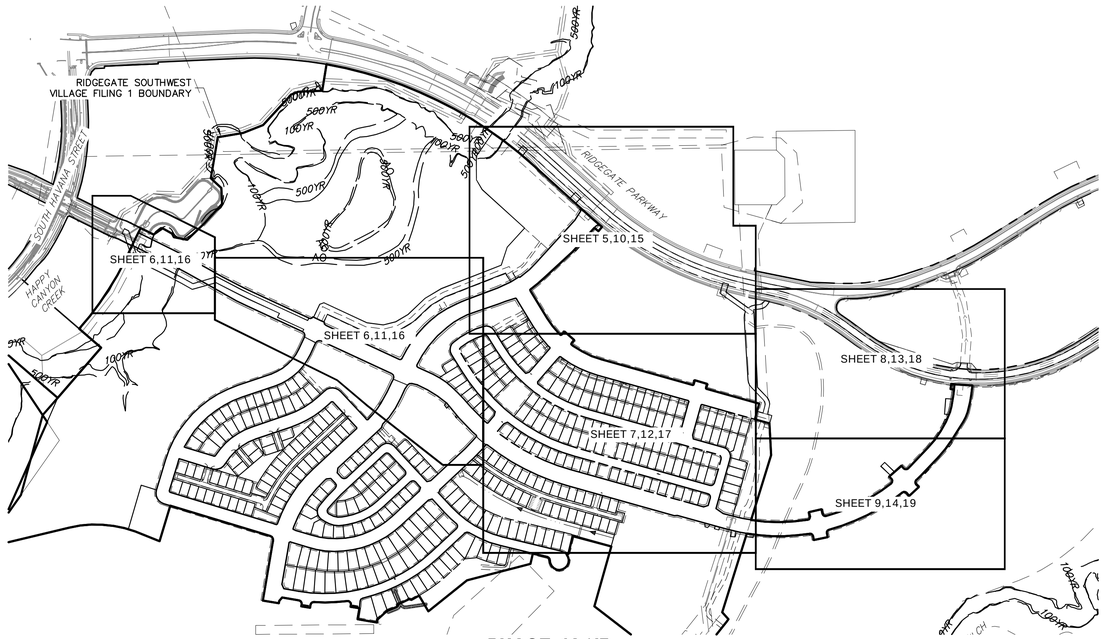
RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

OVERALL PHASING PLAN

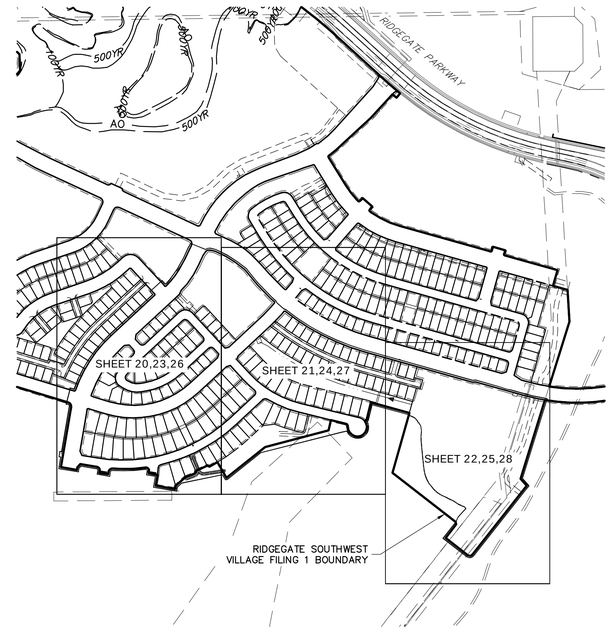
SHEET 3 OF 41

JOB NO. 15950.01

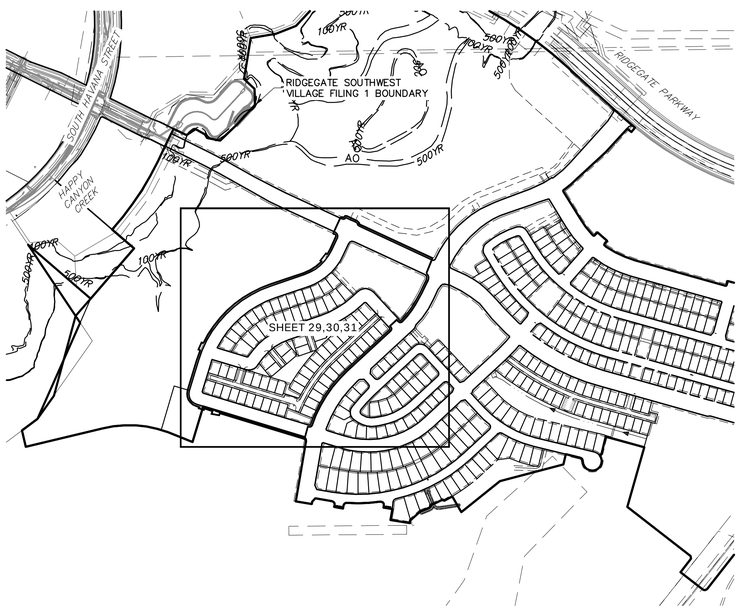
RIDGEGATE SOUTHWEST VILLAGE FILING 1
OVERALL SHEET INDEX



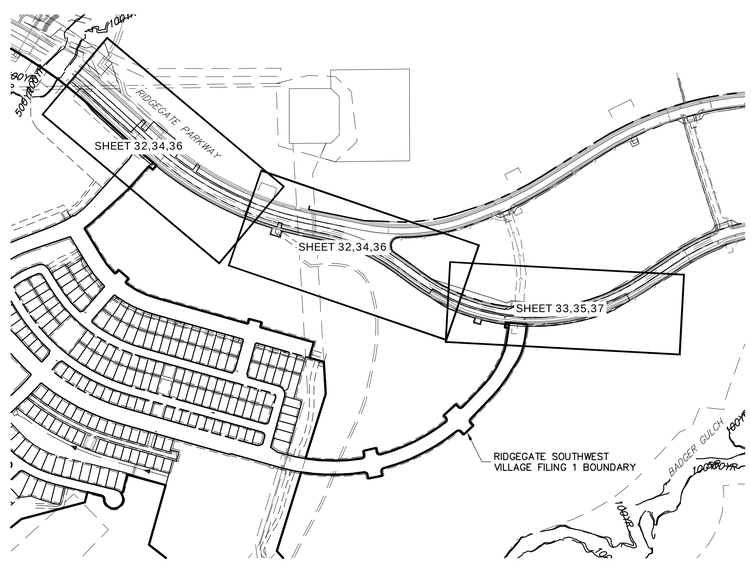
PHASE 1A/1B



PHASE 1C



PHASE 1D



RIDGEGATE PARKWAY PHASE

400 200 0 400 800

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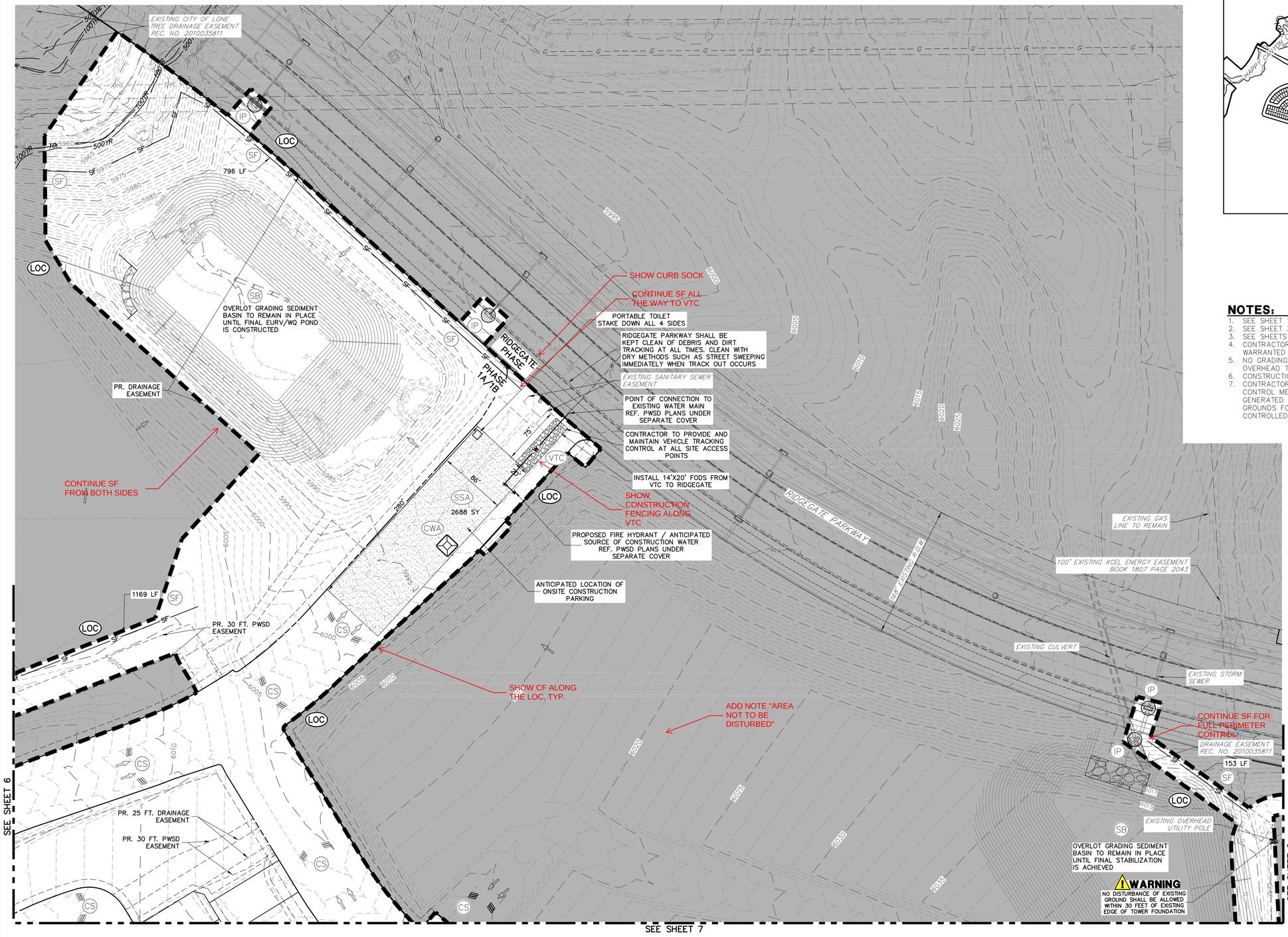
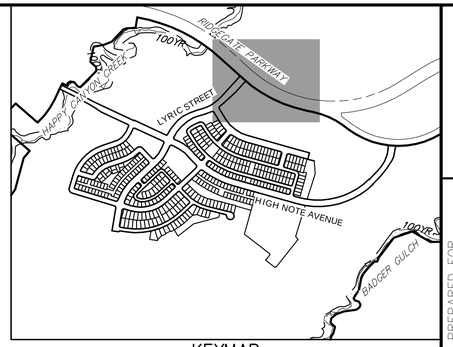
RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

OVERALL SHEET INDEX

SHEET 4 OF 41

JOB NO. 15950.01





KEYMAP
SCALE: 1"=1000'

NOTES:

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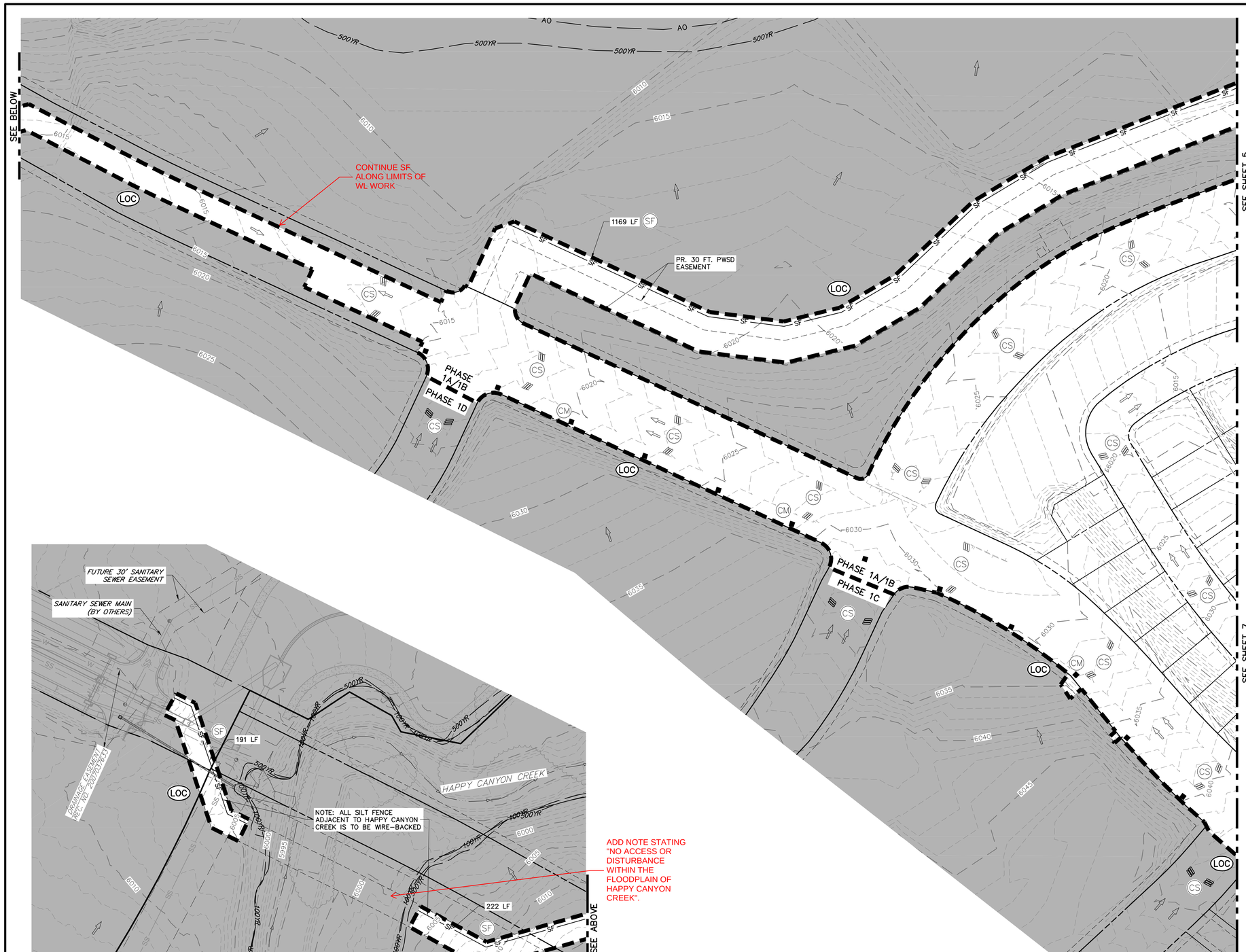
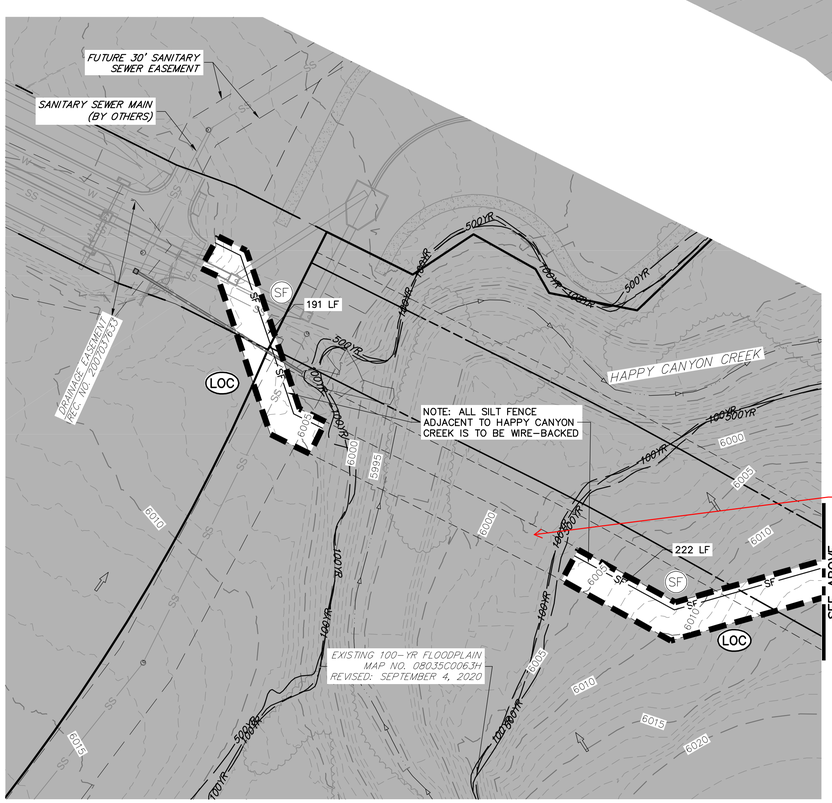
RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

PHASE 1A–1B INITIAL GESC PLAN

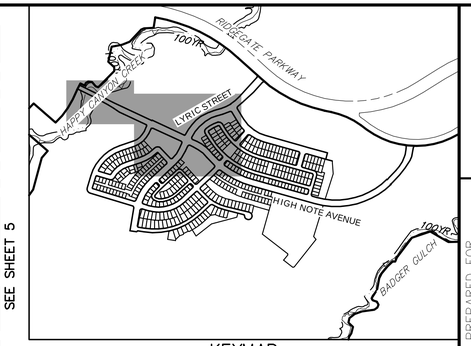
SHEET 5 OF 41

JOB NO. 15950.01





ADD NOTE STATING "NO ACCESS OR DISTURBANCE WITHIN THE FLOODPLAIN OF HAPPY CANYON CREEK".



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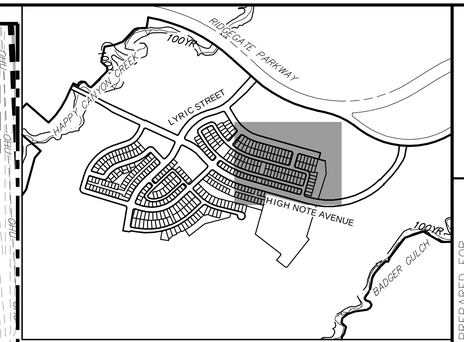
RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

PHASE 1A–1B INITIAL GESC PLAN

SHEET 6 OF 41

JOB NO. 15950.01



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SHEET 7 OF 41

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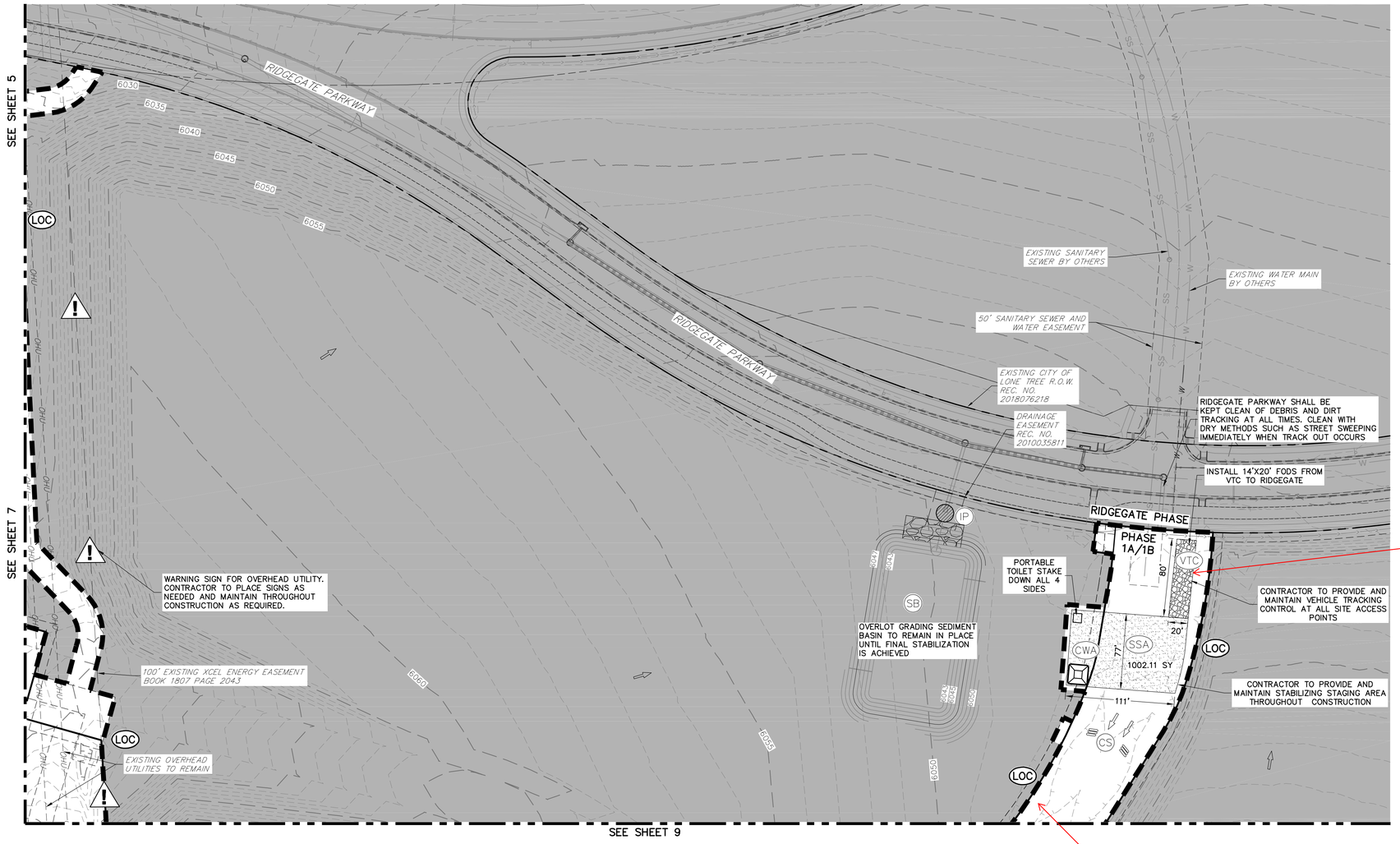

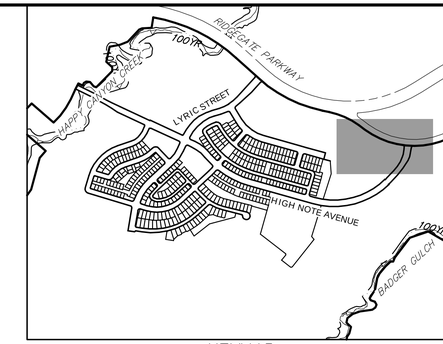

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PHASE 1A–1B INITIAL GESC PLAN

SHEET 8 OF 41

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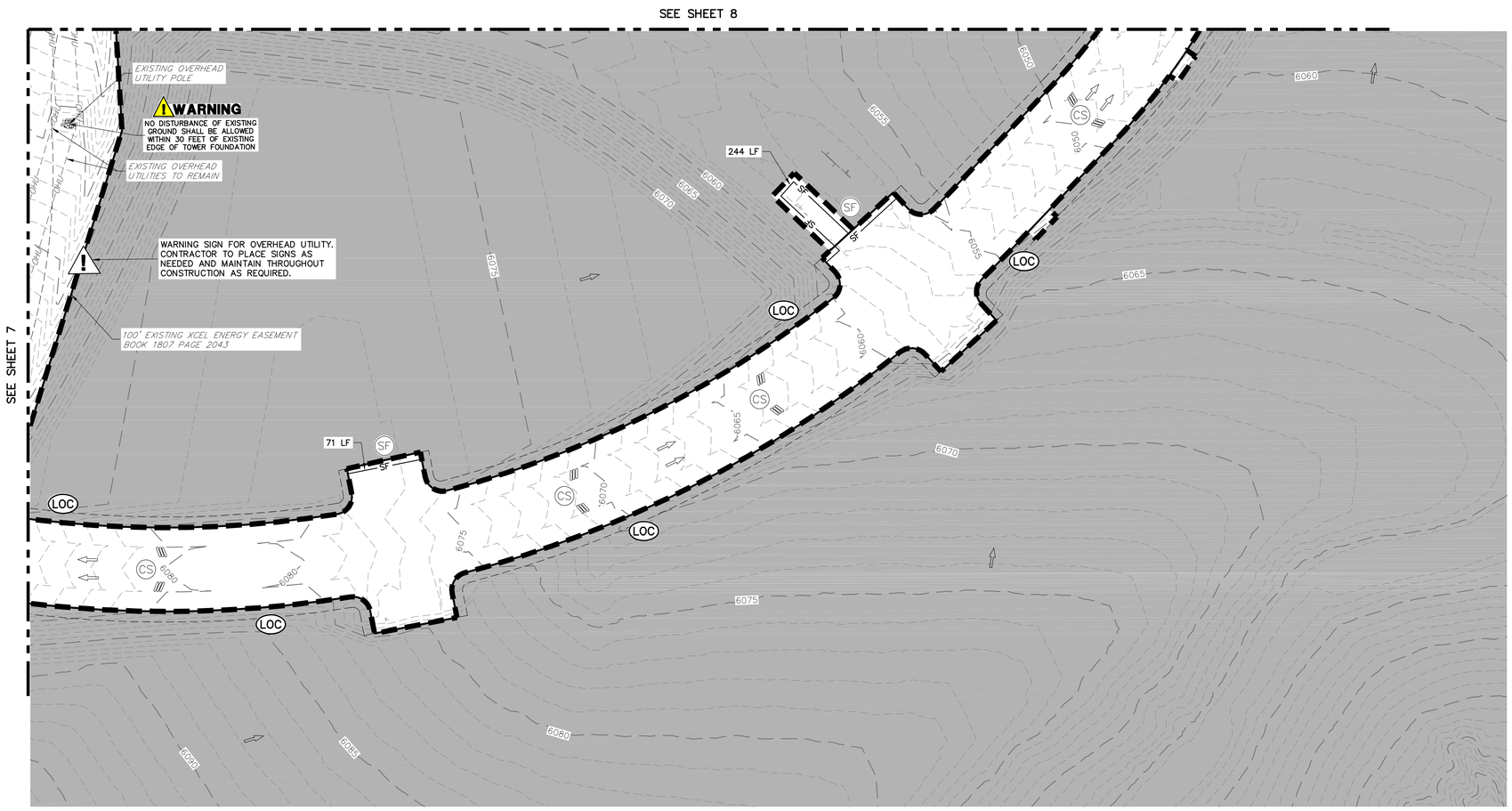

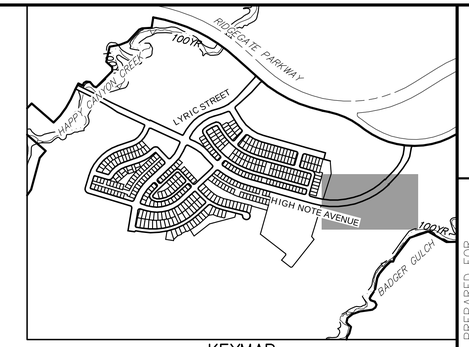

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RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

PHASE 1A–1B INITIAL GESC PLAN

SHEET 9 OF 41

JOB NO. 15950.01

EXISTING CITY OF LONE TREE DRAINAGE EASEMENT REC. NO. 2010035811

ECB 0.2 AC

ECB 0.2 AC

LOC

OVERLOT GRADING SEDIMENT BASIN TO REMAIN IN PLACE UNTIL FINAL EURV/WQ POND IS CONSTRUCTED

CHANGE TO RRC, TYP. ALL

SHOW ECB IN ALL TREE LAWN AREAS, TYP. ALL INTERIM/FINAL DRAWINGS.

1169 LF

PORTABLE TOILET STAKE DOWN ALL 4 SIDES

RIDGEGATE PARKWAY SHALL BE KEPT CLEAN OF DEBRIS AND DIRT TRACKING AT ALL TIMES. CLEAN WITH DRY METHODS SUCH AS STREET SWEEPING IMMEDIATELY WHEN TRACK OUT OCCURS

EXISTING SANITARY SEWER EASEMENT

RIDGEGATE PHASE

PHASE 1A/1B

TRACT BK

CONTRACTOR TO PROVIDE AND MAINTAIN VEHICLE TRACKING CONTROL AT ALL SITE ACCESS POINTS

RIDGEGATE PARKWAY

128' EXISTING R.O.W.

EXISTING GAS LINE TO REMAIN

100' EXISTING XCEL ENERGY EASEMENT BOOK 1807 PAGE 2043

EXISTING CULVERT

EXISTING STORM SEWER

DRAINAGE EASEMENT REC. NO. 2010035811

153 LF

EXISTING OVERHEAD UTILITY POLE

OVERLOT GRADING SEDIMENT BASIN TO REMAIN IN PLACE UNTIL FINAL STABILIZATION IS ACHIEVED

WARNING

NO DISTURBANCE OF EXISTING GROUND SHALL BE ALLOWED WITHIN 30 FEET OF EXISTING EDGE OF TOWER FOUNDATION

LYRIC STREET

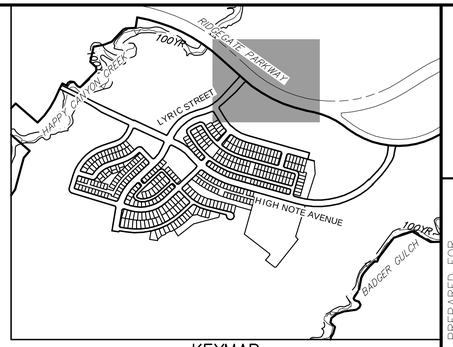
OCTAVE AVENUE

S.F.A. TRACT AR

SEE SHEET 11

SEE SHEET 12

SEE SHEET 13



KEYMAP

SCALE: 1"=1000'

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3. SEE SHEETS 39–41 FOR STANDARD GESC DETAILS.
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60 30 0 60 120

ORIGINAL SCALE: 1" = 60'

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ENGINEER'S STATEMENT

PREPARED UNDER MY SUPERVISION

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

DATE

COLORADO REGISTERED AARON LEE CLUTTER 36742 PROFESSIONAL ENGINEER

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A Westrian Company
Centennial 303-740-9393 • Colorado Springs 719-593-2593
Fort Collins 970-491-9888 • www.jrengineering.com

No.	REVISION	BY	DATE

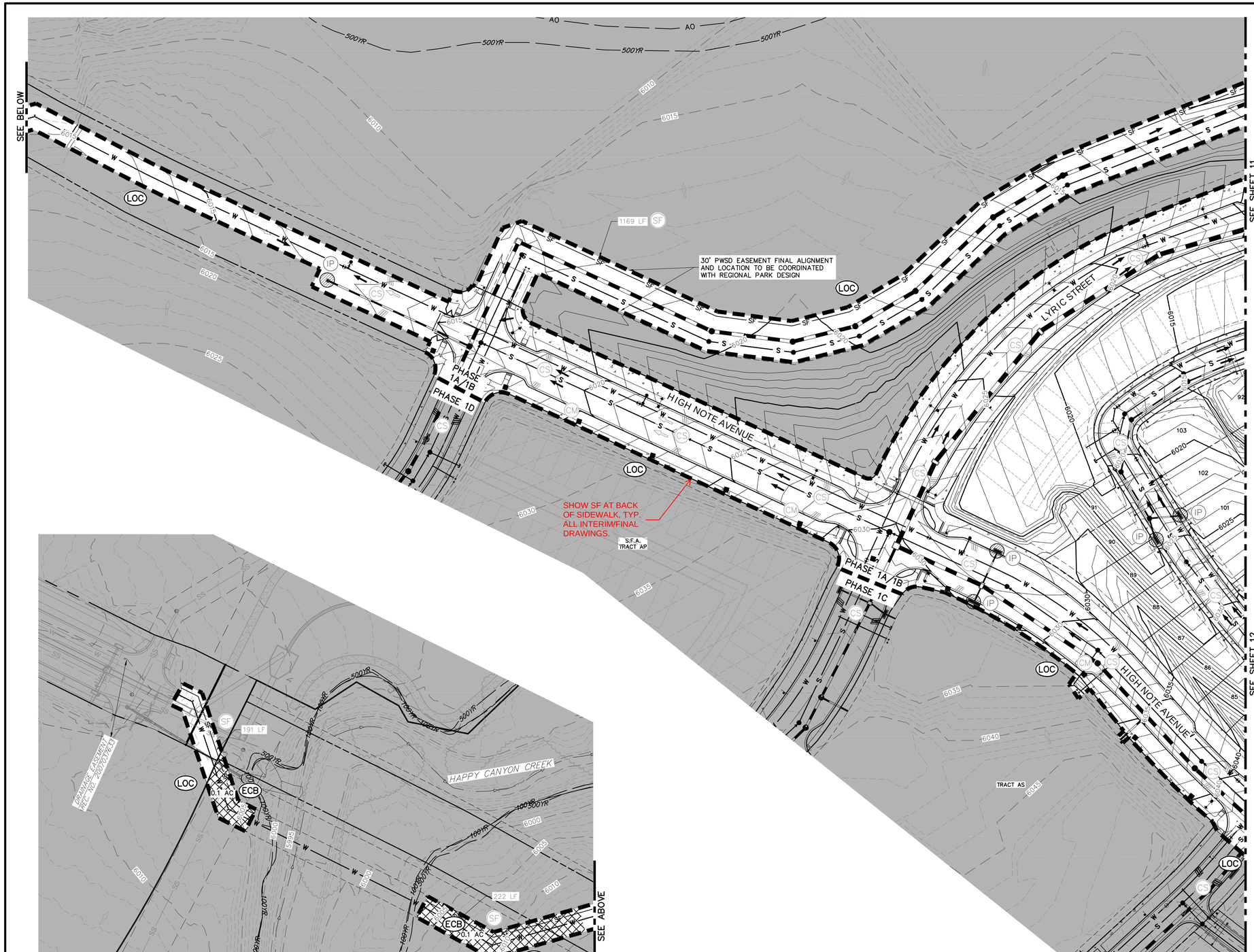
H-SCALE	1"=60'
V-SCALE	N/A
DATE	2/12/21
DESIGNED BY	MEP
DRAWN BY	MEP
CHECKED BY	

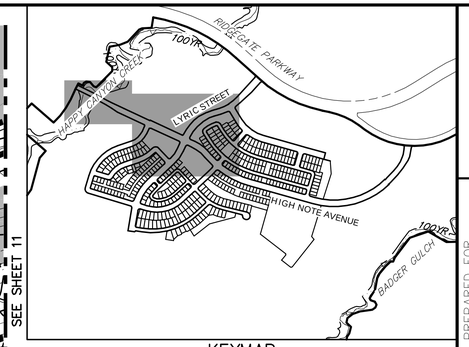
RIDGEGATE SW VILLAGE FLG 1 INFRASTRUCTURE GESC PLANS

PHASE 1A–1B INTERIM GESC PLAN

SHEET 10 OF 41

JOB NO. 15950.01





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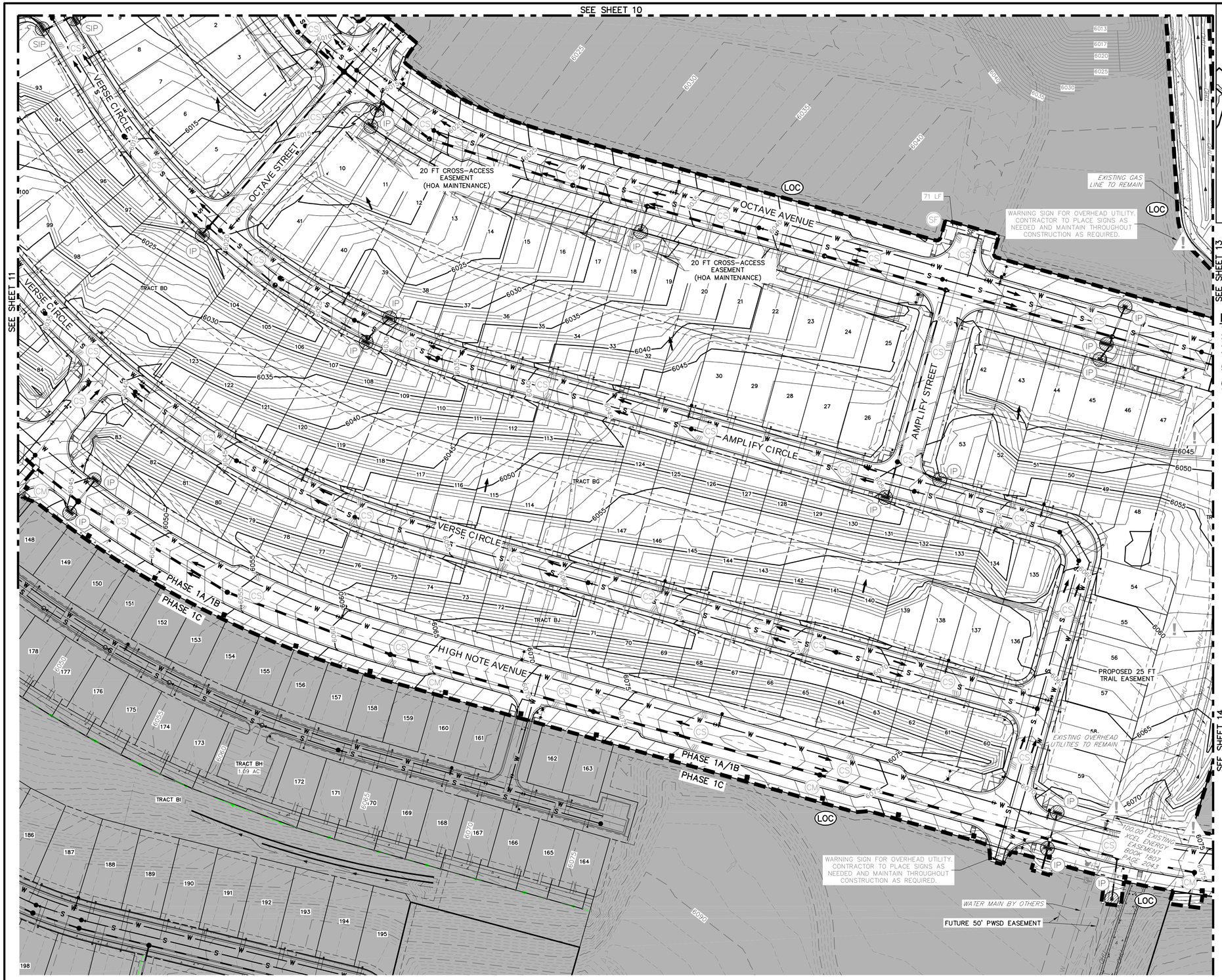
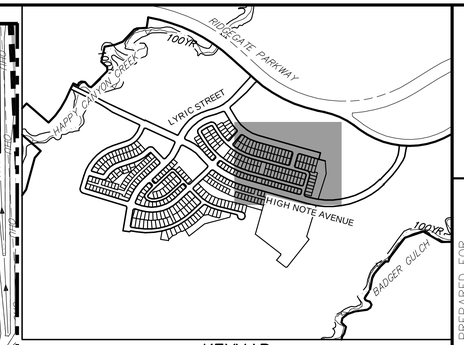
RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

PHASE 1A-1B INTERIM GESC PLAN

SHEET 11 OF 41

JOB NO. 15950.01





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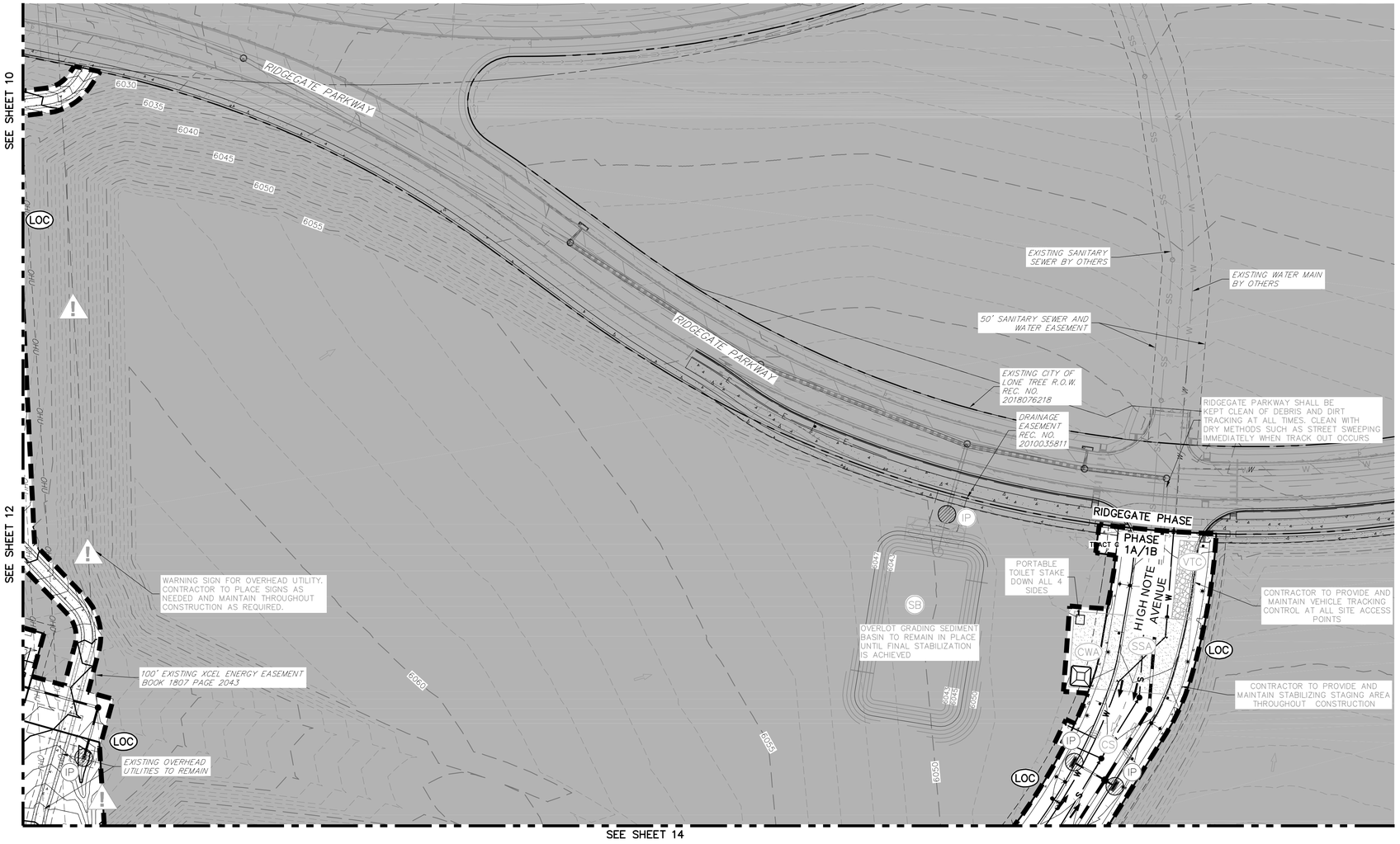
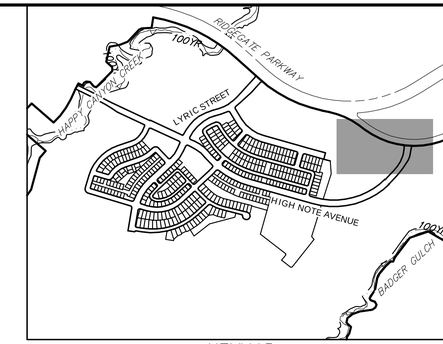
RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

PHASE 1A–1B INTERIM GESC PLAN

SHEET 12 OF 41

JOB NO. 15950.01





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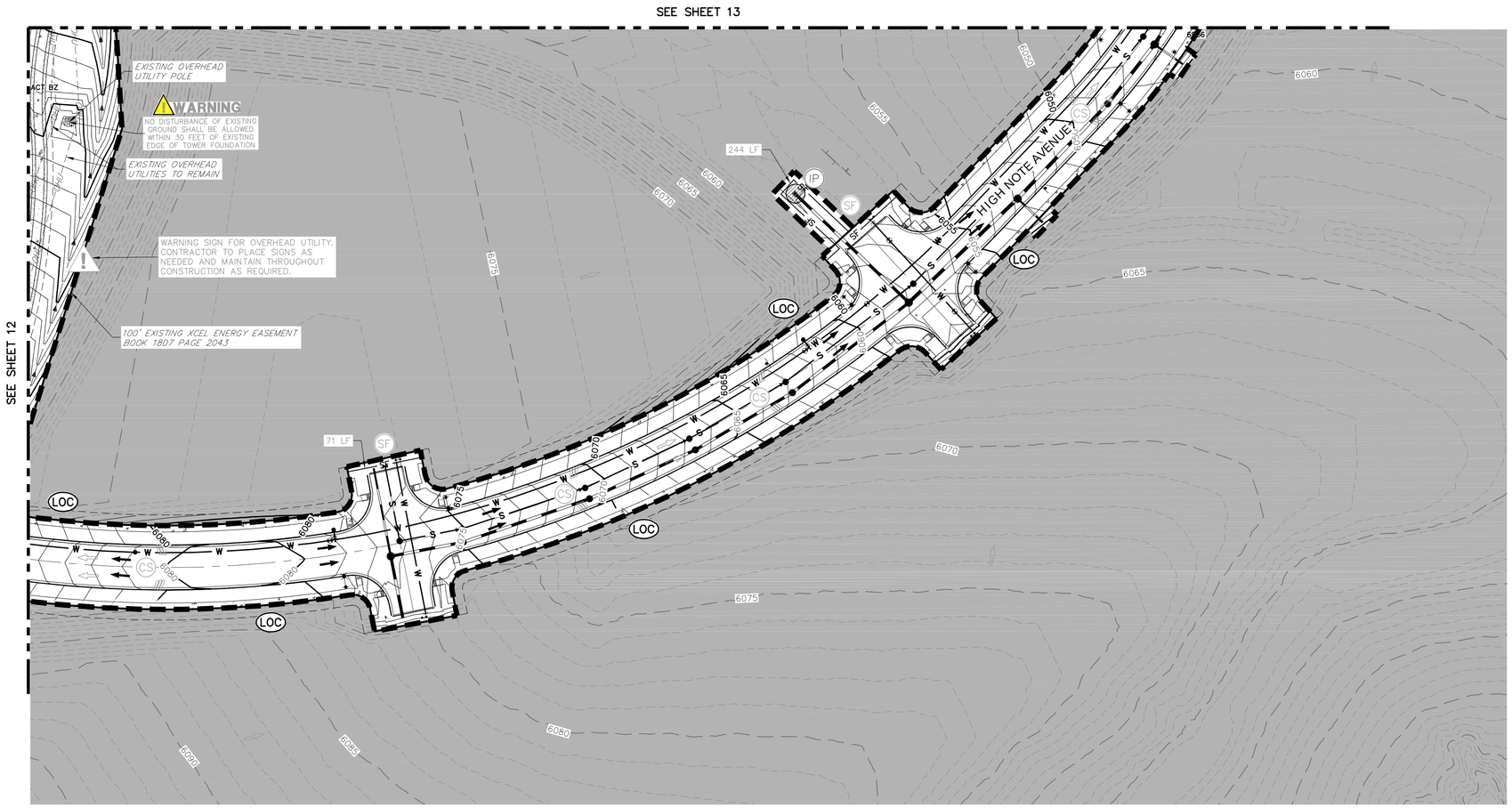
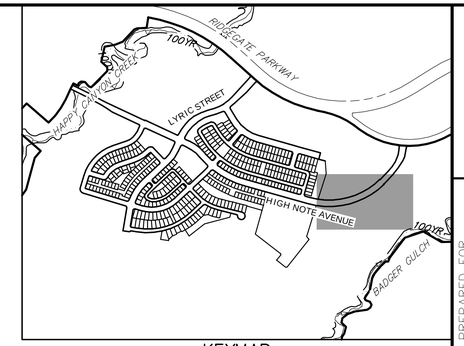
RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

PHASE 1A–1B INTERIM GESC PLAN

SHEET 13 OF 41

JOB NO. 15950.01





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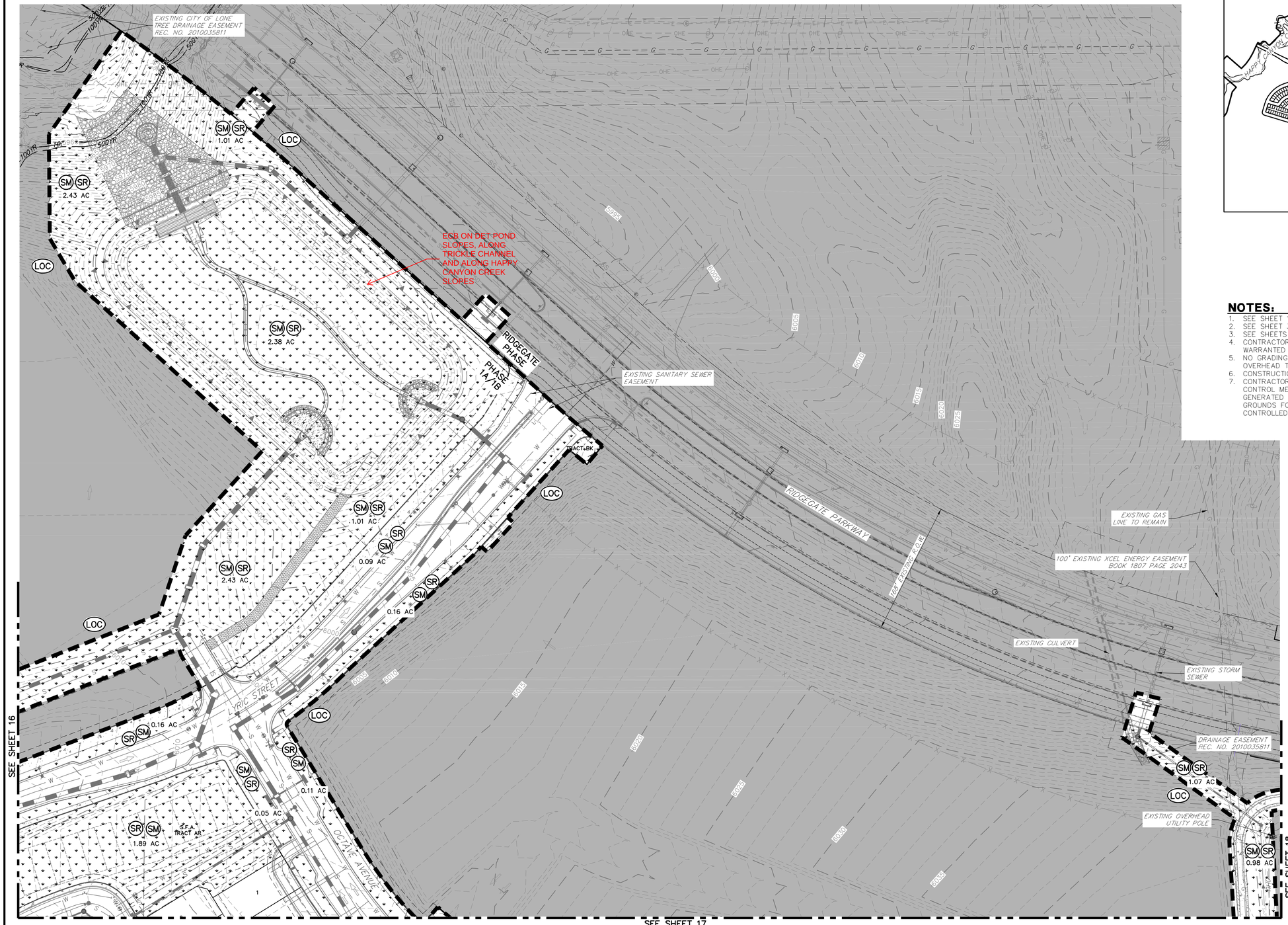
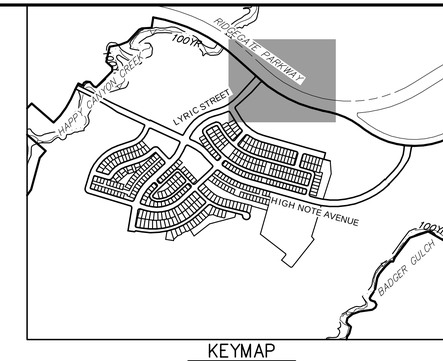
RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

PHASE 1A–1B INTERIM GESC PLAN

SHEET 14 OF 41

JOB NO. 15950.01





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LANDSCAPE LEGEND

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60 30 0 60 120
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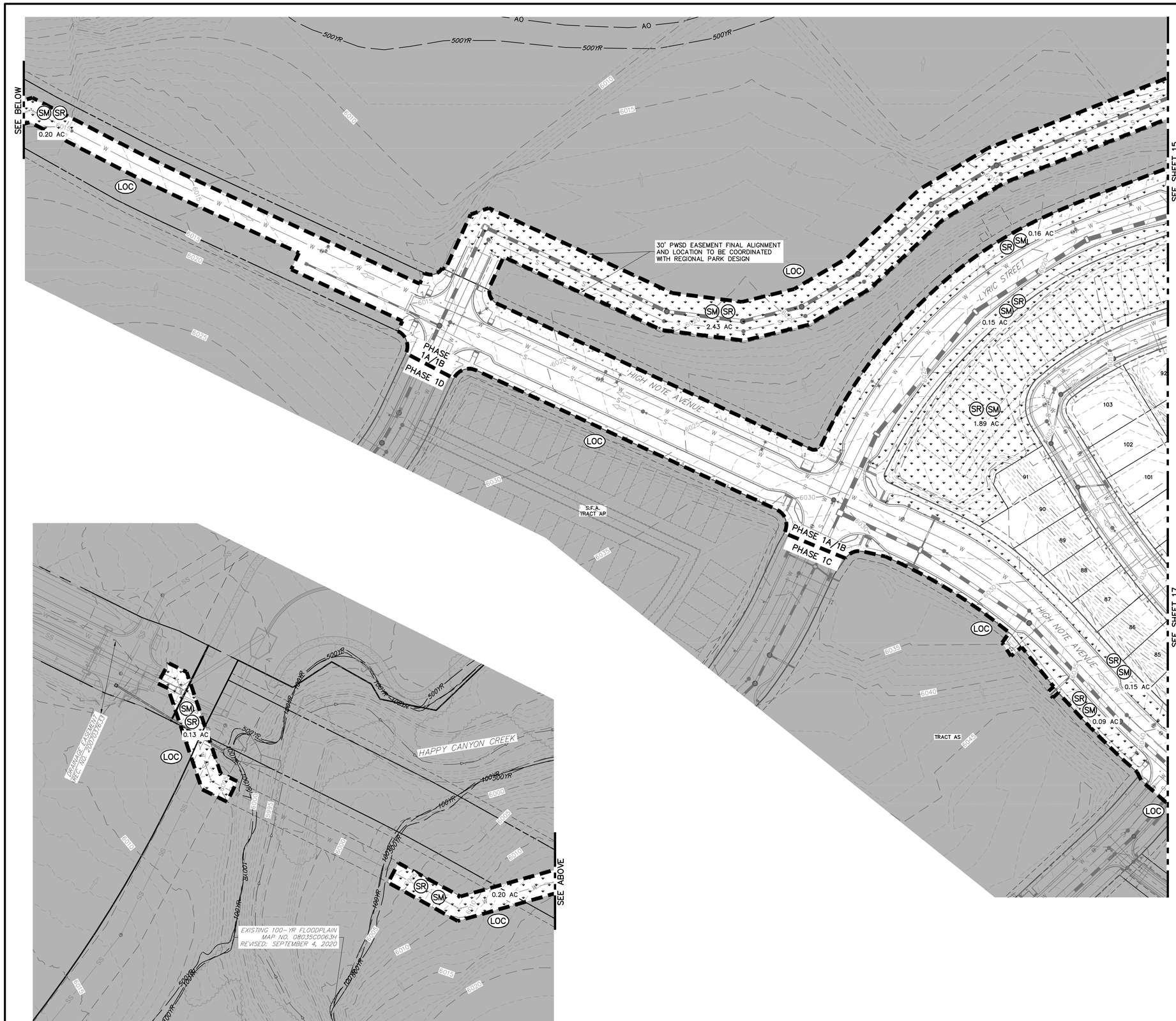
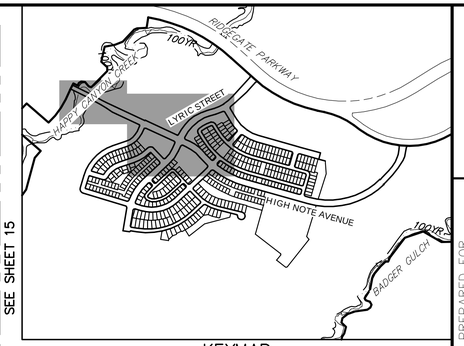
RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

PHASE 1A–1B FINAL GESC PLAN

SHEET 15 OF 41

JOB NO. 15950.01





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60 30 0 60 120
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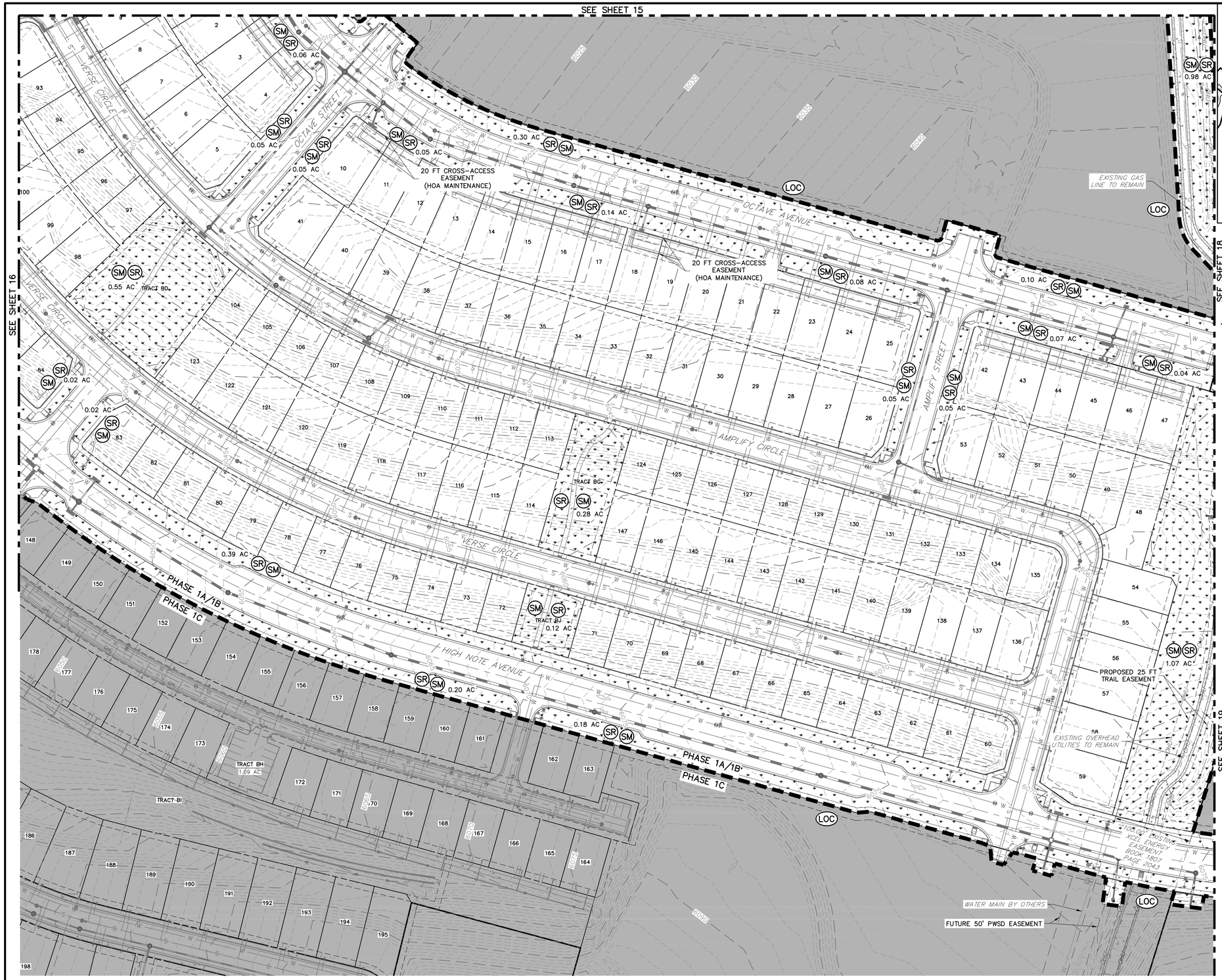
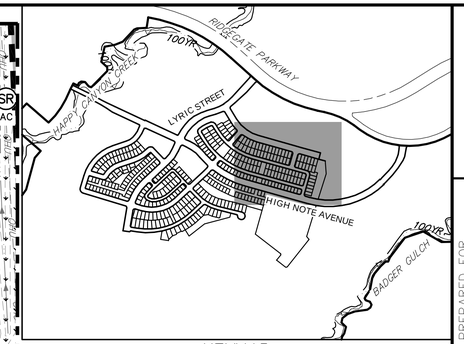
RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

PHASE 1A–1B FINAL GESC PLAN

SHEET 16 OF 41

JOB NO. 15950.01





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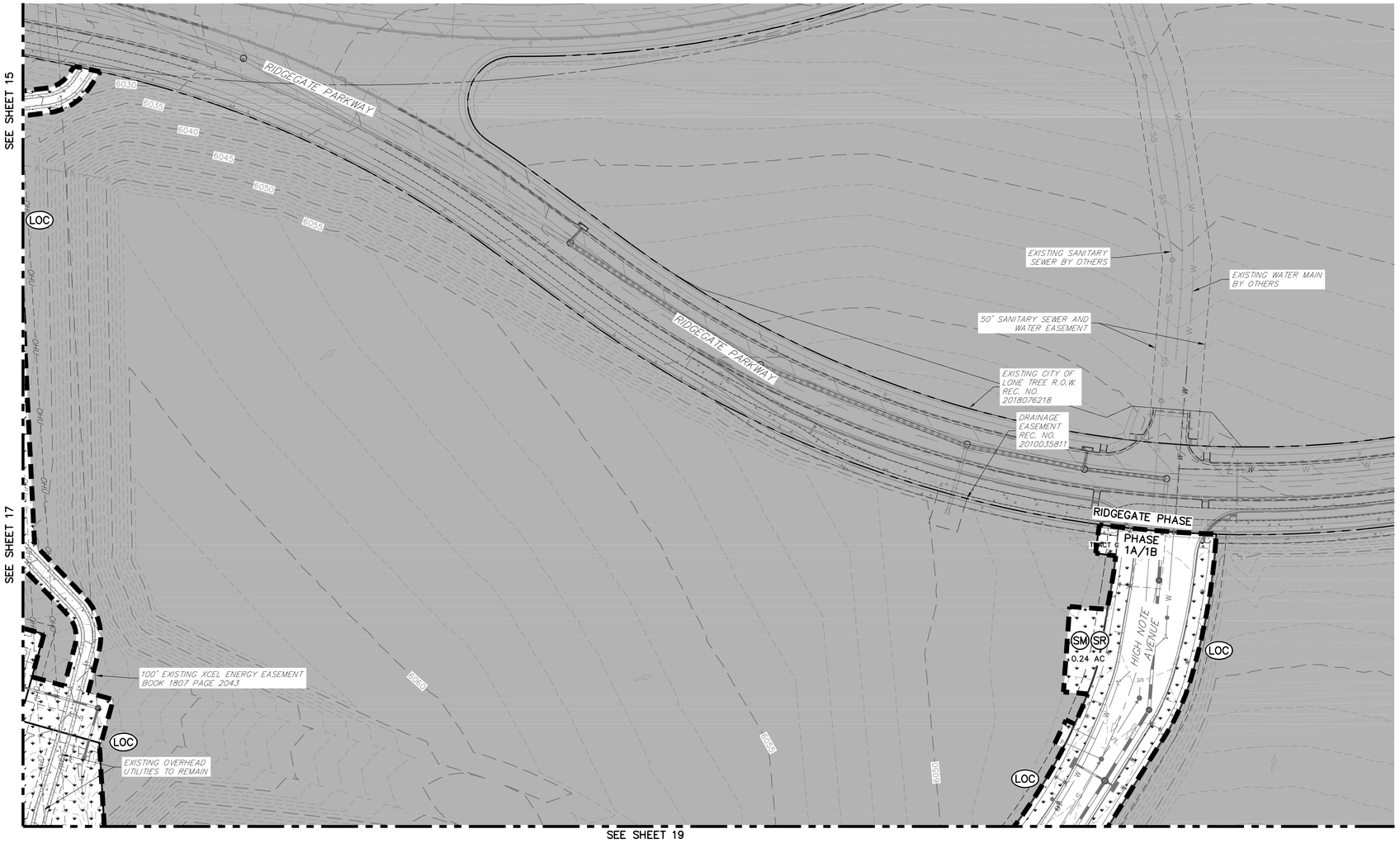
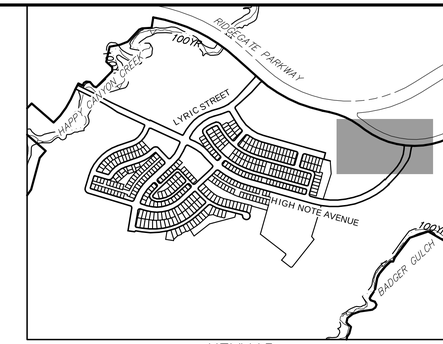
RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

PHASE 1A–1B FINAL GESC PLAN

SHEET 17 OF 41

JOB NO. 15950.01





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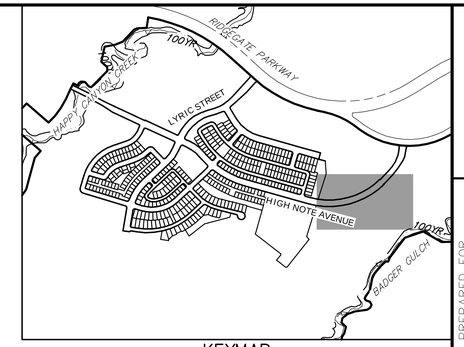
DRAWN BY	MEP
CHECKED BY	

RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

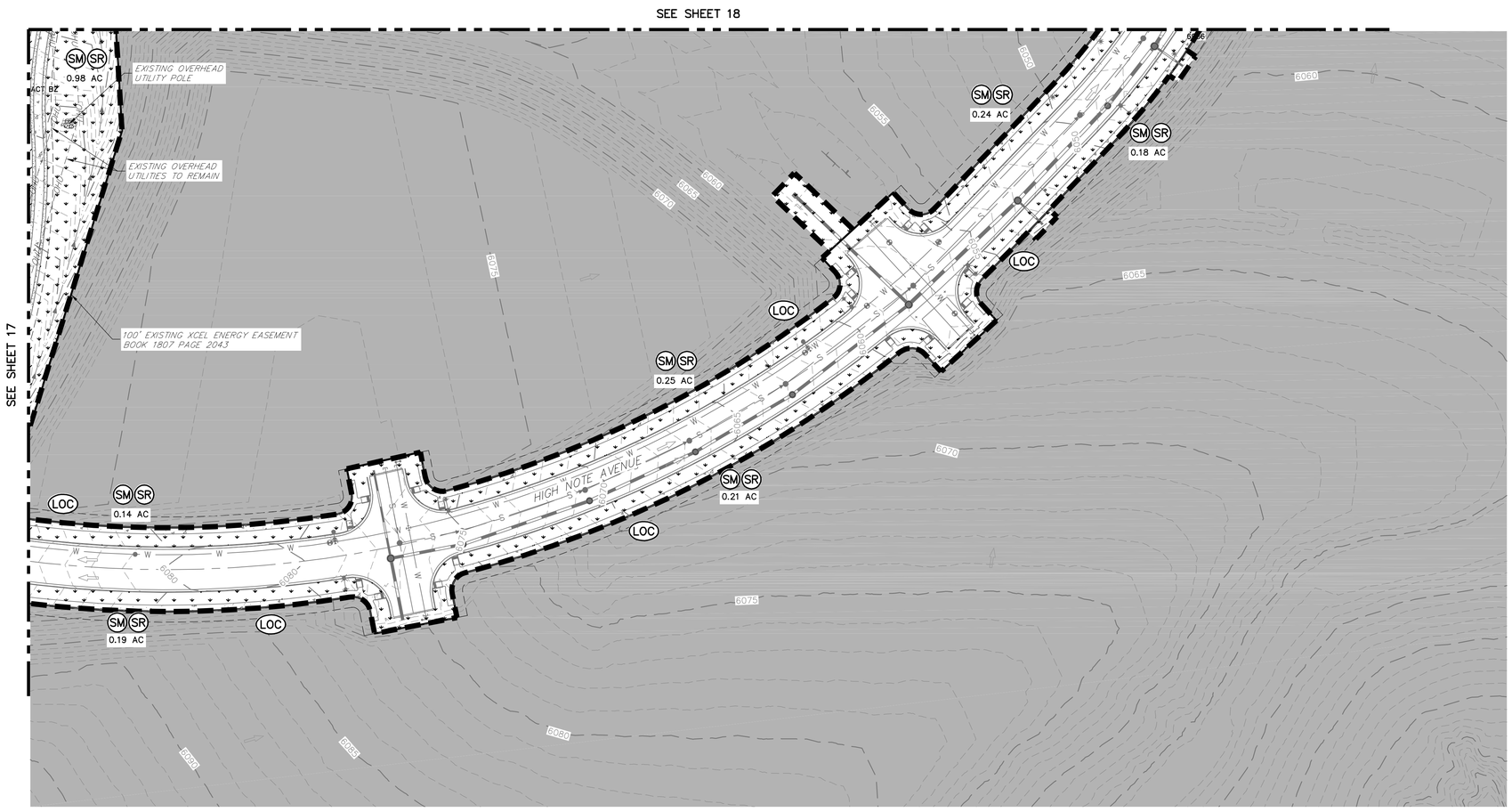
PHASE 1A–1B FINAL GESC PLAN

SHEET 18 OF 41

JOB NO. 15950.01



KEYMAP
SCALE: 1"=1000'



NOTES:

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3. SEE SHEETS 39–41 FOR STANDARD GESC DETAILS.
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LANDSCAPE LEGEND

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Know what's **below.** **Call** before you dig.

60 30 0 60 120
ORIGINAL SCALE: 1" = 60'

ENGINEER'S STATEMENT

PREPARED UNDER MY SUPERVISION

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

DATE

COLORADO REGISTERED AARON LEE CLUTTER 36742 PROFESSIONAL ENGINEER

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR
SHEA HOMES
9380 STATION STREET
SUITE 600
LONE TREE, CO
80124
(303) 791-8180

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A Westrian Company
Centennial 303-740-9393 • Colorado Springs 719-593-2593
Fort Collins 970-491-9888 • www.jrengineering.com

No.	REVISION	BY	DATE

H-SCALE	1"=60'
V-SCALE	N/A
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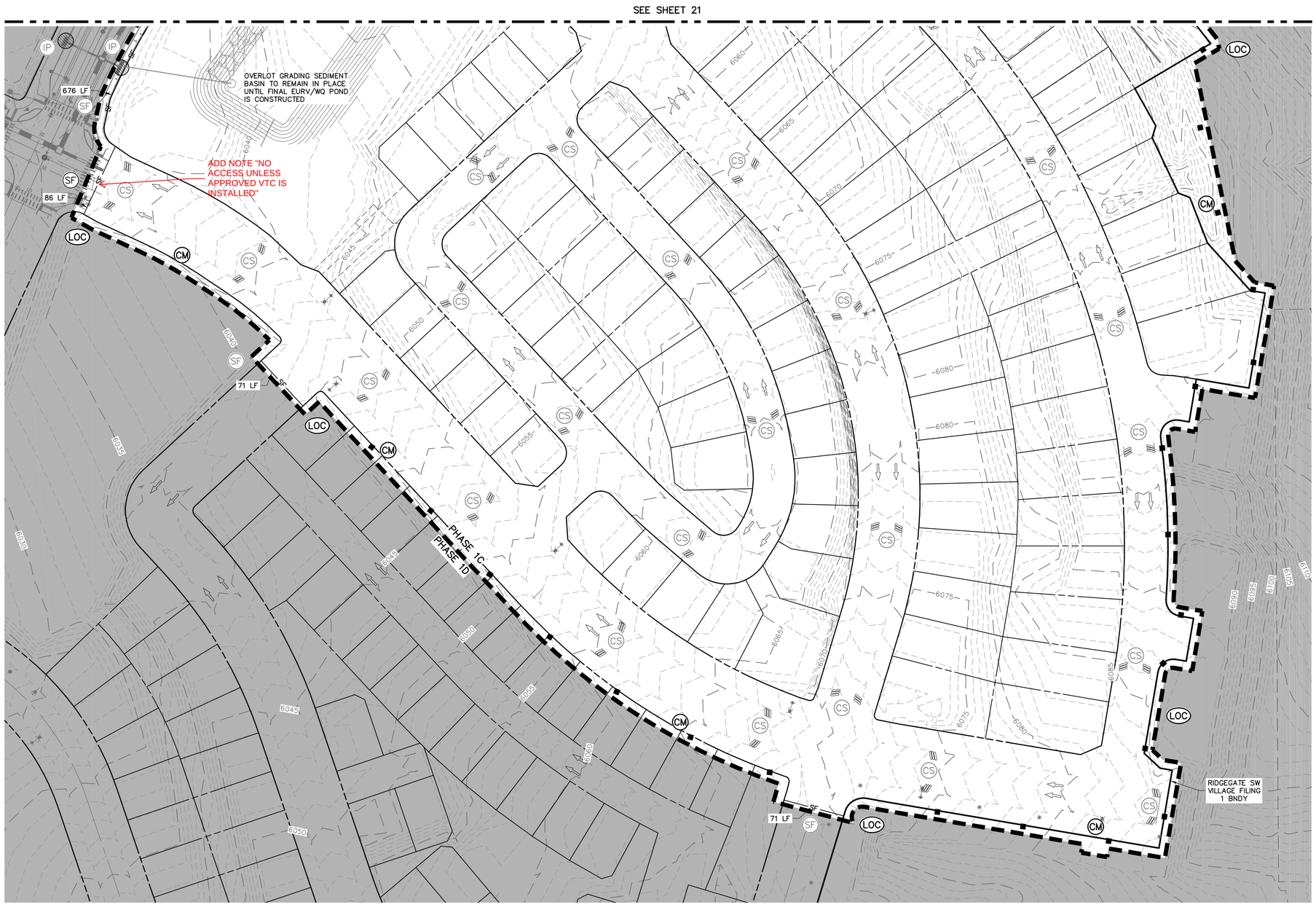
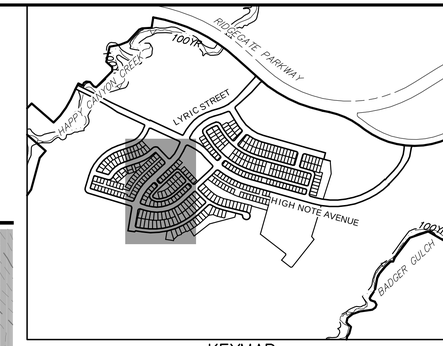
RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

PHASE 1A–1B FINAL GESC PLAN

SHEET 19 OF 41

JOB NO. 15950.01





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SCALE: 1"=1000'

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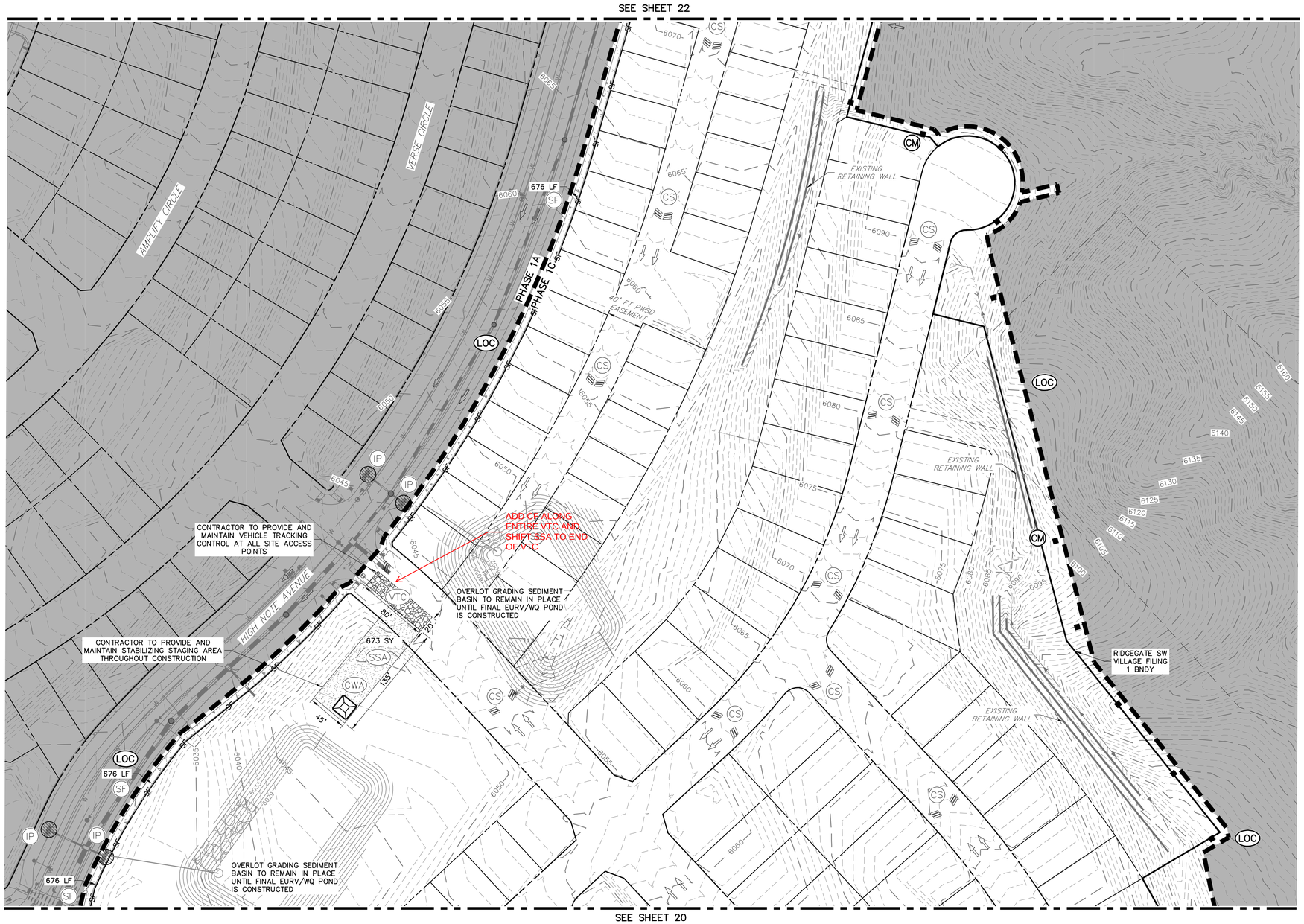
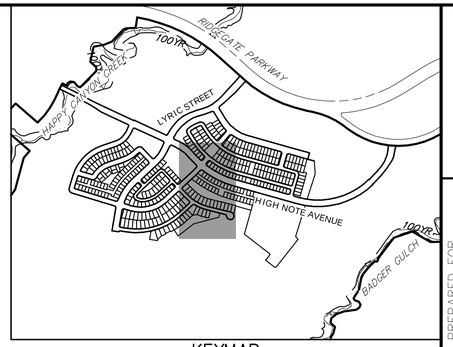
RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

PHASE 1C INITIAL GESC PLAN

SHEET 20 OF 41

JOB NO. 15950.01





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RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS
PHASE 1C INITIAL GESC PLAN

SHEET 21 OF 41
JOB NO. 15950.01

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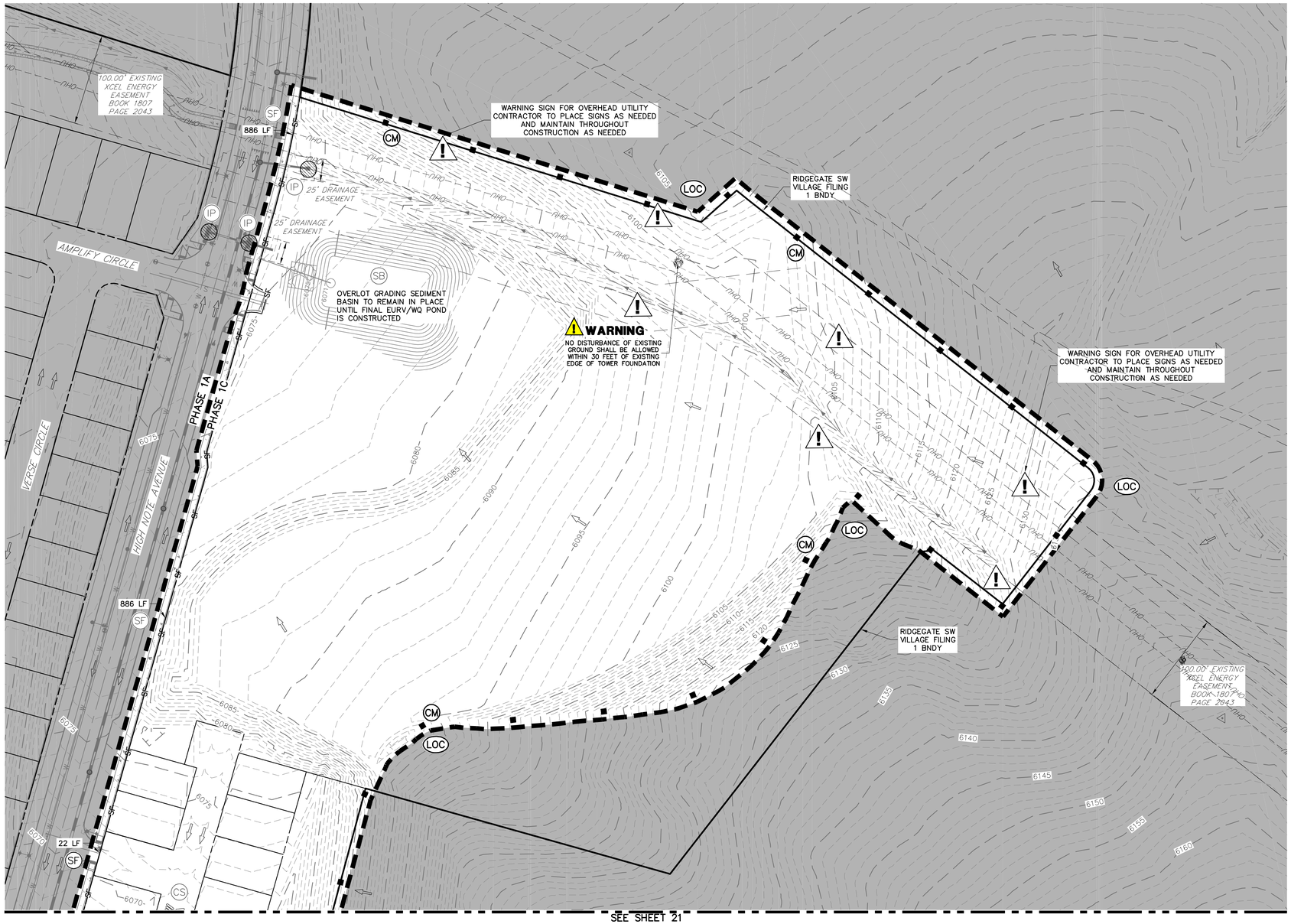

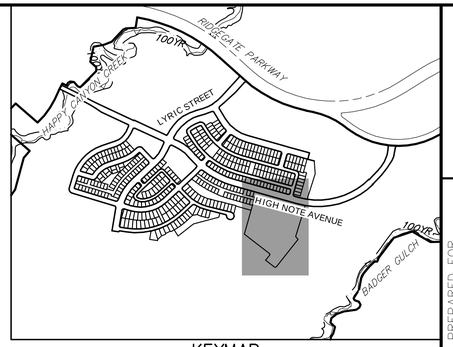

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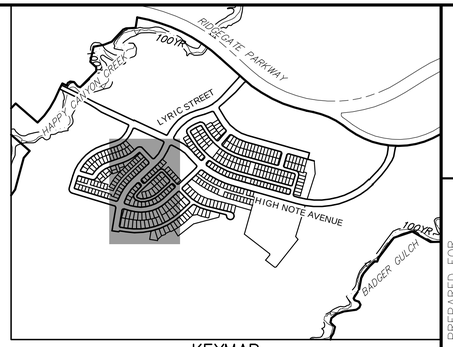
RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

PHASE 1C INITIAL GESC PLAN

SHEET 22 OF 41

JOB NO. 15950.01



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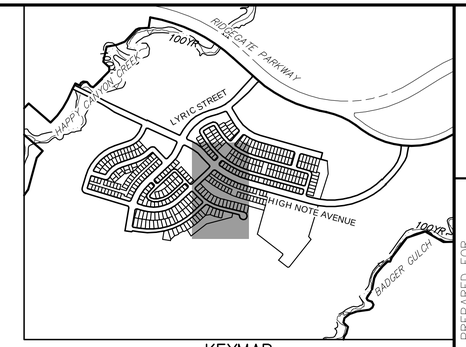
RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

PHASE 1C INTERIM GESC PLAN

SHEET 23 OF 41

JOB NO. 15950.01



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RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

PHASE 1C INTERIM GESC PLAN

SHEET 24 OF 41

JOB NO. 15950.01

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60 30 0 60 120
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ENGINEER'S STATEMENT

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COLORADO P.E. 36742
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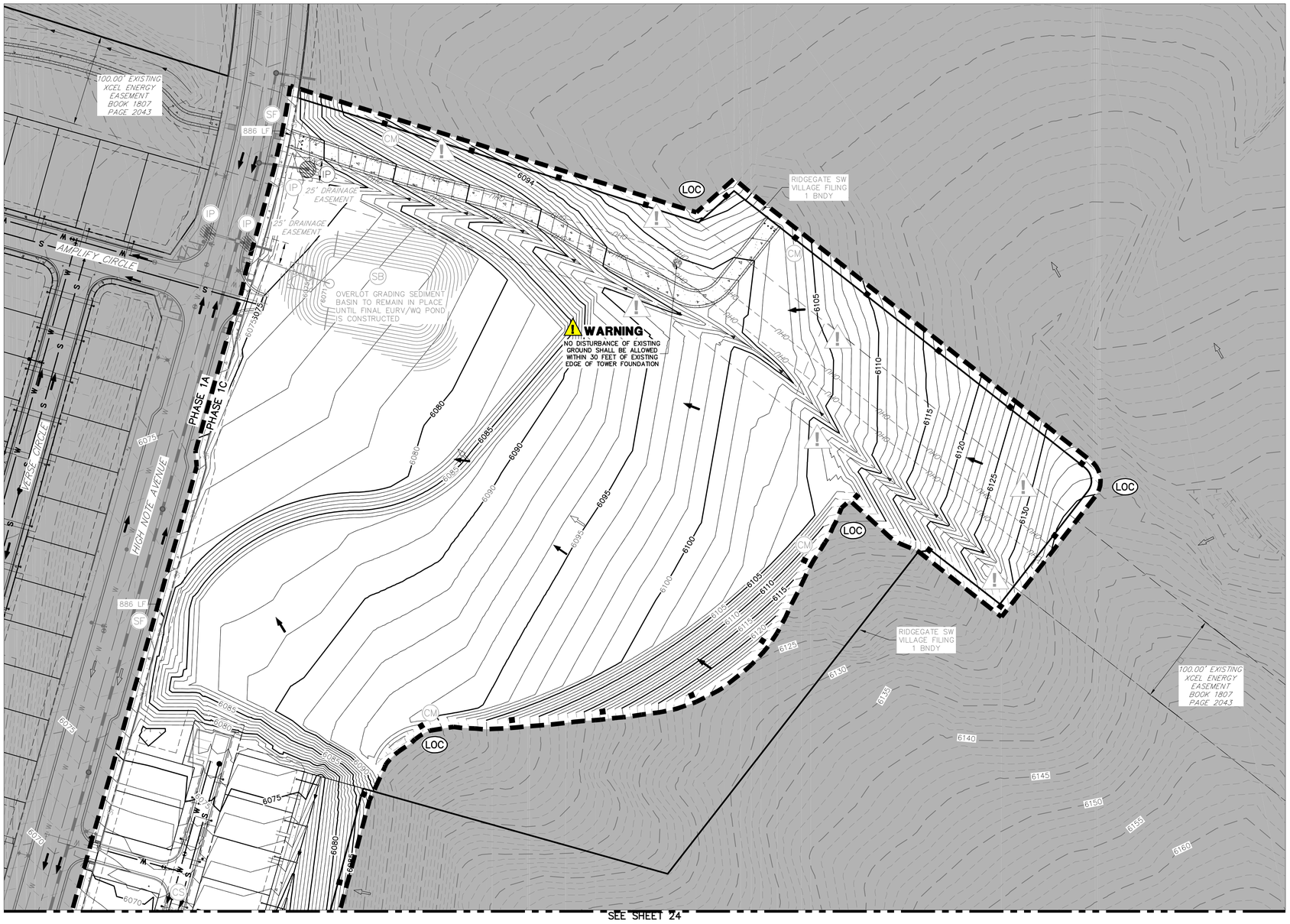
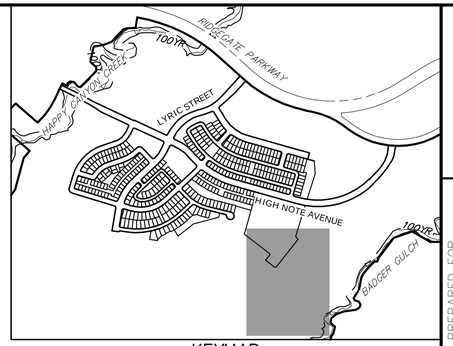
DATE

COLORADO REGISTERED AARON LEE CLUTTER 36742 PROFESSIONAL ENGINEER





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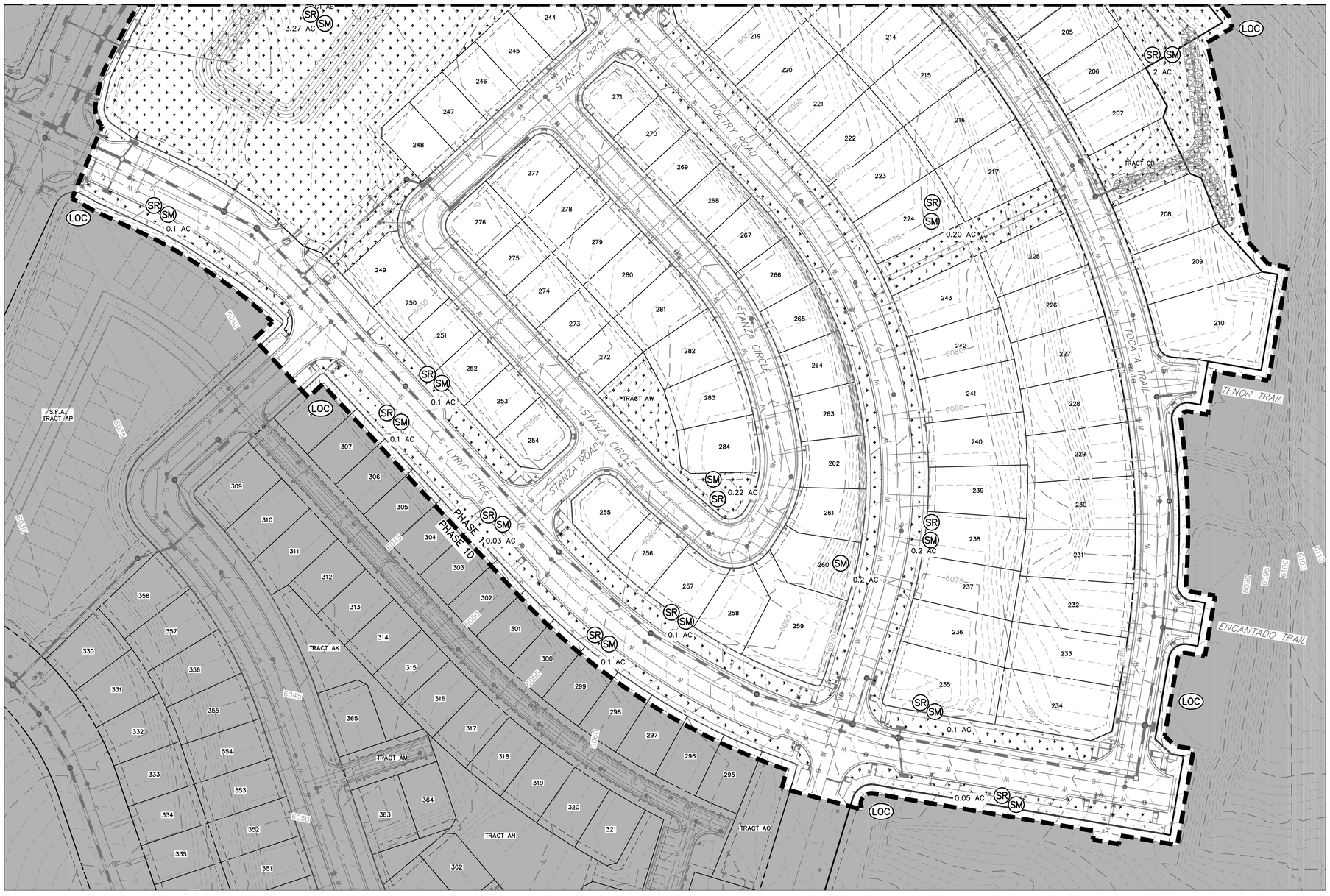
RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

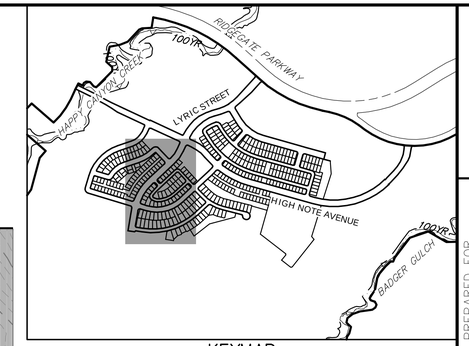
PHASE 1C INTERIM GESC PLAN

SHEET 25 OF 41

JOB NO. 15950.01

SEE SHEET 27





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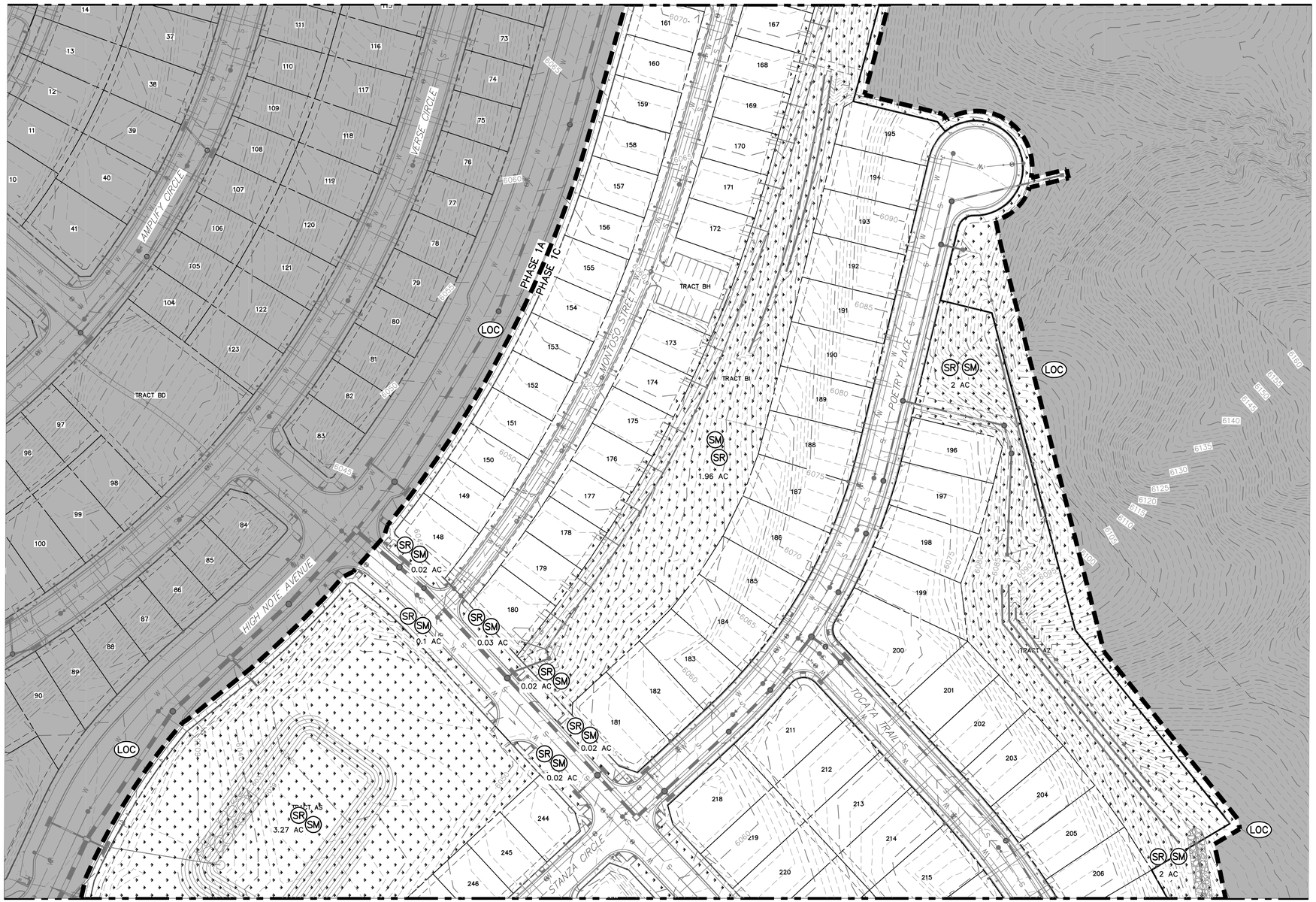
RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

PHASE 1C FINAL GESC PLAN

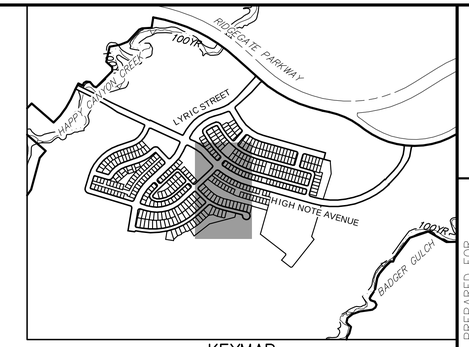
SHEET 26 OF 41

JOB NO. 15950.01

SEE SHEET 28



SEE SHEET 26



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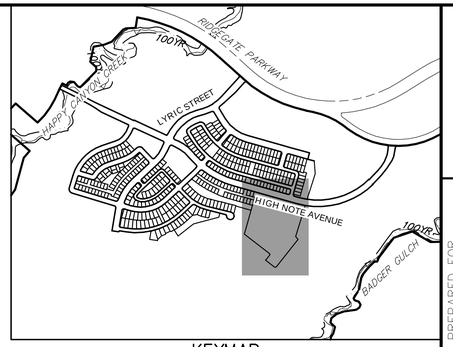
CHECKED BY	

RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

PHASE 1C FINAL GESC PLAN

SHEET 27 OF 41

JOB NO. 15950.01



KEYMAP
SCALE: 1"=1000'

LANDSCAPE LEGEND

SM SEEDING, MULCHING OR PERMANENT LANDSCAPE. REF. LANDSCAPE PLANS UNDER SEPARATE COVER.

Know what's **below.** **Call** before you dig.

60 30 0 60 120
ORIGINAL SCALE: 1" = 60'

NOTES:

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ENGINEER'S STATEMENT

PREPARED UNDER MY SUPERVISION

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

DATE

COLORADO REGISTERED AARON LE CLUTTER 36742 PROFESSIONAL ENGINEER

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9380 STATION STREET
SUITE 600
LONE TREE, CO
80124
(303) 791-8180

J·R ENGINEERING
A Westrian Company
Centennial 303-740-9393 • Colorado Springs 719-593-2593
Fort Collins 970-491-9888 • www.jrengineering.com

No.	REVISION	BY	DATE

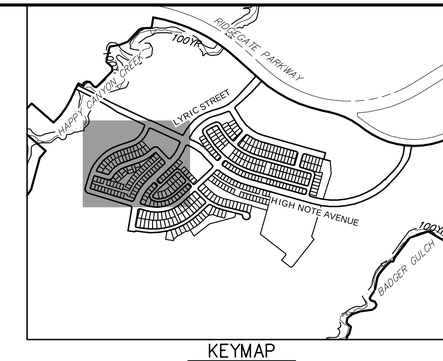
H-SCALE	1"=60'
V-SCALE	N/A
DATE	2/12/21
DESIGNED BY	MEP
DRAWN BY	MEP
CHECKED BY	

RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

PHASE 1C FINAL GESC PLAN

SHEET 28 OF 41

JOB NO. 15950.01



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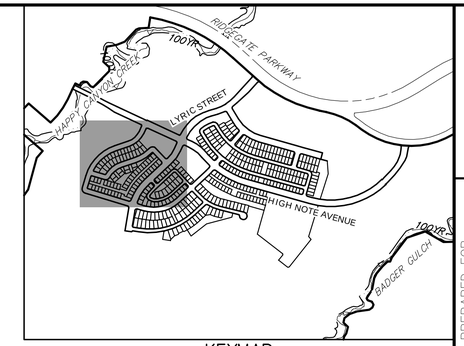
RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

PHASE 1D INITIAL GESC PLAN

SHEET 29 OF 41

JOB NO. 15950.01



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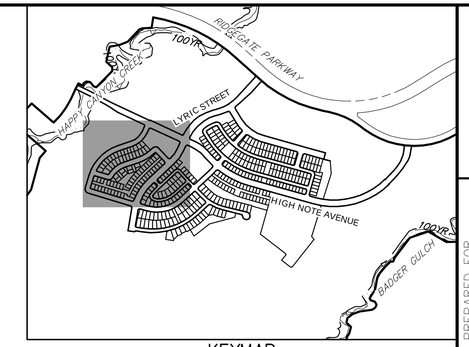
RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

PHASE 1D INTERIM GESC PLAN

SHEET 30 OF 41

JOB NO. 15950.01



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RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

PHASE 1D FINAL GESC PLAN

SHEET 31 OF 41

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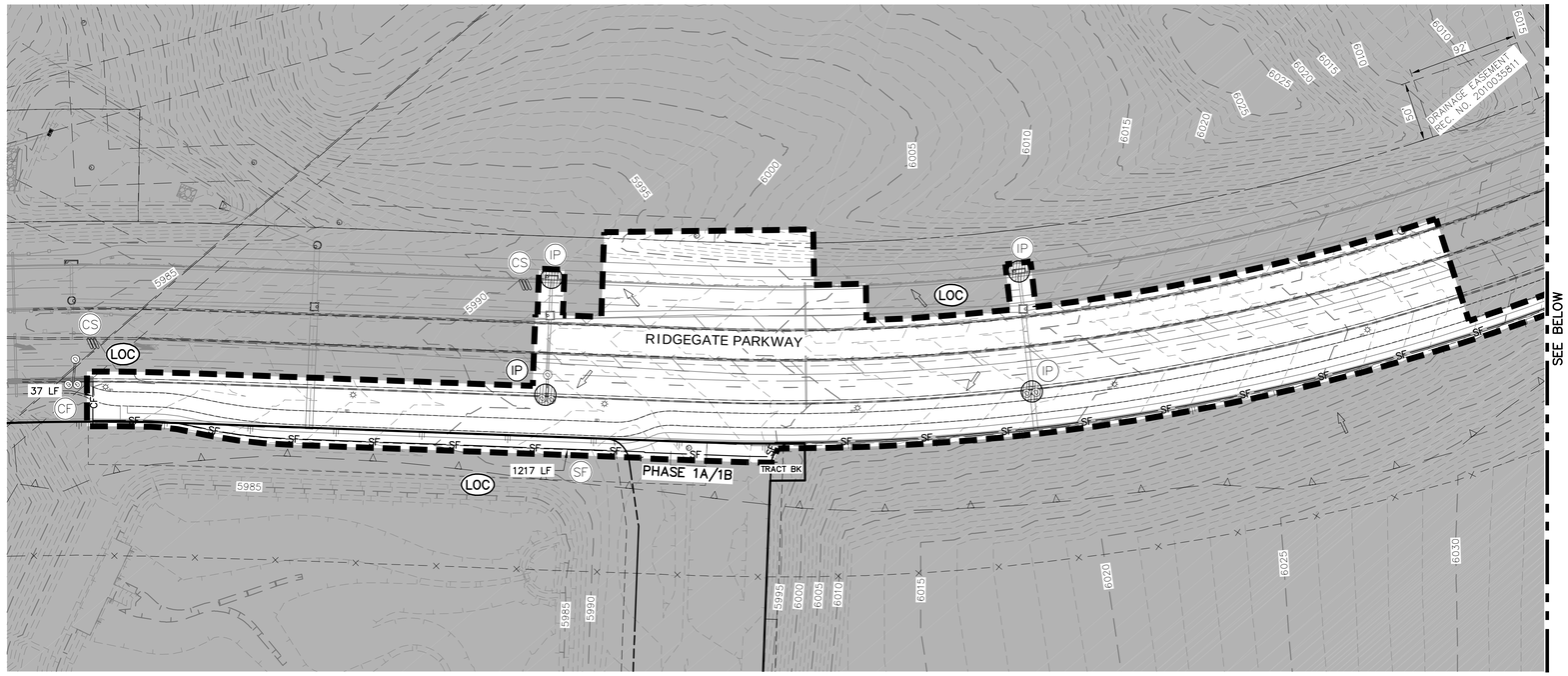

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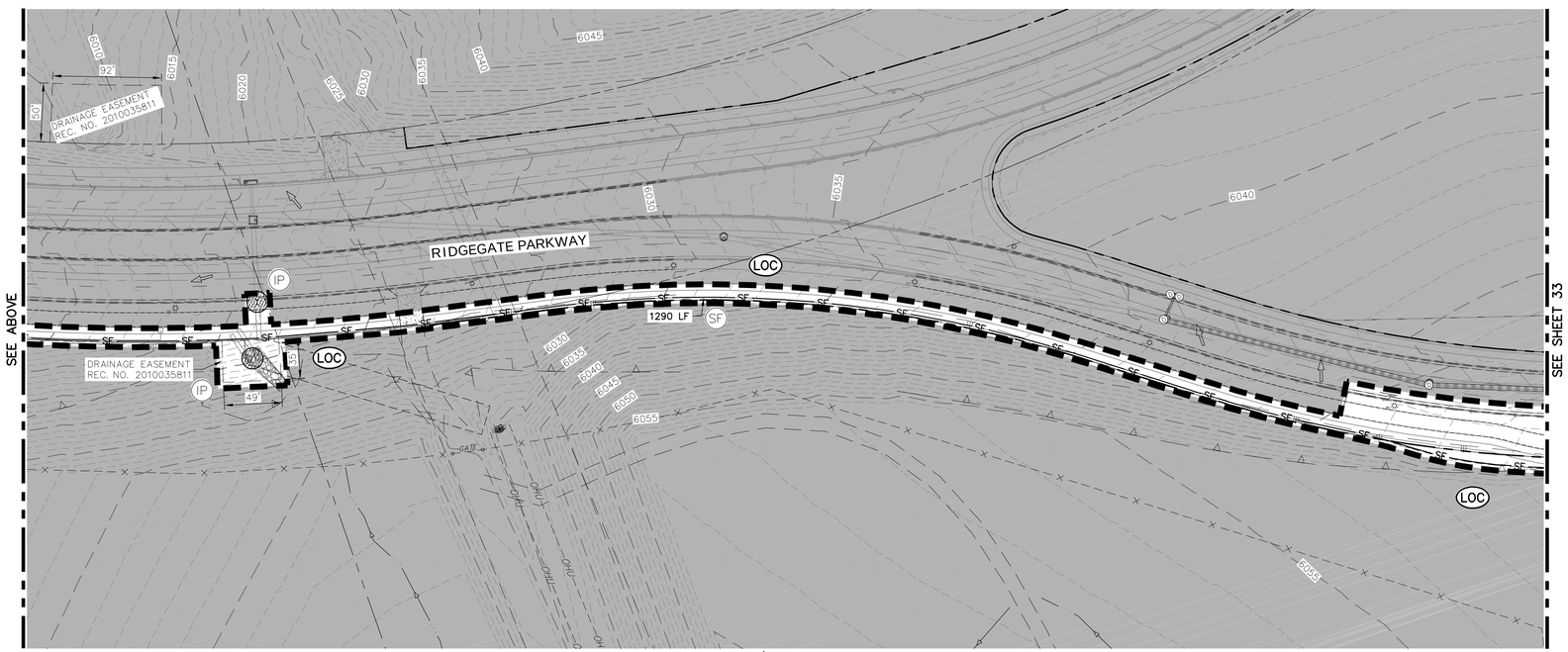

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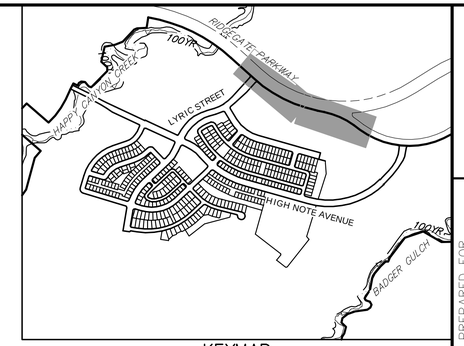

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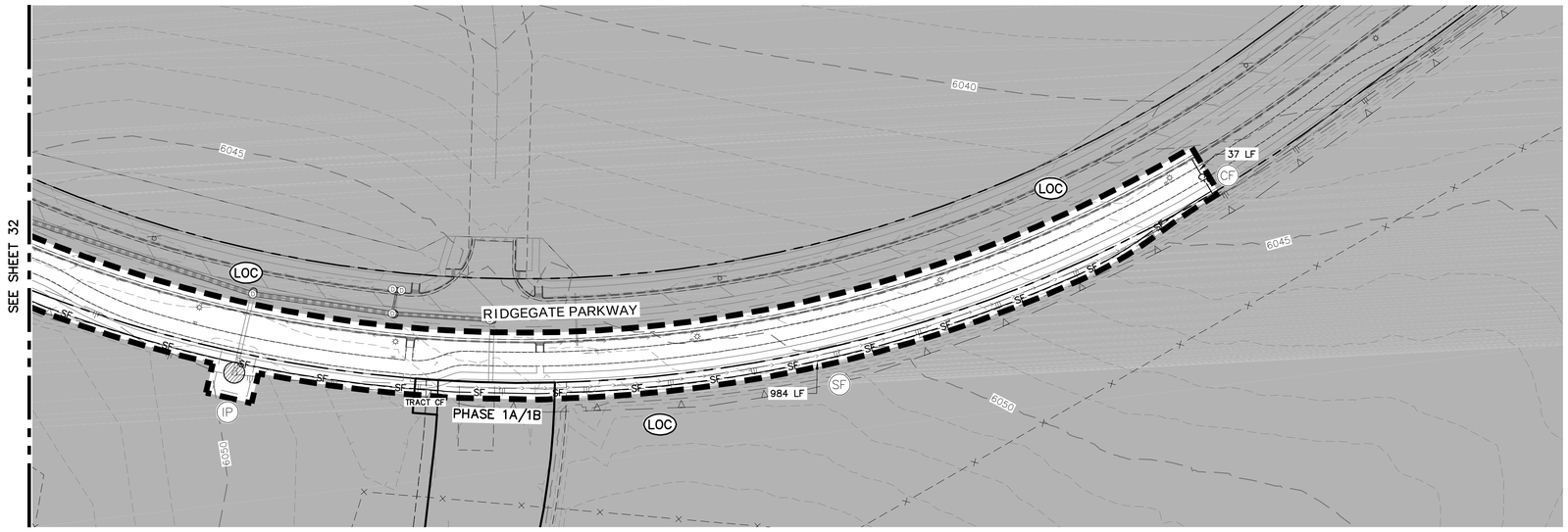
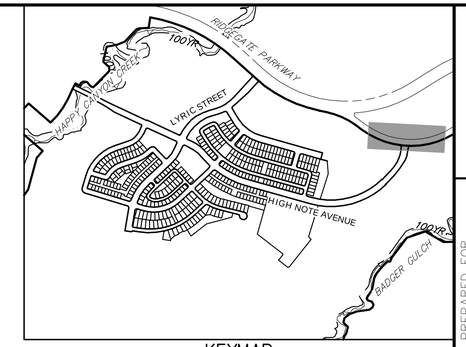
RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

RIDGEGATE PARKWAY INITIAL GESC PLAN

SHEET 32 OF 41

JOB NO. 15950.01





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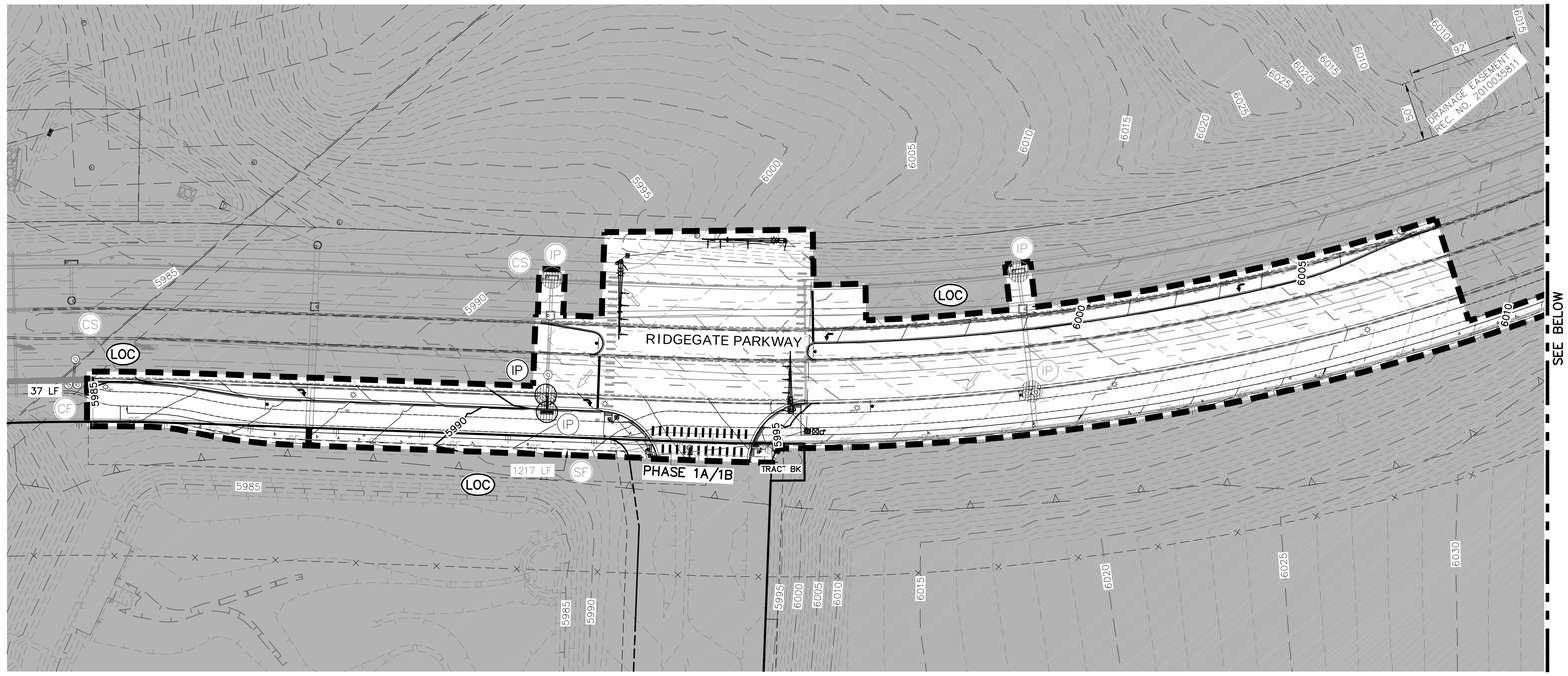
RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

RIDGEGATE PARKWAY INITIAL GESC PLAN

SHEET 33 OF 41

JOB NO. 15950.01



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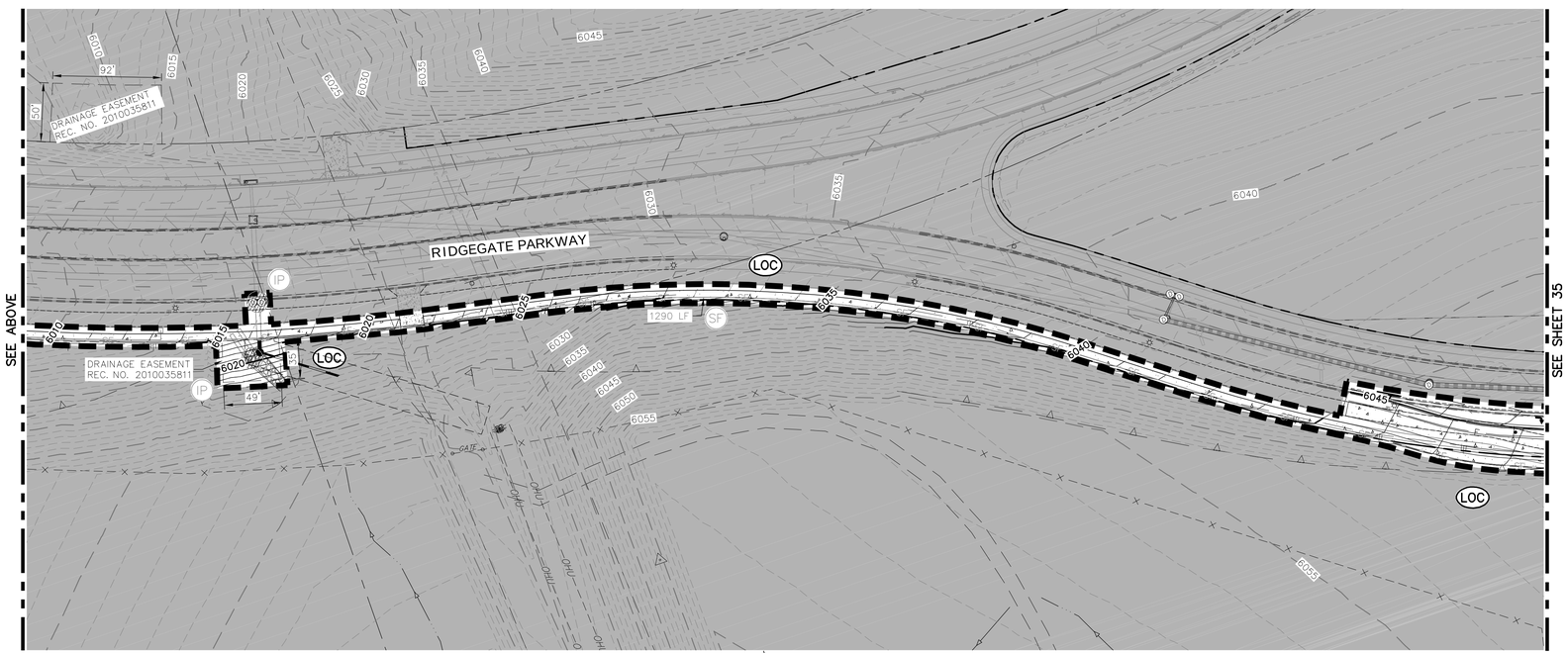

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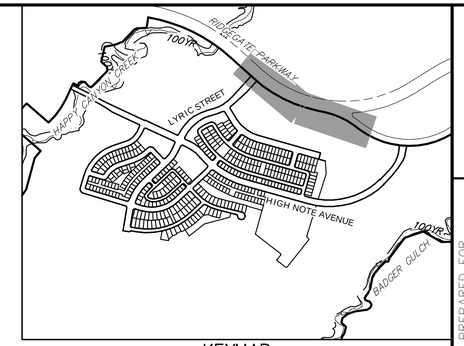

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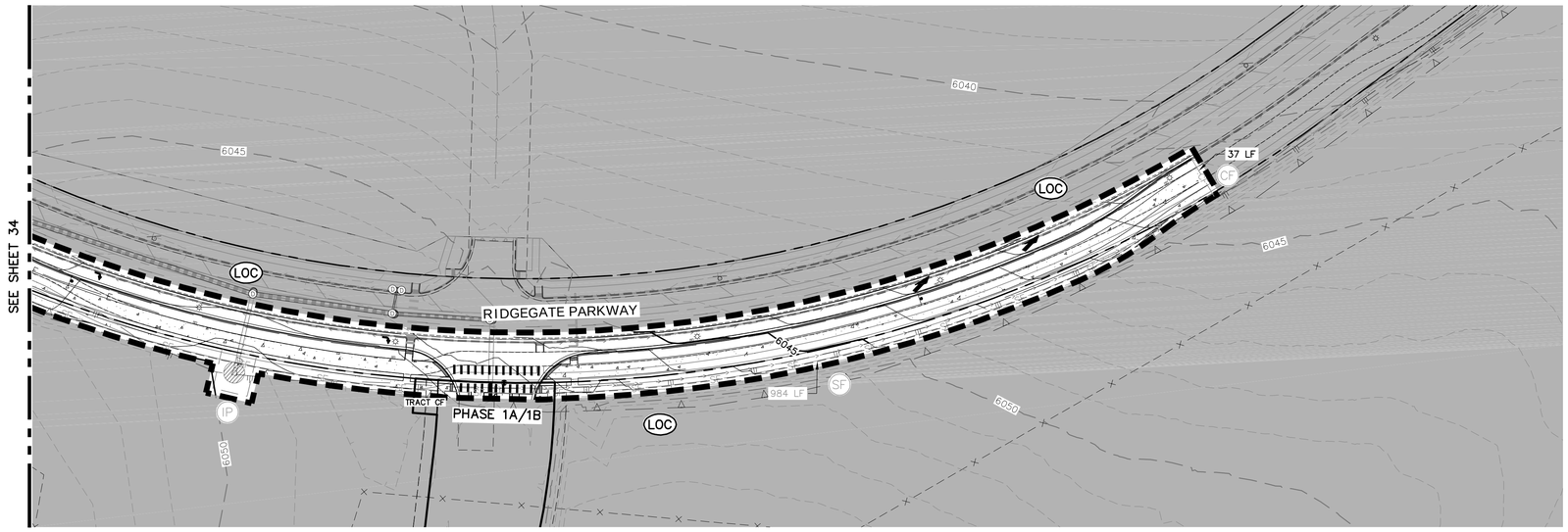
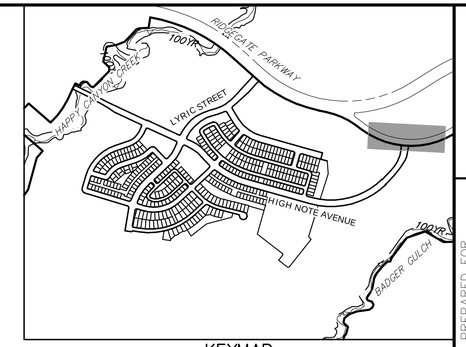
RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

RIDGEGATE PARKWAY INTERIM
GESC PLAN

SHEET 34 OF 41

JOB NO. 15950.01





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GESC PLAN

SHEET 35 OF 41

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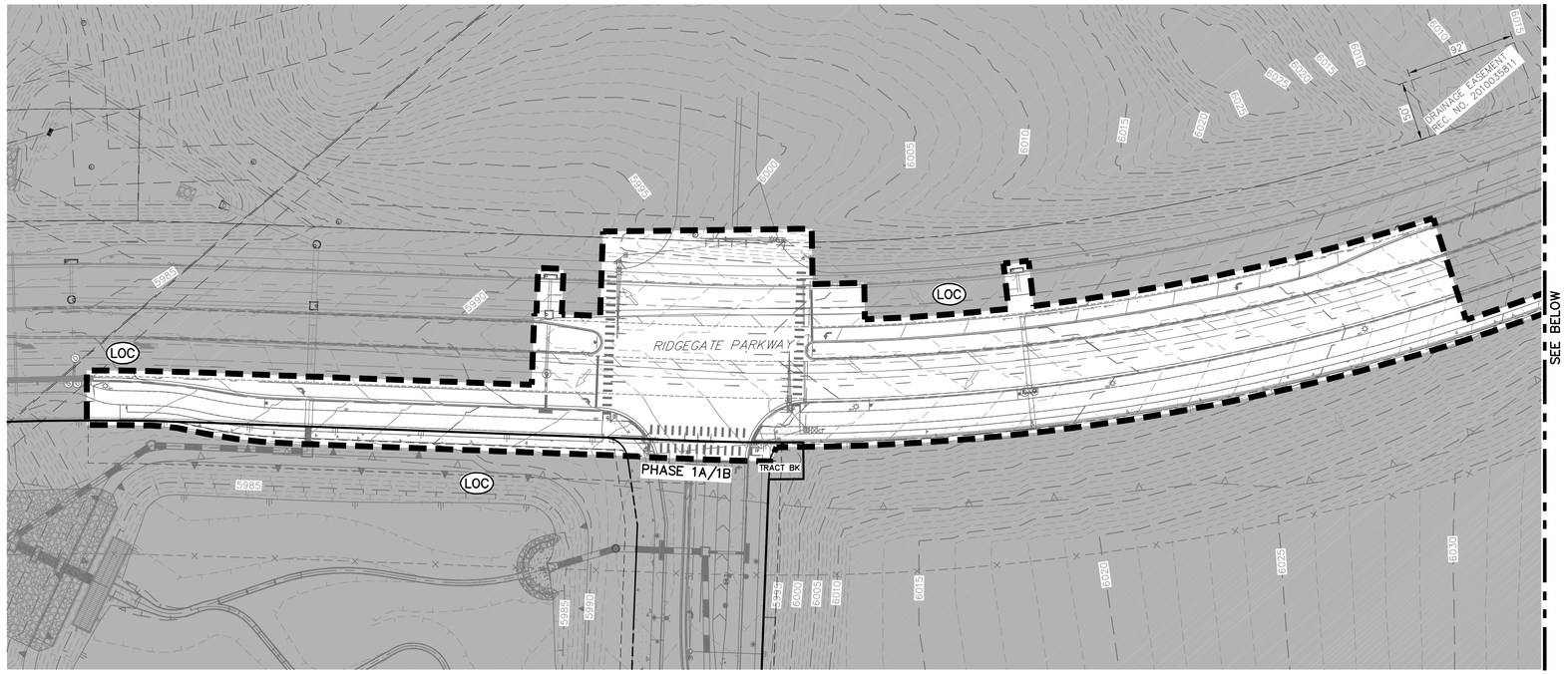

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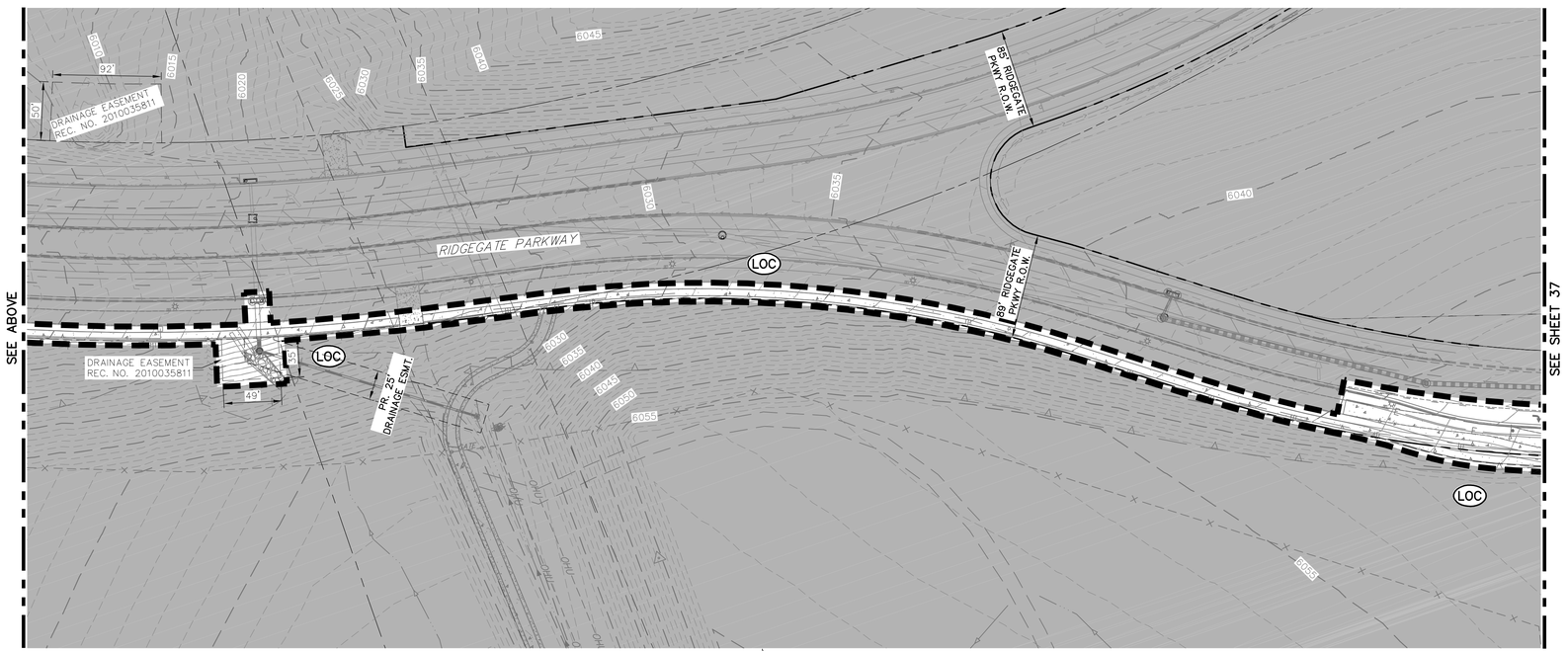

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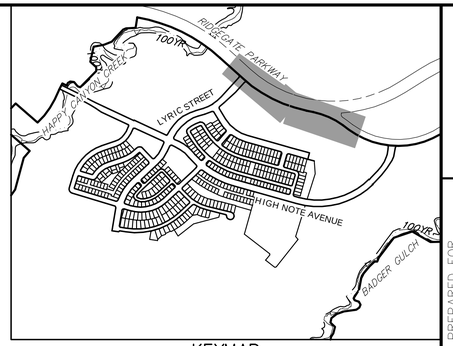

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J·R ENGINEERING
A Westrian Company
Centennial 303-740-9393 • Colorado Springs 719-593-2593
Fort Collins 970-491-9888 • www.jrengineering.com

No.	REVISION	BY	DATE

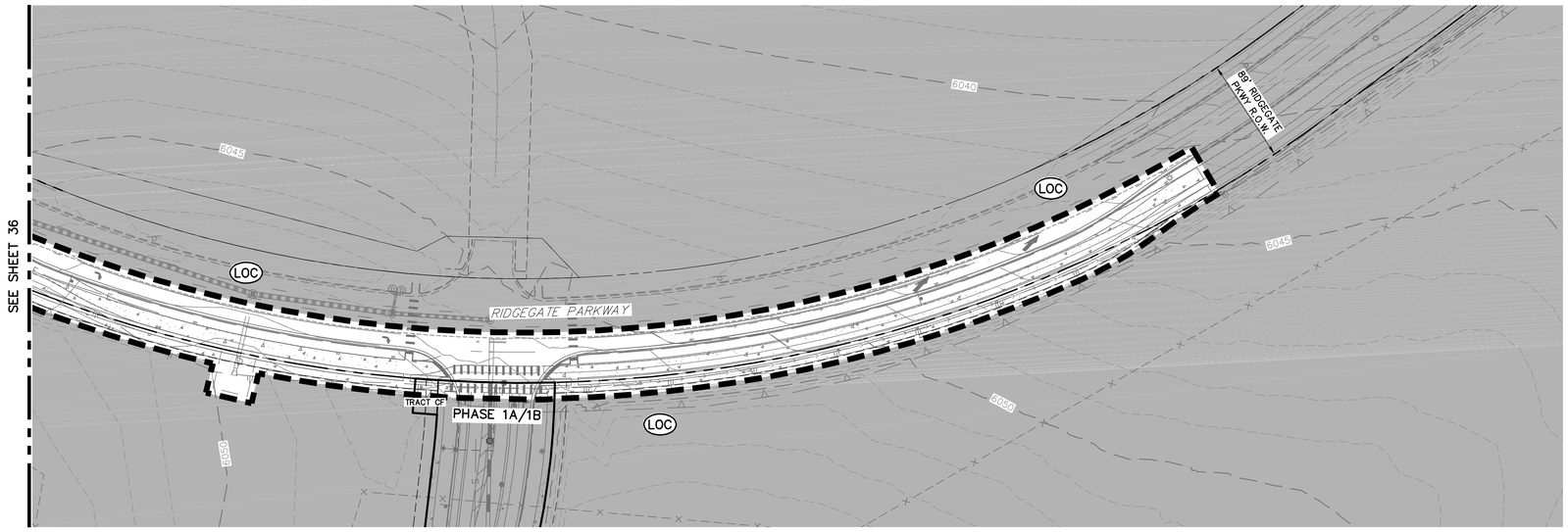
H-SCALE	1"=60'
V-SCALE	N/A
DATE	2/12/21
DESIGNED BY	MEP
DRAWN BY	MEP
CHECKED BY	

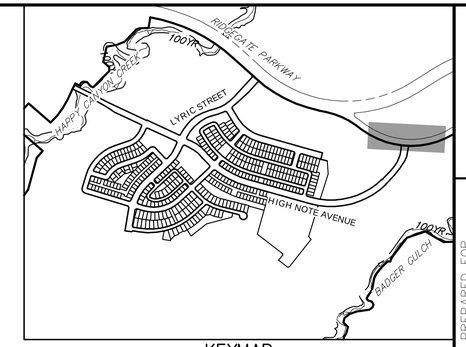
RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

RIDGEGATE PARKWAY FINAL
GESC PLAN

SHEET 36 OF 41

JOB NO. 15950.01





KEYMAP
SCALE: 1"=1000'

NOTES:

1. SEE SHEET 1 FOR BENCHMARK AND SHEET 2 FOR LEGEND.
2. SEE SHEET 39 FOR STANDARD GESC NOTES.
3. SEE SHEETS 39–41 FOR STANDARD GESC DETAILS.
4. CONTRACTOR TO ADJUST SEDIMENT BASINS TO GRADE AS WARRANTED BY CONSTRUCTION.
5. NO GRADING OPERATIONS SHALL OCCUR WITHIN 20' OF OVERHEAD TRANSMISSION TOWERS.
6. CONSTRUCTION MARKERS TO BE PLACED 100' APART
7. CONTRACTOR SHALL HAVE ADEQUATE DUST SUPPRESSION CONTROL MEASURES ONSITE AT ALL TIMES. EXCESS DUST GENERATED FROM OPERATIONS AS DETERMINED BY THE CITY IS GROUNDS FOR STOPPING ALL WORK UNTIL DUST CAN BE CONTROLLED.

LANDSCAPE LEGEND

(SM) SEEDING, MULCHING OR PERMANENT LANDSCAPE. REF. LANDSCAPE PLANS UNDER SEPARATE COVER.

Know what's **below.**
Call before you dig.

60 30 0 60 120
ORIGINAL SCALE: 1" = 60'

ENGINEER'S STATEMENT

PREPARED UNDER MY SUPERVISION

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

DATE

COLORADO REGISTERED AARON LEE CLUTTER 36742 PROFESSIONAL ENGINEER

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR
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RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

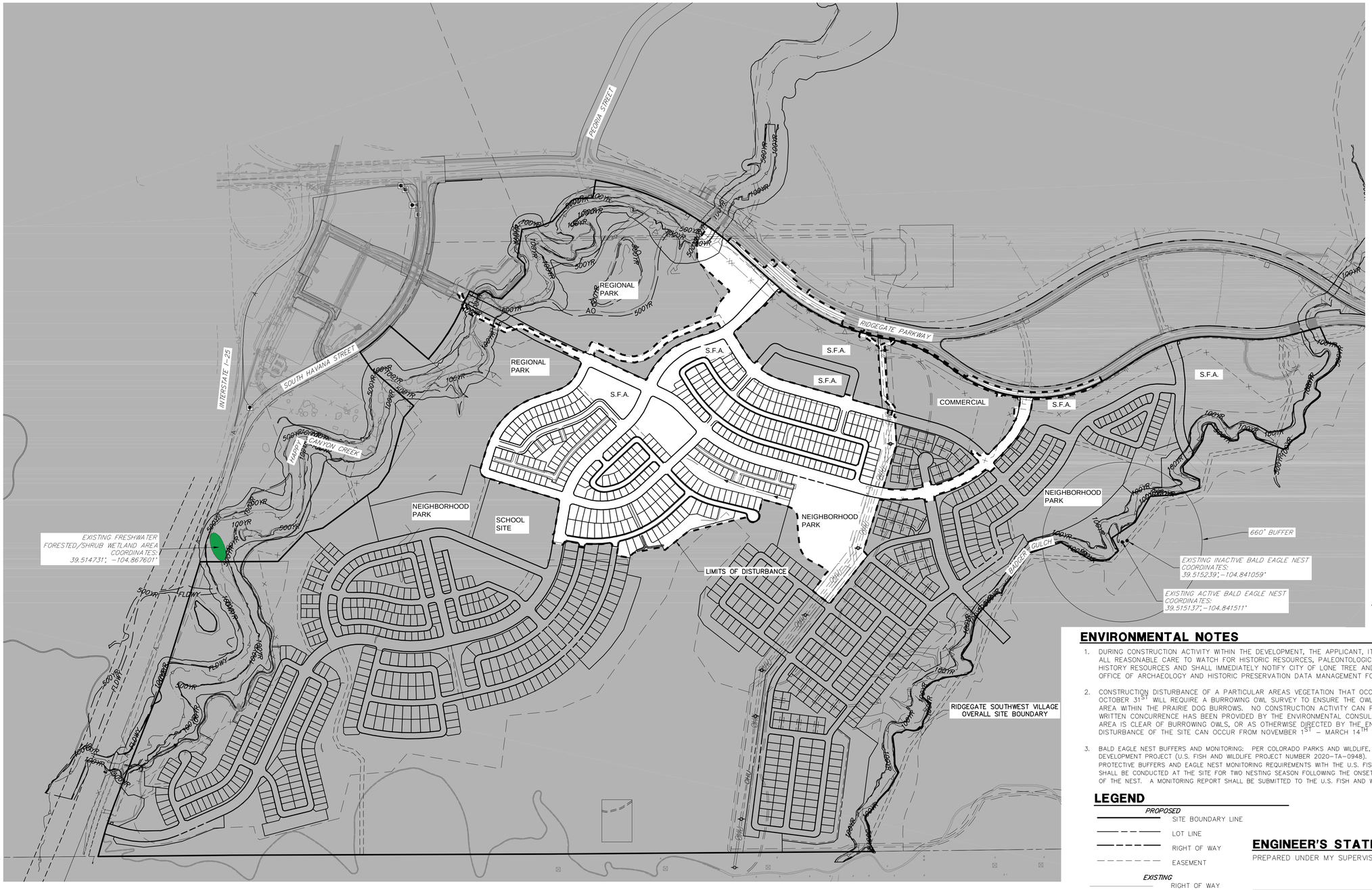
RIDGEGATE PARKWAY FINAL
GESC PLAN

SHEET 37 OF 41

JOB NO. 15950.01

RIDGEGATE SW VILLAGE FLG 1 INFRASTRUCTURE GESC PLANS

A PORTION OF THE RIDGEGATE PLANNED DEVELOPMENT DISTRICT, EAST SIDE PROPERTY
A PART OF SECTION 14, SECTION 22, SECTION 23, AND SECTION 24, TOWNSHIP 6 SOUTH, RANGE 67 WEST
OF THE 6TH P.M., CITY OF LONE TREE, COUNTY OF DOUGLAS, STATE OF COLORADO



ENVIRONMENTAL NOTES

1. DURING CONSTRUCTION ACTIVITY WITHIN THE DEVELOPMENT, THE APPLICANT, ITS SUCCESSORS AND ASSIGNS SHALL TAKE ALL REASONABLE CARE TO WATCH FOR HISTORIC RESOURCES, PALEONTOLOGICAL RESOURCES, AND OTHER CULTURAL HISTORY RESOURCES AND SHALL IMMEDIATELY NOTIFY CITY OF LONE TREE AND COMPLETE APPROPRIATE COLORADO OFFICE OF ARCHAEOLOGY AND HISTORIC PRESERVATION DATA MANAGEMENT FORMS IN THE EVENT OF SUCH DISCOVERY.

2. CONSTRUCTION DISTURBANCE OF A PARTICULAR AREAS VEGETATION THAT OCCURS BETWEEN MARCH 15TH THROUGH OCTOBER 31ST WILL REQUIRE A BURROWING OWL SURVEY TO ENSURE THE OWLS ARE NOT NESTING IN THE IMPACTED AREA WITHIN THE PRAIRIE DOG BURROWS. NO CONSTRUCTION ACTIVITY CAN PROCEED IN THE PARTICULAR AREA UNTIL WRITTEN CONCURRENCE HAS BEEN PROVIDED BY THE ENVIRONMENTAL CONSULTANT PREPARING THE SURVEY THAT THE AREA IS CLEAR OF BURROWING OWLS, OR AS OTHERWISE DIRECTED BY THE ENVIRONMENTAL CONSULTANT. CONSTRUCTION DISTURBANCE OF THE SITE CAN OCCUR FROM NOVEMBER 1ST – MARCH 14TH WITH NO BURROWING OWL SURVEY.

3. BALD EAGLE NEST BUFFERS AND MONITORING: PER COLORADO PARKS AND WILDLIFE, NO PERMIT IS REQUIRED ON THE RIDGEGATE DEVELOPMENT PROJECT (U.S. FISH AND WILDLIFE PROJECT NUMBER 2020-TA-0948). THE DEVELOPMENT SHALL COORDINATE PROTECTIVE BUFFERS AND EAGLE NEST MONITORING REQUIREMENTS WITH THE U.S. FISH AND WILDLIFE SERVICE. NEST MONITORING SHALL BE CONDUCTED AT THE SITE FOR TWO NESTING SEASON FOLLOWING THE ONSET OF CONSTRUCTION ACTIVITIES IN THE VICINITY OF THE NEST. A MONITORING REPORT SHALL BE SUBMITTED TO THE U.S. FISH AND WILDLIFE FOLLOWING COMPLETION OF MONITORING.

LEGEND

PROPOSED

- SITE BOUNDARY LINE
- LOT LINE
- RIGHT OF WAY
- EASEMENT

EXISTING

- RIGHT OF WAY
- PROPERTY LINE
- EASEMENT

ENGINEER'S STATEMENT

PREPARED UNDER MY SUPERVISION

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COLORADO P.E. 36742
FOR AND ON BEHALF OF JR ENGINEERING

DATE

COLORADO REGISTERED PROFESSIONAL ENGINEER AARON LEE CLUTTER 36742

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PREPARED FOR
SHEA HOMES
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V-SCALE	N/A
DATE	2/12/21
DESIGNED BY	JGS
DRAWN BY	KAK
CHECKED BY	JGS

RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

ENVIRONMENTAL MAP

SHEET 38 OF 41

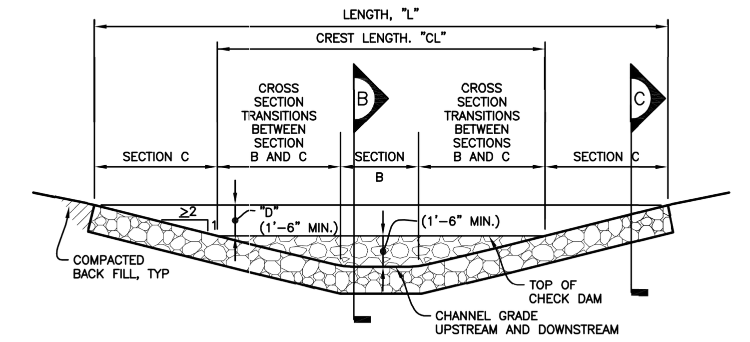
JOB NO. 15950.01

GRADING, EROSION, AND SEDIMENT CONTROL (GESC) GENERAL NOTES (A)

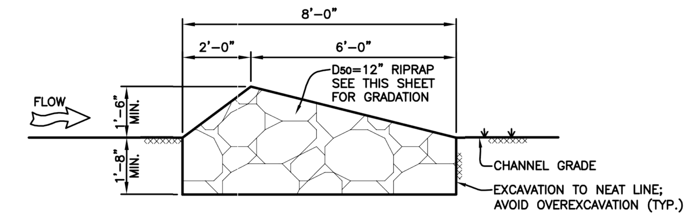
1. THE CITY OF LONE TREE ENGINEER'S SIGNATURE AFFIXED TO THIS DOCUMENT INDICATES THE CITY OF LONE TREE PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION, HAS REVIEWED THE DOCUMENT AND FOUND IT IN GENERAL COMPLIANCE WITH THE CITY OF LONE TREE SUBDIVISION REGULATIONS AND/OR THE GRADING, EROSION AND SEDIMENT CONTROL (GESC) CRITERIA MANUAL. THE CITY OF LONE TREE ENGINEER, THROUGH ACCEPTANCE OF THIS DOCUMENT, ASSUMES NO RESPONSIBILITY (OTHER THAN AS STATED ABOVE) FOR THE COMPLETENESS AND/OR ACCURACY OF THESE DOCUMENTS.
2. THE ADEQUACY OF THIS GESC PLAN LIES WITH THE ORIGINAL DESIGN ENGINEER.
3. 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.
4. 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.
5. THE PLACEMENT OF EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPs) SHALL BE IN ACCORDANCE WITH THE CITY OF LONE TREE – ACCEPTED GESC PLAN AND THE CITY OF LONE TREE GESC MANUAL.
6. 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.
7. 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.
8. THE FIRST BMP TO BE INSTALLED ON THE SITE SHALL BE CONSTRUCTION FENCE, MARKERS, OR OTHER APPROVED MEANS OF DEFINING THE LIMITS OF CONSTRUCTION, INCLUDING CONSTRUCTION LIMITS ADJACENT TO STREAM CORRIDORS AND OTHER AREAS TO BE PRESERVED.
9. 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 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 DELAY OF THE START OF CONSTRUCTION.
11. 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 APPROVED.
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.
13. 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 GRADING ACTIVITIES IN ACCORDANCE WITH THE ACCEPTED GESC PLAN. BMP INSTALLATION AND APPROVAL BY THE 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 TIMES.
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 VIOLATION, A STOP WORK ORDER SHALL BE ISSUED.
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 ENGINEERING DIVISION.
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.
21. APPROVED EROSION AND SEDIMENT CONTROL BMPS SHALL BE MAINTAINED AND KEPT IN GOOD REPAIR FOR THE 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 DIRECTED 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 PROPOSED CHANGES.
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.
30. 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 FEDERAL 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.
31. 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.
32. 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 FENCE).
34. 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 APPROPRIATE LOCATION.
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.
36. 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 SEEDING AND MULCHING.
38. HYDRAULIC SEEDING AND HYDRAULIC MULCHING ARE NOT AN ACCEPTABLE METHOD OF SEEDING OR MULCHING IN THE CITY OF LONE TREE.
39. NO CURB AND GUTTER PERMITS SHALL BE ISSUED UNTIL ALL DISTURBED AREAS ARE DRILL SEEDED AND CRIMP MULCHED.
40. NO PAVING PERMITS SHALL BE ISSUED UNTIL ALL INTERIM INLET PROTECTION IS INSTALLED AND APPROVED BY THE GESC INSPECTOR.
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.

BMP LEGEND

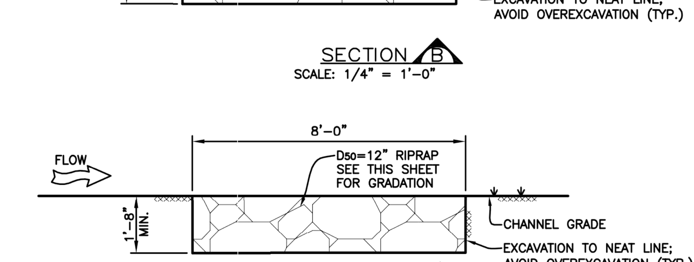
DETAIL NO.	SHEET NO.	BMP LEGEND	
1	1	(CD)	CHECK DAM
2	1	(CB)	COMPOST BLANKET
3	1	(CFB)	COMPOST FILTER BERM
4	1	(CWA)	CONCRETE WASHOUT AREA
5	1	(CF)	CONSTRUCTION FENCE
6	1	(CM)	CONSTRUCTION MARKERS
7	1	(DW)	DEWATERING
8	1	(DD)	DIVERSION DITCH
9	2	(ECB)	EROSION CONTROL BLANKET
10	2	(IP)	INLET PROTECTION
11	2	(RCD)	REINFORCED CHECK DAM
12	2	(RRB)	REINFORCED ROCK BERM
13	2	(RRC)	RRB FOR CULVERT PROTECTION
14	2	(SB)	SEDIMENT BASIN
15	3	(SCL)	SEDIMENT CONTROL LOG
16	3	(ST)	SEDIMENT TRAP
17	3	(SM)	SEEDING AND MULCHING
18	3	(SF)	SILT FENCE
19	3	(SSA)	STABILIZED STAGING AREA
20	3	(SR)	SURFACE ROUGHENING
21	3	(TSD)	TEMPORARY SLOPE DRAIN
22	3	(TSC)	TEMPORARY STREAM CROSSING
23	3	(TER)	TERRACING
24	3	(VTC)	VEHICLE TRACKING CONTROL
25	3	(WW)	VTC WITH WHEEL WASH
(B) 26	3	(CS)	CURB SOCK
	1		ROCK AND RIPRAP GRADATIONS
		(LOC)	LIMITS OF CONSTRUCTION



ELEVATION
SCALE: 1" = 10'-0"



SECTION (B)
SCALE: 1/4" = 1'-0"



SECTION (C)
SCALE: 1/4" = 1'-0"

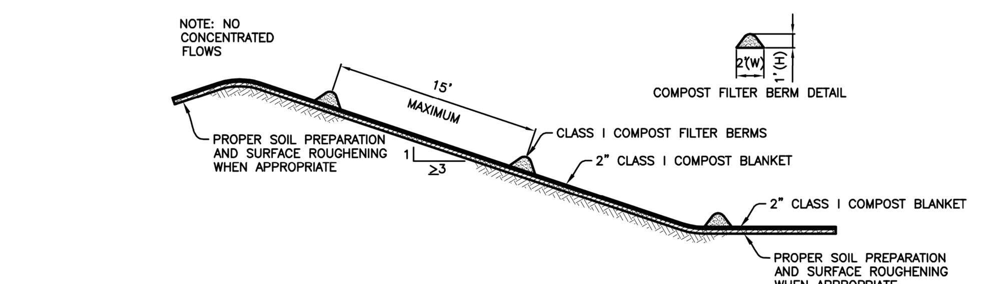
CHECK DAM INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - LOCATIONS OF CHECK DAMS.
   - CHECK DAM TYPE (CHECK DAM OR REINFORCED CHECK DAM).
   - LENGTH, "L", CREST LENGTH, "CL", AND DEPTH, "D".
2. CHECK DAMS INDICATED ON INITIAL GESC PLAN SHALL BE INSTALLED AFTER CONSTRUCTION FENCE, BUT PRIOR TO ANY UPSTREAM LAND-DISTURBING ACTIVITIES.
3. RIPRAP UTILIZED FOR CHECK DAMS SHALL HAVE A D_{50} MEDIAN STONE SIZE OF 12".
4. RIPRAP PAD SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF 1'-8".
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

1. 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 ½ 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.

(CD) CHECK DAM (1) (A)



COMPOST BLANKET AND COMPOST FILTER BERM
SCALE: 1" = 10'-0"

COMPOST BLANKET NOTES:

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.
3. 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.
5. 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.
9. 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.
10. THE GESC MANAGER SHALL INSPECT WEEKLY, DURING AND AFTER ANY STORM EVENT.
11. COMPOST USED IN THE APPLICATION OF THE COMPOST BLANKET SHALL BE A CLASS I COMPOST AS DEFINED BY THE FOLLOWING PHYSICAL, CHEMICAL, AND BIOLOGICAL PARAMETERS:

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

NOTE: CLOPYRALID IS THE COMMON NAME OF A HERBICIDE THAT KILLS BROAD-LEAVED WEEDS SUCH AS DANDELIONS, CLOVER AND THISTLE.

(CB) COMPOST BLANKET (2)

COMPOST FILTER BERM NOTES:

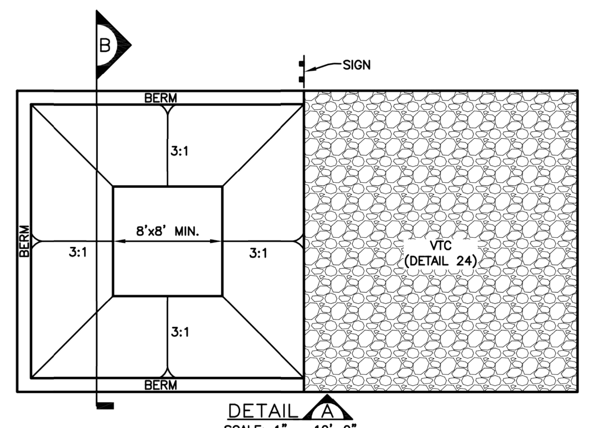
1. SEE PLAN VEW FOR LENGTH OF COMPOST FILTER BERM.
2. SHALL BE APPLIED TO ALL SLOPES RECEIVING A COMPOST BLANKET AT 15' INCREMENTS.
3. FILTER BERMS SHALL RUN PARALLEL TO THE CONTOUR.
4. FILTER BERMS SHALL BE A MINIMUM OF 1' H x 2' W.
5. FILTER BERMS SHALL BE APPLIED UTILIZING PNEUMATIC BLOWER, OR BY HAND.
6. SHALL ONLY BE UTILIZED IN AREAS WHERE SHEET FLOW CONDITIONS PREVAIL; SHALL BE PROHIBITED IN AREAS OF POSSIBLE CONCENTRATED FLOW.
7. 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.
9. 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.
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
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

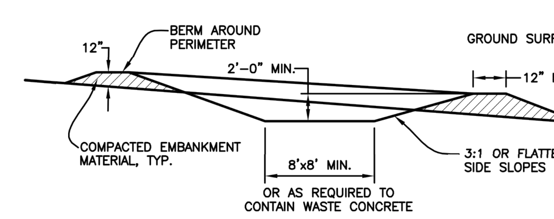
NOTE: IF A BIOSOLID COMPOST IS TO BE UTILIZED IT SHALL BE PRODUCED BY A FACILITY IN POSSESSION OF A VALID NOTICE OF AUTHORIZATION (NOA) FOR THE UNRESTRICTED USE AND DISTRIBUTION BY THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT. THE NOA SHALL BE PROVIDED UPON REQUEST TO CITY OF LONE TREE.

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) (A)



DETAIL (A)
SCALE: 1" = 10'-0"



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

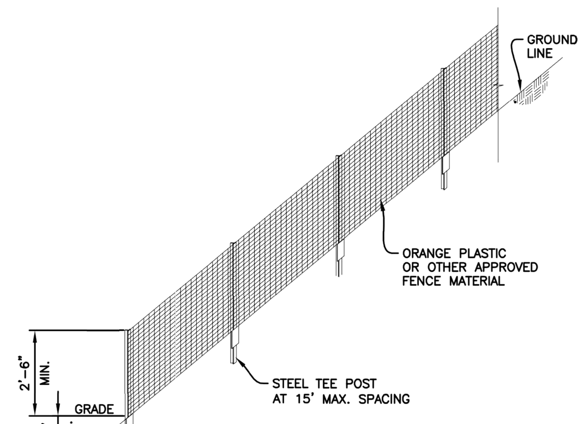
CONCRETE WASHOUT AREA INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - LOCATIONS OF CONCRETE WASHOUT AREA.
2. THE CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
3. VEHICLE TRACKING CONTROL (DETAIL 24) IS REQUIRED AT THE ACCESS POINT.
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.
5. EXCAVATED MATERIAL SHALL BE UTILIZED IN PERIMETER BERM CONSTRUCTION.

CONCRETE WASHOUT AREA MAINTENANCE NOTES

1. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
2. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN APPROVED WASTE SITE.
3. 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)



DETAIL (A)
SCALE: 1/4" = 1'-0"

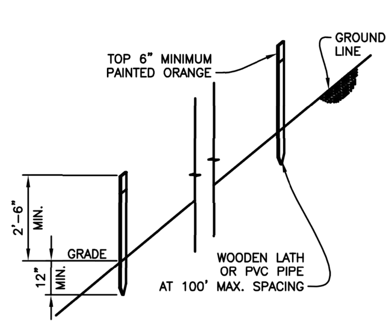
CONSTRUCTION FENCE INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - TYPE OF CONSTRUCTION LIMIT INDICATOR (FENCE OR MARKERS).
   - LOCATION AND LENGTH OF FENCE OR LINE OF MARKERS.
2. CONSTRUCTION FENCE OR MARKERS INDICATED ON INITIAL GESC PLAN SHALL BE INSTALLED PRIOR TO OTHER BMPS AND ANY LAND-DISTURBING ACTIVITIES.
3. STEEL TEE POSTS SHALL BE UTILIZED FOR SUPPORT OF CONSTRUCTION FENCE. MAXIMUM SPACING FOR TEE POSTS SHALL BE 15'.

CONSTRUCTION FENCE MAINTENANCE NOTES

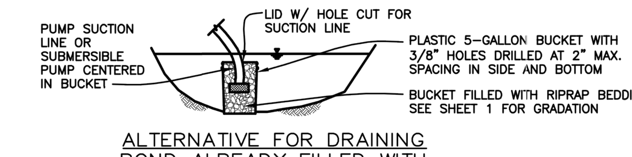
1. ANY DAMAGED FENCE OR MARKERS SHALL BE REPAIRED ON A DAILY BASIS.
2. FENCE OR MARKERS SHALL BE REMOVED AT THE END OF CONSTRUCTION. IF ANY DISTURBED AREA EXISTS AFTER FENCE REMOVAL, IT SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.

(CF) CONSTRUCTION FENCE (5)

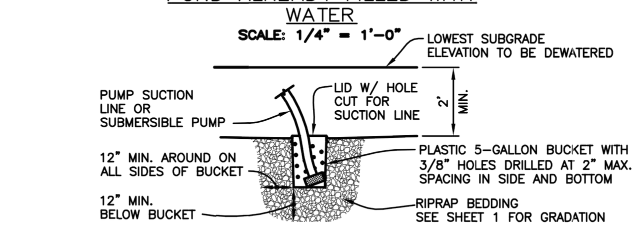


(ALTERNATIVE TO CONSTRUCTION FENCE)
SCALE: 1/4" = 1'-0"

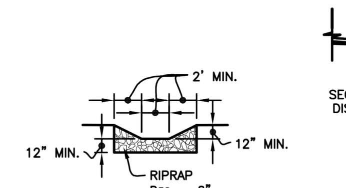
(CM) CONSTRUCTION MARKERS (6)



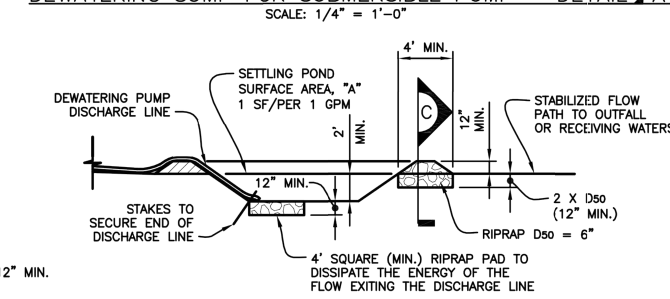
ALTERNATIVE FOR DRAINING POND ALREADY FILLED WITH WATER
SCALE: 1/4" = 1'-0"



DEWATERING SUMP FOR SUBMERSIBLE PUMP – DETAIL (A)
SCALE: 1/4" = 1'-0"



BASIN OUTLET – SECTION (C)
SCALE: 1" = 10'-0"



SUMP DISCHARGE SETTLING BASIN – DETAIL (B)
SCALE: 1" = 10'-0"

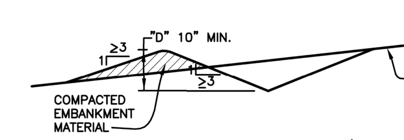
DEWATERING INSTALLATION NOTES

1. 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.
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.
3. 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.
4. A 4' SQUARE (MIN) RIPRAP PAD SHALL BE PLACED AT DISCHARGE POINT.
5. THE DISCHARGE END OF THE LINE SHALL BE STAKED IN PLACES TO PREVENT MOVEMENT OF RIPRAP PAD.

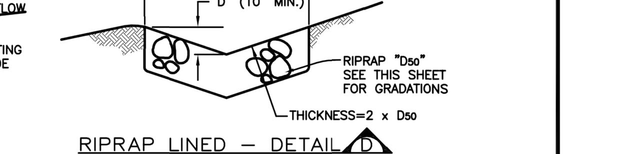
DEWATERING MAINTENANCE NOTES

1. 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.

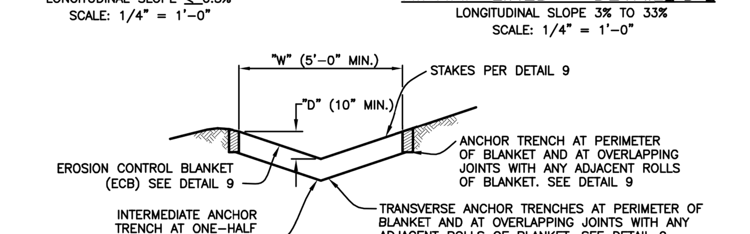
(DW) DEWATERING (7) (A)



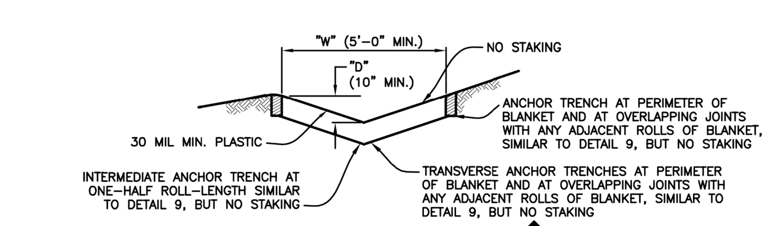
UNLINED – DETAIL (A)
LONGITUDINAL SLOPE ≤ 0.5%
SCALE: 1/4" = 1'-0"



RIPRAP LINED – DETAIL (D)
LONGITUDINAL SLOPE 3% TO 33%
SCALE: 1/4" = 1'-0"



EROSION CONTROL BLANKET (ECB) LINED – DETAIL (B)
LONGITUDINAL SLOPE 0.5% TO 3%
SCALE: 1/4" = 1'-0"



PLASTIC LINED – DETAIL (C)
LONGITUDINAL 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".
2. SEE DRAINAGE PLANS FOR DETAILS OF ANY PERMANENT CONVEYANCE FACILITIES OR DIVERSION DITCHES EXCEEDING A 2-YEAR FLOW RATE OF 10 CFS.
3. DIVERSION DITCHES INDICATED ON INITIAL GESC PLAN SHALL BE INSTALLED PRIOR TO ANY LAND-DISTURBING ACTIVITIES.
4. FOR ECB LINED DITCHES, INSTALLATION OF EROSION CONTROL BLANKET SHALL CONFORM TO THE REQUIREMENTS OF DETAIL 9.
5. IN LOCATIONS WHERE CONSTRUCTION TRAFFIC MUST CROSS A DIVERSION DITCH, THE PERMITTEES SHALL INSTALL A TEMPORARY CULVERT WITH A MINIMUM DIAMETER OF 12-INCHES.

DIVERSION DITCH MAINTENANCE NOTES

1. 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.

(DD) DIVERSION DITCH (8) (A)

TABLE 1. RIPRAP GRADATIONS

D50 MEDIAN STONE SIZE (INCHES)	% OF MATERIAL SMALLER THAN TYPICAL STONE	TYPICAL STONE EQUIVALENT DIAMETER (INCHES)	TYPICAL STONE WEIGHT (POUNDS)
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

SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES
	CLASS 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 UDFCD TYPE 1 BEDDING. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES.	

TABLE 3. 1 1/2" CRUSHED ROCK

SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES
	NO. 4
2"	100
1 1/2"	90 – 100
1"	20 – 55
3/4"	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

Sheet Revisions

6/30/05	ADOPTED FROM DOUGLAS COUNTY GESC PLANS	MLP
5/ /08	EDIT UPDATES (A)	GAW
11/ /08	ADD CURB SOCK DETAIL (B) (REF UDFCD, V3 FIGURE C5-23), MISC. NOTE EDITS	GAW

NOTE: SCALES SHOWN ARE FOR 24"x36" SHEETS; ADJUST ACCORDINGLY FOR 11"x17" SHEETS.

CITY OF LONE TREE
DEPARTMENT OF PUBLIC WORKS
Engineering Division

GESC GRADING, EROSION, AND SEDIMENT CONTROL

GESC PLAN STANDARD NOTES AND DETAILS

SHEET 1 OF 3

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR
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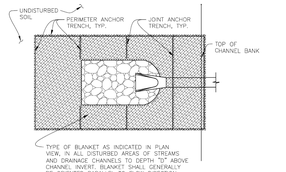
A Westrian Company
Centennial 303-740-9393 • Colorado Springs 719-593-2593
Fort Collins 970-491-9888 • www.jrengineering.com

No.	REVISION	BY	DATE

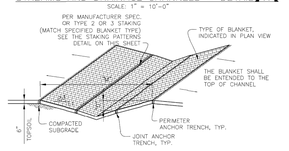
H-SCALE	N/A
V-SCALE	N/A
DATE	2/12/21
DESIGNED BY	MEP
DRAWN BY	MEP
CHECKED BY	

RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS
GESC DETAILS

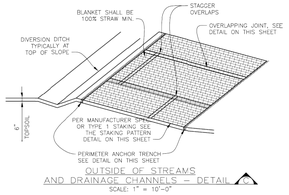
JOB NO. 15950.01



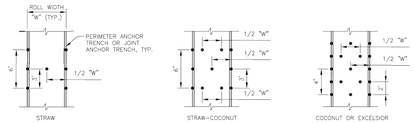
IN DISTURBED AREAS OF STREAMS AND DRAINAGE CHANNELS – DETAIL A
SCALE: 1" = 10'-0"



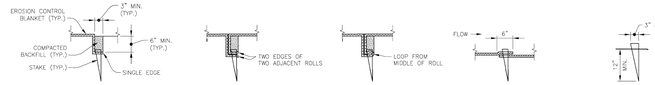
IN DIVERSION DITCH OR SMALL DITCH DRAINAGEWAY – DETAIL A
SCALE: 1" = 10'-0"



OUTSIDE OF STREAMS AND DRAINAGE CHANNELS – DETAIL A
SCALE: 1" = 10'-0"



STAKING PATTERNS
SCALE: 1" = 10'-0"
SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION. IF NO MANUFACTURER'S SPECIFICATION IS AVAILABLE USE THE ACCEPTABLE STAKING PATTERN (AS SHOWN ABOVE).



PERIMETER ANCHOR TRENCH SCALE: 1/2" = 1'-0"
JOINT ANCHOR TRENCH SCALE: 1/2" = 1'-0"
INTERMEDIATE ANCHOR TRENCH SCALE: 1/2" = 1'-0"
OVERLAPPING JOINT SCALE: 1/2" = 1'-0"
WOOD STAKE DETAIL SCALE: 1/2" = 1'-0" MINIMUM THICKNESS 1/2"

EROSION CONTROL BLANKET INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - LOCATION OF PERIMETER OF EROSION CONTROL BLANKET.
   - TYPE OF BLANKET (STRAW, STRAW–COCONUT, COCONUT, OR EXCELSIOR).
   - AREA "A" IN SQUARE YARDS OF EACH TYPE OF BLANKET.
2. ALL EROSION CONTROL BLANKETS AND NETTING SHALL BE MADE OF 100% NATURAL AND BIODEGRADABLE MATERIAL; NO PLASTIC OR OTHER SYNTHETIC MATERIAL, EVEN IF PHOTO DEGRADABLE, SHALL BE ALLOWED.
3. IN AREAS WHERE EROSION CONTROL BLANKET IS SHOWN ON THE PLANS, THE PERMITTEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING BELOW THE BLANKET IN ACCORDANCE WITH THE REQUIREMENTS OF DETAIL 17. SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO BLANKET INSTALLATION AND THE BLANKET SHALL BE IN FULL CONTACT WITH SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.
4. PERIMETER ANCHOR TRENCH SHALL BE USED AT OUTSIDE PERIMETER OF ALL BLANKET AREAS.
5. JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF BLANKETS TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL BLANKETS EXCEPT STRAW, WHICH MAY USE AN OVERLAPPING JOINT.
6. INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE-HALF THE ROLL LENGTH FOR COCONUT AND EXCELSIOR BLANKETS.
7. THE OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF BLANKETS TOGETHER FOR BLANKETS ON SLOPES.
8. MATERIAL SPECIFICATIONS OF EROSION CONTROL BLANKET SHALL CONFORM TO TABLE 7.1.

EROSION CONTROL BLANKET INSTALLATION NOTES – CONTINUED

9. ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING EROSION CONTROL BLANKET SHALL BE RESEEDED AND MULCHED IN ACCORDANCE WITH DETAIL 17.
10. SEE DRAINAGE DESIGN PLANS FOR MAJOR DRAINAGEWAY STABILIZATION MEASURES THAT MAY EXCEED THE DESIGN CONDITIONS ASSOCIATED WITH THE DETAILS ABOVE.

TABLE 7.1 – EROSION CONTROL BLANKET TYPE

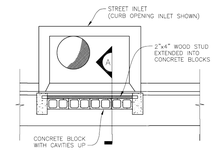
TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	NETTING MIN.
STRAW*	–	100%	–	DOUBLE/NATURAL
STRAW–COCONUT	30% MIN.	70% MAX.	–	DOUBLE/NATURAL
COCONUT	100%	–	–	DOUBLE/NATURAL
EXCELSIOR	–	–	100%	DOUBLE/NATURAL

* FOR OUTSIDE OF STREAMS AND DRAINAGE CHANNELS

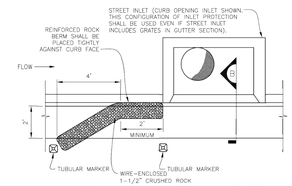
EROSION CONTROL BLANKET MAINTENANCE NOTES

1. THE GESC MANAGER SHALL INSPECT EROSION CONTROL BLANKETS WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS AS NECESSARY.
2. EROSION CONTROL BLANKET IS TO BE LEFT IN PLACE UNLESS REQUESTED TO BE REMOVED BY THE CITY.
3. ANY EROSION CONTROL BLANKET PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE RE–INSTALLED. ANY SUBGRADE AREAS BELOW THE BLANKET THAT HAVE ERODED TO CREATE A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEEDED AND MULCHED AND THE EROSION CONTROL BLANKET REINSTALLED.

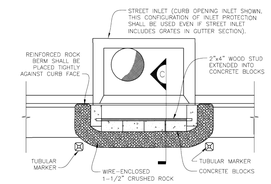
ECB EROSION CONTROL BLANKET 9



INTERIM CONFIGURATION (BEFORE PAVING) STREET INLET – PLAN
SCALE: 1/4" = 1'-0"

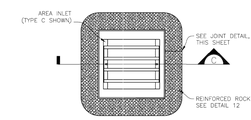


STREET INLET ON CONTINUOUS GRADE (AFTER PAVING) – PLAN
SCALE: 1/4" = 1'-0"

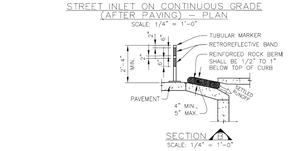


STREET INLET IN SUMP (AFTER PAVING) – PLAN
SCALE: 1/4" = 1'-0"

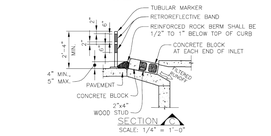
JOINT DETAIL
SCALE: 1/4" = 1'-0"



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

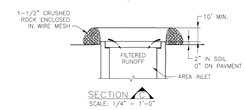


SECTION A
SCALE: 1/4" = 1'-0"



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

AREA INLET – PLAN
SCALE: 1/4" = 1'-0"



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

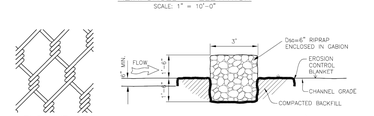
INLET PROTECTION INSTALLATION NOTES

1. INTERIM CONFIGURATION OF INLET PROTECTION IN STREETS SHALL BE INSTALLED WITHIN 48–HOURS OF POURING INLET. INLET PROTECTION (AFTER PAVEMENT) SHALL BE INSTALLED WITHIN 48 HOURS AFTER PAVING IS PLACED.
2. INLET PROTECTION AT AREA INLETS SHALL BE INSTALLED WITHIN 48–HOURS OF POURING INLET.
3. CRUSHED ROCK SHALL BE FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON SHEET 1 (1–1/2" MINUS). RECYCLED CONCRETE MEETING THIS GRADATION MAY BE USED.
4. WIRE MESH SHALL BE FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON SHEET 1 (1–1/2" MINUS). RECYCLED CONCRETE MEETING THIS GRADATION MAY BE USED.
5. WIRE MESH SHALL BE FABRICATED OF 10 GAUGE WIRE TWISTED INTO A MESH WITH A MAXIMUM OPENING OF 1.0 INCH (COMMONLY TERMED "CHICKEN WIRE"). ROLL WIDTH SHALL BE 48–INCHES.
6. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6–INCH CENTERS ALONG ALL JOINTS AND AT 2–INCH CENTERS ON ENDS OF BERM.
6. REINFORCED ROCK BERM SHALL BE CONSTRUCTED IN ONE PIECE OR SHALL BE CONSTRUCTED USING JOINT DETAIL.
7. TUBULAR MARKERS SHALL MEET REQUIREMENTS OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), AS AMENDED.
8. THE TOP OF REINFORCED ROCK BERM SHALL BE 1/2"–1" BELOW TOP OF CURB.

INLET PROTECTION MAINTENANCE NOTES

1. THE GESC MANAGER SHALL INSPECT INLET PROTECTION WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT AS NECESSARY. MORE FREQUENT INSPECTIONS AND REPAIRS SHALL BE REQUIRED DURING WINTER CONDITIONS DUE TO FREEZE/THAW PROBLEMS.
2. SEDIMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED WHEN THE SEDIMENT DEPTH UPSTREAM ROCK BERM IS WITHIN 2–1/2 INCHES OF THE CREST.
3. INLET PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS APPROVED, UNLESS THE CITY APPROVES EARLIER REMOVAL OF INLET PROTECTION IN STREETS.
4. WHEN INLET PROTECTION AT AREA INLETS ARE REMOVED, THE DISTURBED AREA SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.

IP INLET PROTECTION 10



REINFORCED – ELEVATION
SCALE: 1" = 10'-0"

BLOW UP OF TWISTED WIRE GABION
SCALE: NTS

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

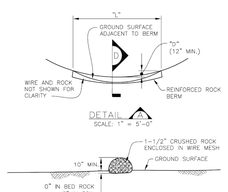
REINFORCED CHECK DAM INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - LOCATIONS OF CHECK DAMS.
   - CHECK DAM TYPE (CHECK DAM OR REINFORCED CHECK DAM).
   - LENGTH, "L", CREST LENGTH, "CL", AND DEPTH, "D".
2. CHECK DAMS INDICATED ON INITIAL GESC PLAN SHALL BE INSTALLED AFTER CONSTRUCTION FENCE, BUT PRIOR TO ANY UPSTREAM LAND–DISTURBING ACTIVITIES.
3. REINFORCED CHECK DAMS, GABIONS SHALL HAVE GALVANIZED TWISTED WIRE NETTING WITH A MAXIMUM OPENING DIMENSION OF 4–1/2" AND A MINIMUM WIRE THICKNESS OF 0.10". WIRE "HOG RINGS" AT 4" SPACING OR OTHER APPROVED MEANS SHALL BE USED AT ALL GABION SEAMS AND TO SECURE THE GABION TO THE ADJACENT GABION.
4. RIPRAP UTILIZED FOR CHECK DAMS SHALL HAVE A D_{50} MEDIAN STONE SIZE OF 6".
5. THE CHECK DAM SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF 1'–6".
6. EROSION BLANKET SHALL BE PLACED IN THE REINFORCED CHECK DAM TRENCH EXTENDING A MINIMUM OF 1'–6" ON BOTH THE UPSTREAM AND DOWNSTREAM SIDES OF THE REINFORCED CHECK DAM.

REINFORCED CHECK DAM MAINTENANCE NOTES

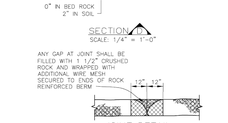
1. THE GESC MANAGER SHALL INSPECT CHECK DAMS WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT AS NECESSARY.
2. SEDIMENT ACCUMULATED UPSTREAM OF CHECK DAMS SHALL BE REMOVED WHEN THE SEDIMENT DEPTH UPSTREAM OF CHECK DAM IS WITHIN ½ OF THE HEIGHT OF THE CREST.
3. CHECK DAMS ARE TO 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 DRILL SEEDED AND CRIMP MULCHED AND COVERED WITH EROSION CONTROL BLANKET OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.

RCD REINFORCED CHECK DAM 11



DETAIL A
SCALE: 1" = 5'-0"

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



JOINT DETAIL
SCALE: 1/4" = 1'-0"

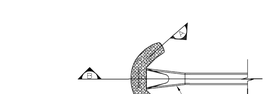
REINFORCED ROCK BERM INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - LOCATIONS OF REINFORCED ROCK BERMS.
   - LENGTH, "L", AND DEPTH, "D" DIMENSIONS.
2. REINFORCED ROCK BERM SECTION APPLIES TO CULVERT INLET FILTER AND INLET PROTECTION.
3. CRUSHED ROCK SHALL BE FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON SHEET 1 (1–1/2" MINUS). RECYCLED CONCRETE MEETING THIS GRADATION MAY BE USED.
4. WIRE MESH SHALL BE FABRICATED OF 10 GAUGE WIRE TWISTED INTO A MESH WITH A MAXIMUM OPENING OF 1.0 INCH (COMMONLY TERMED "CHICKEN WIRE").
5. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6–INCH CENTERS ALONG ALL JOINTS AND AT 2–INCH CENTERS ON ENDS OF BERM.
6. FOR CONCENTRATED FLOW AREAS THE ENDS OF THE REINFORCED ROCK BERM SHALL BE 12" HIGHER THAN THE CENTER OF THE BERM.

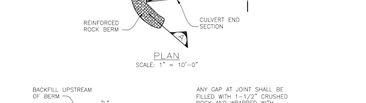
REINFORCED ROCK BERM MAINTENANCE NOTES

1. THE GESC MANAGER SHALL INSPECT REINFORCED ROCK BERM WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT AS NECESSARY.
2. SEDIMENT ACCUMULATED UPSTREAM OF REINFORCED ROCK BERM SHALL BE REMOVED WHEN THE SEDIMENT DEPTH UPSTREAM OF FILTER IS WITHIN 5 INCHES OF THE CREST.
3. REINFORCED ROCK BERMS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS APPROVED.
4. WHEN REINFORCED ROCK BERMS ARE REMOVED, ANY DISTURBED AREA SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.

RRB REINFORCED ROCK BERM 12

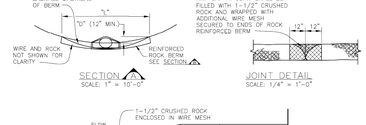


PLAN
SCALE: 1" = 10'-0"



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

JOINT DETAIL
SCALE: 1/4" = 1'-0"



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

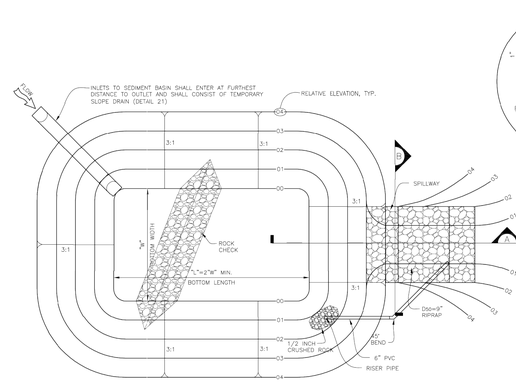
INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - LOCATIONS OF CULVERT INLET FILTERS.
   - LENGTH, "L", AND DEPTH, "D".
2. CRUSHED ROCK SHALL BE FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON SHEET 1 (1–1/2" MINUS). RECYCLED CONCRETE MEETING THIS GRADATION MAY BE USED.
3. WIRE MESH SHALL BE FABRICATED OF 10 GAUGE WIRE TWISTED INTO A MESH WITH A MAXIMUM OPENING OF 1.0 INCH (COMMONLY TERMED "CHICKEN WIRE").
4. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6–INCH CENTERS ALONG ALL JOINTS AND AT 2–INCH CENTERS ON ENDS OF BERM.
5. THE ENDS OF THE REINFORCED ROCK BERM SHALL BE 12" HIGHER THAN THE CENTER OF THE BERM.

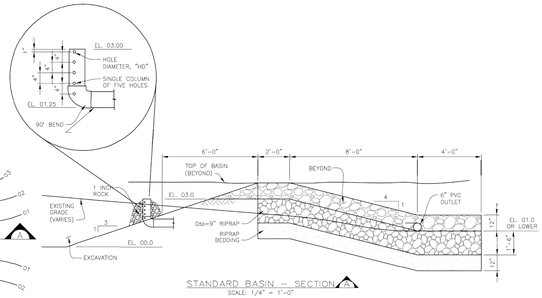
MAINTENANCE NOTES

1. THE GESC MANAGER SHALL INSPECT CULVERT INLET FILTER WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT AS NECESSARY.
2. SEDIMENT ACCUMULATED UPSTREAM OF CULVERT INLET FILTER SHALL BE REMOVED WHEN THE SEDIMENT DEPTH UPSTREAM OF FILTER IS ½ THE HEIGHT OF THE REINFORCED ROCK BERM.
3. RRB FOR CULVERT PROTECTION ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS APPROVED BY THE CITY.
4. WHEN CULVERT INLET FILTERS ARE REMOVED, ANY DISTURBED AREA SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.

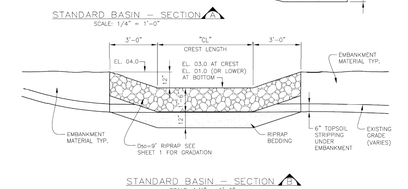
RRC RRB FOR CULVERT PROTECTION 13



STANDARD BASIN – PLAN
SCALE: 1" = 10'-0"



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



STANDARD BASIN – SECTION B
SCALE: 1/4" = 1'-0"

SEDIMENT BASIN INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - LOCATION OF SEDIMENT BASIN.
   - TYPE OF BASIN (STANDARD BASIN OR NON–STANDARD BASIN).
   - FOR STANDARD BASIN, CREST LENGTH, "CL", BOTTOM WIDTH, "W", AND HOLE DIAMETER, "HD".
   - FOR NON–STANDARD BASIN, SEE CONSTRUCTION DRAWINGS FOR DESIGN OF BASIN INCLUDING RISER HEIGHT, "H", NUMBER OF COLUMNS, "N", HOLE DIAMETER, "HD", AND PIPE DIAMETER "D".
2. FOR STANDARD BASIN, BOTTOM DIMENSION MAY BE MODIFIED AS LONG AS BOTTOM AREA IS NOT REDUCED.
3. SEDIMENT BASINS INDICATED ON INITIAL GESC PLAN SHALL BE INSTALLED PRIOR TO ANY OTHER LAND–DISTURBING ACTIVITY.
4. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL FREE OF DEBRIS, ORGANIC MATERIAL, AND ROCKS OR CONCRETE GREATER THAN 3 INCHES AND SHALL HAVE A MINIMUM OF 15 PERCENT BY WEIGHT PASSING THE NO. 200 SIEVE.
5. EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY WITHIN 2 PERCENTAGE POINTS OF OPTIMUM DENSITY IN ACCORDANCE WITH ASTM D698.
6. PIPE SCH 40 OR GREATER SHALL BE USED.
7. THE DETAILS SHOWN ON THIS SHEET PERTAIN TO STANDARD SEDIMENT BASIN(S) IDENTIFIED ON THE GESC PLAN VIEW DRAWINGS USED FOR DRAINAGE AREAS LESS THAN 15 ACRES. SEE CONSTRUCTION DRAWINGS FOR EMBANKMENT, STORAGE VOLUME, SPILLWAY, OUTLET, AND OUTLET PROTECTION DETAILS FOR ANY SEDIMENT BASIN(S) THAT HAVE BEEN INDIVIDUALLY DESIGNED FOR DRAINAGE AREAS LARGER THAN 15 ACRES.

SEDIMENT BASIN MAINTENANCE NOTES

1. THE GESC MANAGER SHALL INSPECT SEDIMENT BASIN WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT AS NECESSARY.
2. SEDIMENT ACCUMULATED IN SEDIMENT BASIN SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS WITHIN 2.0 FEET OF THE CREST OF THE SPILLWAY.
3. SEDIMENT BASINS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS APPROVED BY THE CITY.
4. IF SEDIMENT BASINS ARE REMOVED, THE DISTURBED AREA SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.

SB SEDIMENT BASIN 14

Sheet Revisions		
6/30/05	ADOPTED FROM DOUGLAS COUNTY GESC PLANS	MLP
5/ /08	EDIT UPDATES A	GAW
11/ /08	ADD CURB SOCK DETAIL B (REF UDFCD, V3 FIGURE C5–23), MISC. NOTE EDITS	GAW

NOTE: SCALES SHOWN ARE FOR 24"x36" SHEETS; ADJUST ACCORDINGLY FOR 11"x17" SHEETS.

CITY OF LONE TREE
DEPARTMENT OF PUBLIC WORKS
Engineering Division

GESC GRADING, EROSION, AND SEDIMENT CONTROL

GESC PLAN STANDARD NOTES AND DETAILS

SHEET 2 OF 3

UNTIL SUCH TIME AS THESE PLANS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR
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J·R ENGINEERING
A Westrian Company
Centennial 303-740-9393 • Colorado Springs 719-593-2593
Fort Collins 970-491-9888 • www.jrengineering.com

No.	REVISION	BY	DATE

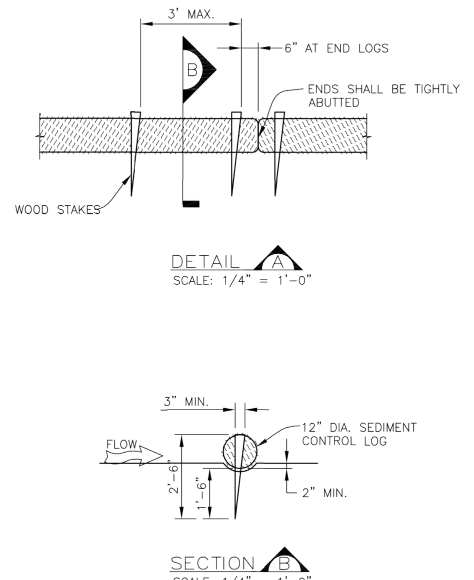
H–SCALE	N/A
V–SCALE	N/A
DATE	2/12/21
DESIGNED BY	MEP
DRAWN BY	MEP
CHECKED BY	

RIDGEGATE SW VILLAGE FLG 1
INFRASTRUCTURE GESC PLANS

GESC DETAILS

SHEET 40 OF 41

JOB NO. 15950.01



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

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

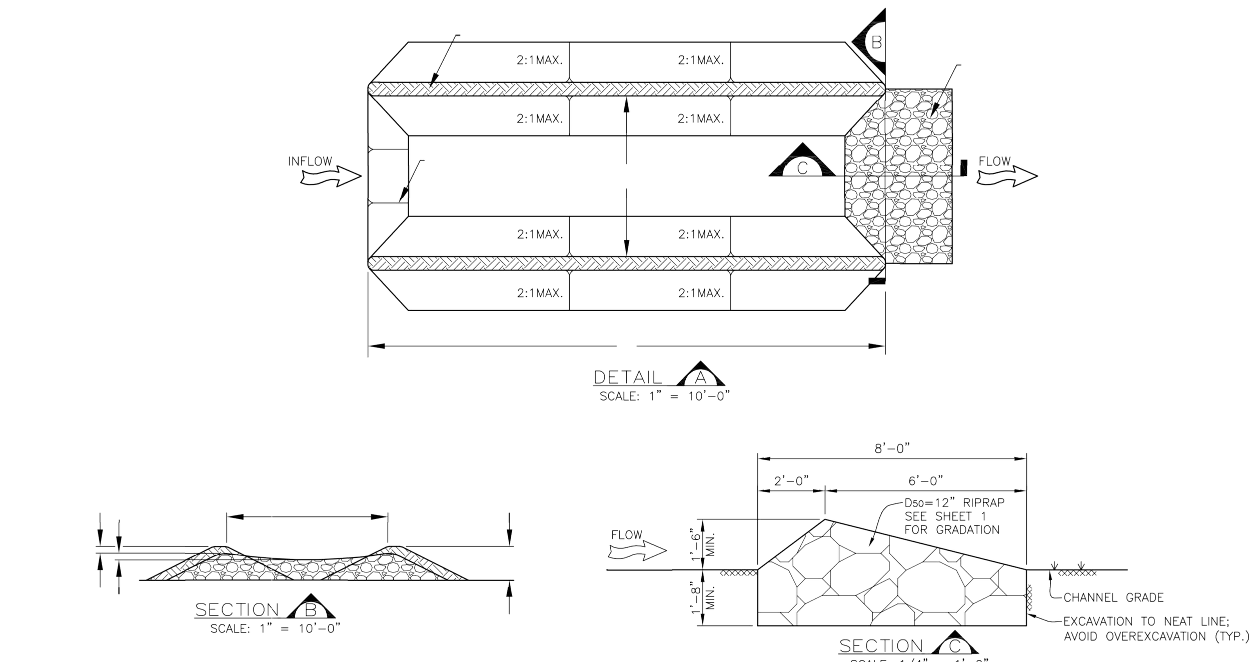
SEDIMENT CONTROL LOG INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - LOCATION AND LENGTH OF SEDIMENT CONTROL LOG.
2. SEDIMENT CONTROL LOGS INDICATED ON INITIAL GESC PLAN SHALL BE INSTALLED PRIOR TO ANY LAND-DISTURBING ACTIVITIES.
3. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR, OR COCONUT FIBER.
4. NOT FOR USE IN CONCENTRATED FLOW AREAS.
5. THE SEDIMENT CONTROL LOG SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF 2".

SEDIMENT CONTROL LOG MAINTENANCE NOTES

1. THE GESC MANAGER SHALL INSPECT SEDIMENT CONTROL LOGS DAILY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT UPSTREAM SEDIMENT AS NECESSARY.
2. SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT CONTROL LOGS SHALL BE REMOVED WHEN THE UPSTREAM SEDIMENT DEPTH IS WITHIN ½ THE HEIGHT OF THE CREST OF LOG.
3. SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION. IF ANY DISTURBED AREA EXISTS AFTER REMOVAL, IT SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.

(SCL) SEDIMENT CONTROL LOG (15)



DETAIL A
SCALE: 1" = 10'-0"

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

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

SEDIMENT TRAP INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - LOCATION, LENGTH AND WIDTH OF SEDIMENT TRAP.
2. SEDIMENT TRAPS INDICATED ON INITIAL GESC PLAN SHALL BE INSTALLED PRIOR TO ANY LAND-DISTURBING ACTIVITIES.
3. SEDIMENT TRAP BERM SHALL BE CONSTRUCTED FROM MATERIAL FROM EXCAVATION. THE BERM SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D698.
4. RIPRAP OUTLET SHALL BE CONSTRUCTED WITH D =12" RIPRAP WITH A MINIMUM OVERFLOW OF 6".
5. THE TOP OF THE EARTHEN BERM SHALL BE A MINIMUM OF 6" HIGHER THAN THE TOP OF THE RIPRAP OUTLET STRUCTURE.
6. THE ENDS OF THE RIPRAP OUTLET STRUCTURE SHALL BE MINIMUM OF 6" HIGHER THAN THE CENTER OF THE OUTLET STRUCTURE.

SEDIMENT TRAP MAINTENANCE NOTES

1. THE GESC MANAGER SHALL INSPECT SEDIMENT TRAPS WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT UPSTREAM SEDIMENT AS NECESSARY.
2. SEDIMENT ACCUMULATED UPSTREAM OF RIPRAP SHALL BE REMOVED WHEN THE UPSTREAM SEDIMENT DEPTH IS WITHIN ½ THE HEIGHT OF THE RIPRAP OUTLET STRUCTURE.
3. SEDIMENT TRAPS SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVERAGE IS APPROVED BY THE CITY.
4. WHEN SEDIMENT TRAPS ARE REMOVED THE DISTURBED AREA SHALL BE DRILLED SEEDED AND CRIMP MULCHED OR STABILIZED IN A MANNER APPROVED BY THE CITY.

(ST) SEDIMENT TRAP (16)

SEEDING AND MULCHING INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - AREA OF SEEDING AND MULCHING.
   - TYPE OF SEED MIX (PERMANENT, TEMPORARY, OR LOW-GROWTH).
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.
4. DRILL SEEDING MIX SHALL CONFORM TO THE TABLE ON THE RIGHT:
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).
7. PERMANENT SEED MIX SHALL BE USED UNLESS OTHERWISE APPROVED BY THE CITY.
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 SPREADING TOPSOIL.
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.
13. MULCH SHALL BE APPLIED WITHIN 24-HOURS OF SEEDING.
14. TACKIFIER SHOULD BE UTILIZED TO HELP WITH STRAW DISPLACEMENT.

SEEDING AND MULCHING MAINTENANCE NOTES

1. 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.
2. REQUIRED COVERAGE FOR STANDARD, OPEN SPACE AND LOW GROWTH SEED MIXES SHALL BE DEFINED AS FOLLOWS:
   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 EQUIVALENT).
   3. FREE OF ERODED AREAS.
   4. FREE FROM INFESTATION OF NOXIOUS WEEDS IN ACCORDANCE WITH SECTION 6.4 OF THE GESC CRITERIA MANUAL.
3. REQUIRED COVERAGE FOR TURF GRASS AREAS SHALL BE DEFINED AS FOLLOWS:
   1. AT LEAST 80% VEGETATIVE COVER OF GRASS SPECIES PLANTED.
   2. NO BARE AREAS LARGER THAN 4 SQUARE FEET (TWO-FEET BY TWO-FEET OR EQUIVALENT).
   3. FREE OF ERODED AREAS.
   4. 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.

CITY OF LONE TREE PERMANENT DRILL SEEDING MIX

SPECIES	VARIETY	NOTES	% IN MIX	POUNDS OF PLS PER ACRE
BIG BLUESTEM	KAW	PNWS	10	1.1
YELLOW INDIANGRASS	CHEYENNE	PNWS	10	1
SWITCHGRASS	BLACKWELL	PNWS	10	0.4
SIDEOATS GRAMA	VAUGHN	PNWB	10	0.9
WESTERN WHEATGRASS	ARRIBA	PNCS	10	1.6
BLUE GRAMA	HACHITA	PNWB	10	0.3
THICKSPIKE WHEATGRASS	CRITANA	PNCS	10	1
PRAIRIE SANDREED	GOSHEN	PNWS	10	0.7
GREEN NEEDLEGRASS	LODORM	PNCB	10	1
SLENDER WHEATGRASS	PRYOR	PNCB	5	0.6
STREAMBANK WHEATGRASS	SODAR	PNCS	5	0.6
			TOTAL	9.2

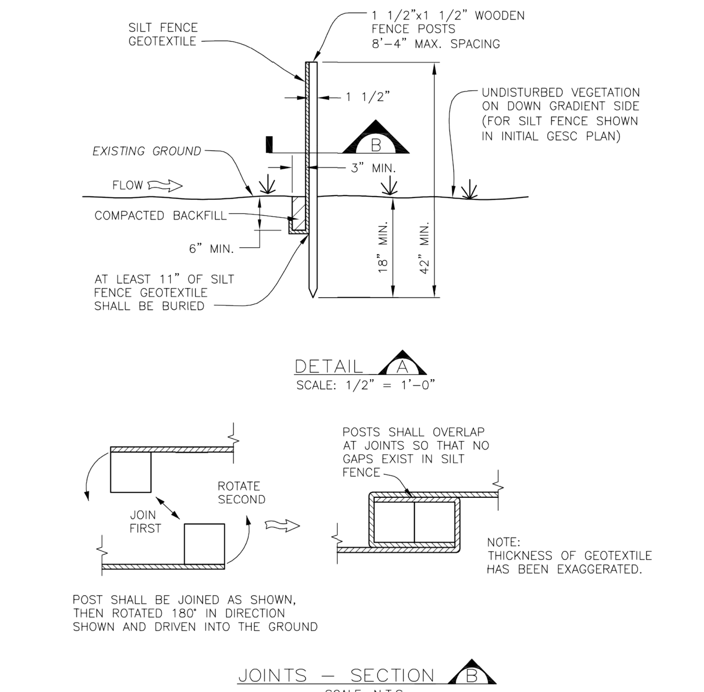
CITY OF LONE TREE TEMPORARY DRILL SEEDING MIX

SPECIES	VARIETY	NOTES	% IN MIX	POUNDS OF PLS PER ACRE
SMOOTH BROMEGRASS	LINCOLN	PICS	30	3.9
INTERMEDIATE WHEATGRASS	OAHE	PICS	30	4.5
PUBESCENT WHEATGRASS	LUNA	PICS	30	4.2
ANNUAL RYEGRASS	N/A	AICB	10	0.8
			TOTAL	13.4

CITY OF LONE TREE LOW-GROWTH DRILL SEEDING MIX

SPECIES	VARIETY	NOTES	% IN MIX	POUNDS OF PLS PER ACRE
BUFFALOGRASS	TEXOKA	PNWS	20	3.2
BLUE GRAMA	HACHITA	PNWB	20	0.6
WESTERN WHEATGRASS	ARRIBA	PNCS	20	3.2
SIDEOATS GRAMA	VAUGHN	PNWB	20	1.8
THICKSPIKE WHEATGRASS	CRITANA	PNCS	10	1
STREAMBANK WHEATGRASS	SODAR	PNCS	10	1.2
			TOTAL	11.0

(SM) SEEDING AND MULCHING (17) A



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

JOINTS – SECTION B
SCALE: N.T.S.

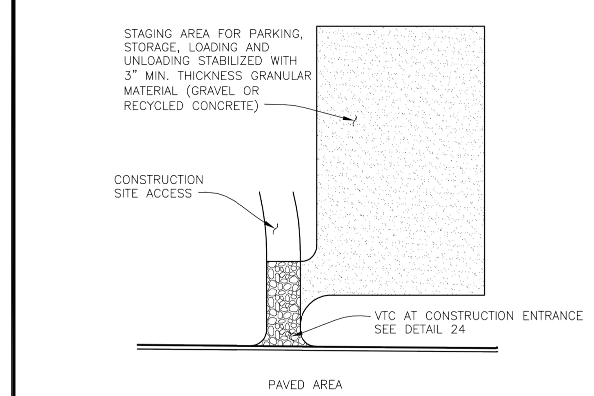
SILT FENCE INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - LOCATION AND LENGTH OF FENCE.
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:
   - 6-TO 12-GALLONS PER MINUTE PER SQUARE FOOT FLOW CAPACITY.
   - 90 LB. TENSILE STRENGTH PER ASTM D4622.
   - UV DESIGN AT 500 HRS MIN. 70% STRENGTH RETAINED PER ASTM D 4355.
4. SILT FENCE INDICATED ON INITIAL GESC PLAN SHALL BE INSTALLED PRIOR TO ANY LAND-DISTURBING ACTIVITIES.

SILT FENCE MAINTENANCE NOTES

1. THE GESC MANAGER SHALL INSPECT SILT FENCE DAILY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT UPSTREAM SEDIMENT AS NECESSARY.
2. SEDIMENT ACCUMULATED UPSTREAM OF SILT FENCE SHALL BE REMOVED WHEN THE UPSTREAM SEDIMENT REACHES A DEPTH OF 6-INCHES.
3. SILT FENCE SHALL BE REMOVED WHEN THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS APPROVED BY THE CITY. IF ANY DISTURBED AREA EXISTS AFTER REMOVAL, IT SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.

(SF) SILT FENCE (18)



PLAN
SCALE: N.T.S.

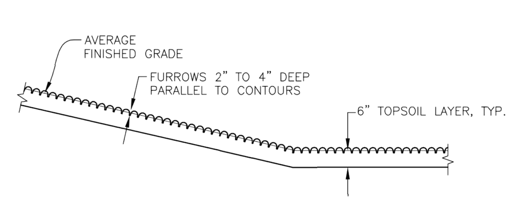
STABILIZED STAGING AREA INSTALLATION NOTES

1. SEE PLAN VIEW FOR GENERAL LOCATION OF STAGING AREA. CONTRACTOR MAY MODIFY LOCATION AND SIZE OF STABILIZED STAGING AREA WITH CITY APPROVAL.
2. STABILIZED STAGING AREA SHALL BE LARGE ENOUGH TO FULLY CONTAIN PARKING, STORAGE, AND UNLOADING AND LOADING OPERATIONS.
3. 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).

STABILIZED STAGING AREA MAINTENANCE NOTES

1. 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 OPERATIONS.
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) A



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

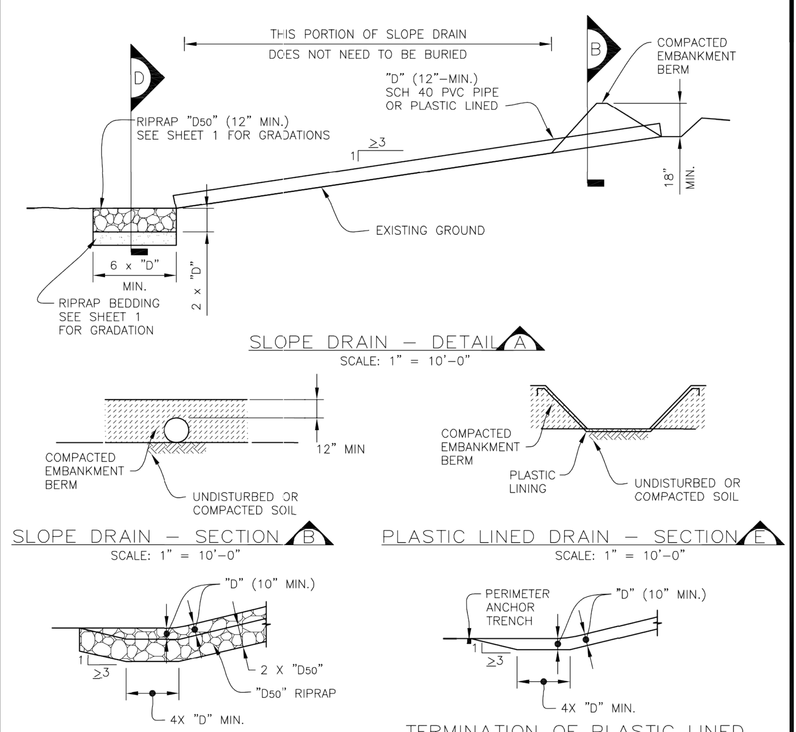
SURFACE ROUGHENING INSTALLATION NOTES

1. SURFACE ROUGHENING SHALL BE PROVIDED ON ALL FINISHED GRADES (SLOPES AND "FLAT" AREAS) WITHIN 2 DAYS OF COMPLETION OF FINISHED GRADE (FOR AREAS NOT RECEIVING TOPSOIL) OR WITHIN 2 DAYS OF TOPSOIL PLACEMENT.
2. AREAS WHERE BUILDING FOUNDATIONS, PAVEMENT, OR SOD IS TO BE PLACED WITHIN 7-DAYS OF FINISHED GRADING DO NOT NEED TO BE SURFACE ROUGHENED.
3. DISTURBED SURFACES SHALL BE ROUGHENED USING RIPPING OR TILLING EQUIPMENT ON THE CONTOUR OR TRACKING UP AND DOWN A SLOPE USING EQUIPMENT TREADS.

SURFACE ROUGHENING MAINTENANCE NOTES

1. 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.
2. VEHICLES AND EQUIPMENT SHALL GENERALLY BE CONFINED TO ACCESS DRIVES AND SHALL NOT BE DRIVEN OVER AREAS THAT HAVE BEEN SURFACE ROUGHENED.
3. IN NON-TURF GRASS FINISHED AREAS, SEEDING AND MULCHING SHALL TAKE PLACE DIRECTLY OVER SURFACE ROUGHENED AREAS WITHOUT FIRST SMOOTHING OUT THE SURFACE.
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 EROSION.

(SR) SURFACE ROUGHENING (20)



SLOPE DRAIN – DETAIL A
SCALE: 1" = 10'-0"

SLOPE DRAIN – SECTION B
SCALE: 1" = 10'-0"

PLASTIC LINED DRAIN – SECTION E
SCALE: 1" = 10'-0"

TERMINATION OF RIPRAP LINED SLOPE DRAIN – DETAIL D
SCALE: 1" = 10'-0"

TERMINATION OF PLASTIC LINED SLOPE DRAIN – DETAIL C
SCALE: 1" = 10'-0"

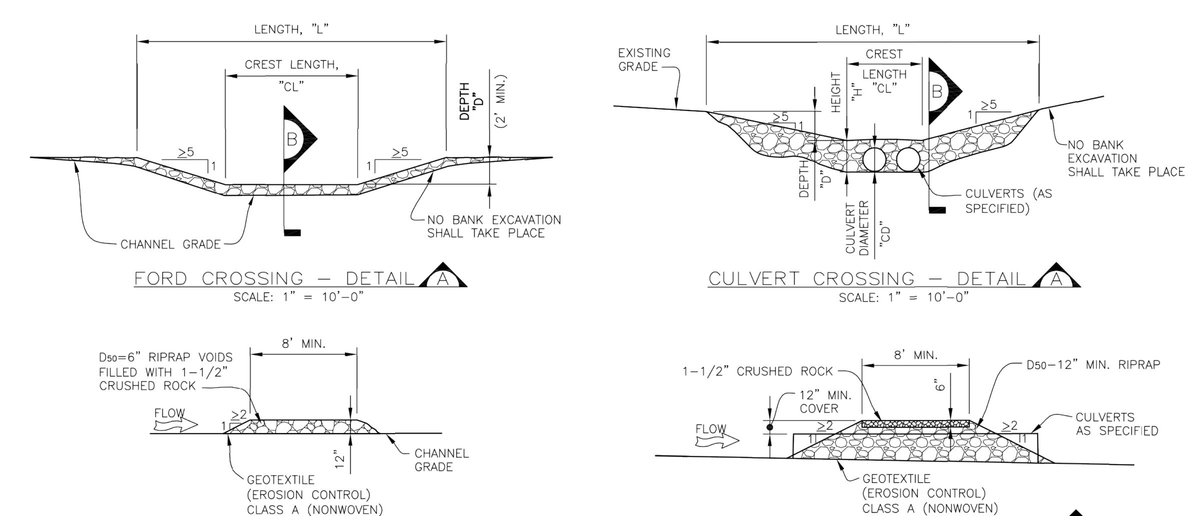
SLOPE DRAIN INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - LOCATION AND LENGTH OF SLOPE DRAIN.
   - PIPE DIAMETER, "D", AND RIPRAP SIZE, "D50".
2. 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 CONTRACTOR'S RESPONSIBILITY.
3. SLOPE DRAINS INDICATED ON INITIAL GESC PLAN SHALL BE INSTALLED PRIOR TO ANY UPSTREAM LAND-DISTURBING ACTIVITIES.
4. FOR TEMPORARY SLOPE DRAINS, PIPE MAY BE INSTALLED ON TOP OF 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.

SLOPE DRAIN MAINTENANCE NOTES

1. 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) A



FORD CROSSING – DETAIL A
SCALE: 1" = 10'-0"

CULVERT CROSSING – DETAIL A
SCALE: 1" = 10'-0"

FORD CROSSING – SECTION B
SCALE: 1" = 10'-0"

CULVERT CROSSING – SECTION B
SCALE: 1" = 10'-0"

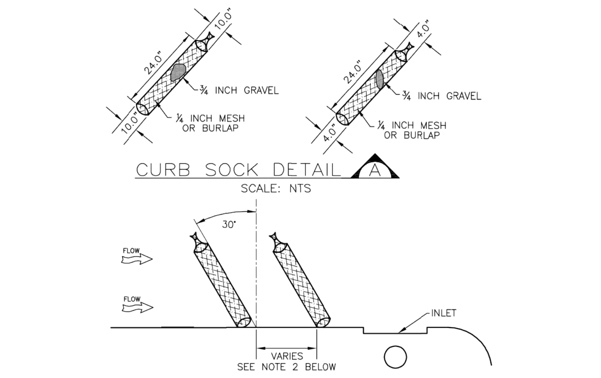
TEMPORARY STREAM CROSSING INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - LOCATIONS OF TEMPORARY STREAM CROSSING.
   - STREAM CROSSING TYPE (FORD OR CULVERT).
   - FOR FORD CROSSING: LENGTH, "L", CREST LENGTH, "CL", AND DEPTH, "D".
   - FOR CULVERT CROSSING : LENGTH, "L", CREST LENGTH, "CL", CROSSING HEIGHT, "H", DEPTH, "D", CULVERT DIAMETER, "CD", AND NUMBER, TYPE AND CLASS OR GAUGE OF CULVERTS.
2. TEMPORARY STREAM CROSSING DIMENSIONS, D50, AND NUMBER OF CULVERTS INDICATED (FOR CULVERT CROSSING) SHALL BE CONSIDERED MINIMUM DIMENSIONS; ENGINEER MAY ELECT TO INSTALL LARGER FACILITIES. ANY DAMAGE TO STREAM CROSSING OR EXISTING STREAM CHANNEL DURING BASEFLOW OR FLOOD EVENTS SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
3. SEE SHEET 1 FOR RIPRAP AND 1-1/2" CRUSHED ROCK GRADATIONS.
4. FOR A TEMPORARY STREAM CROSSING THAT WILL CARRY LOADS, THE TEMPORARY STREAM CROSSING MUST BE DESIGNED BY THE DESIGN ENGINEER.

TEMPORARY STREAM CROSSING MAINTENANCE NOTES

1. THE GESC MANAGER SHALL INSPECT STREAM CROSSINGS WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT UPSTREAM SEDIMENT AS NECESSARY.
2. SEDIMENT ACCUMULATED UPSTREAM OF STREAM CROSSINGS SHALL BE REMOVED WHEN THE SEDIMENT DEPTH UPSTREAM OF CROSSING IS WITHIN 6-INCHES OF THE CREST (FORD CROSSING) OR GREATER THAN AN AVERAGE DEPTH OF 12-INCHES (CULVERT CROSSING).
3. STREAM CROSSINGS ARE TO REMAIN IN PLACE UNTIL NO LONGER NEEDED, BUT SHALL BE REMOVED PRIOR TO THE END OF CONSTRUCTION.
4. WHEN STREAM CROSSINGS ARE REMOVED, THE DISTURBED AREA SHALL BE DRILL SEEDED AND CRIMP MULCHED AND COVERED WITH EROSION CONTROL BLANKET OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY.

(TSC) TEMPORARY STREAM CROSSING (22)



CURB SOCK DETAIL A
SCALE: NTS

CURB SOCK DETAIL B
SCALE: NTS

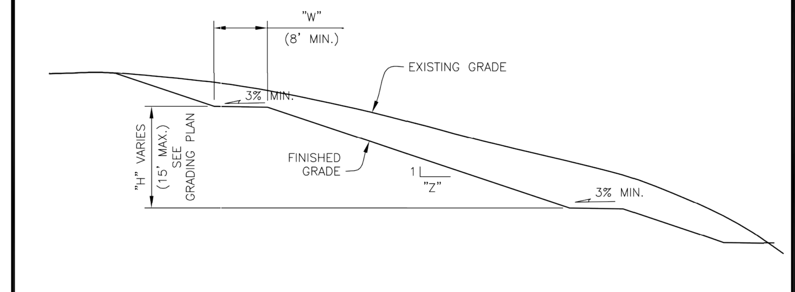
CURB SOCK INSTALLATION NOTES

1. SOCKS WILL BE USED UPGRADIENT OF INLET PERPENDICULAR TO AND FLUSH WITH CURB.
2. NO LESS THAN TWO 10" DIAMETER SOCKS MUST BE USED IN SEQUENCE, SPACED NO MORE THAN 5 FEET APART.
   NO LESS THAN SIX SOCKS SHALL BE USED IF THE 4" SOCK IS USED, ALSO SPACED AT NO MORE THAN 5 FEET APART.
3. INCLINE AT 30 DEGREES FROM PERPENDICULAR, OPPOSITE THE DIRECTION OF FLOW (SEE DETAIL B).

CURB SOCK MAINTENANCE NOTES

1. THE GESC MANAGER SHALL INSPECT THE CURB SOCKS WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS OR CLEAN OUT UPGRADIENT SEDIMENT AS NECESSARY.

(CS) CURB SOCK (26) B



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

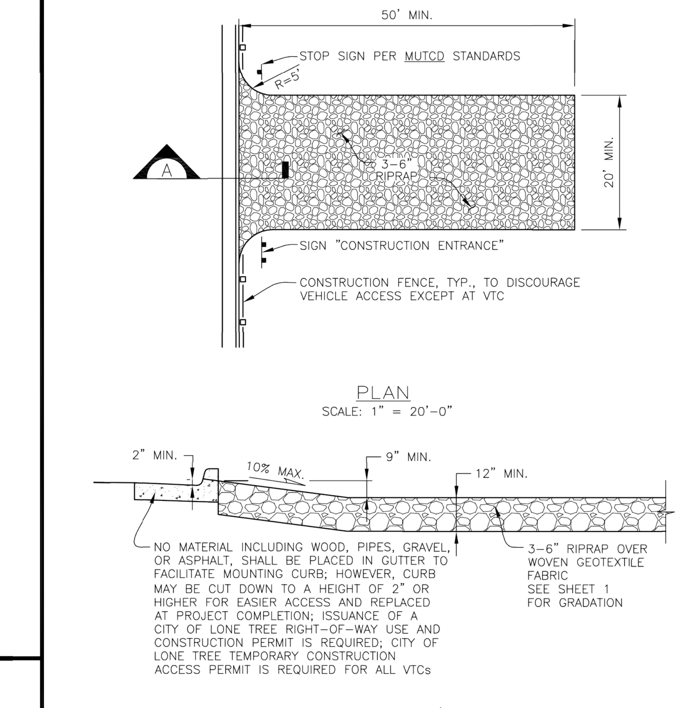
TERRACING INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - WIDTH, "W", AND SLOPE, "Z".
2. TERRACING IS NOT REQUIRED FOR SLOPES OF 4 TO 1 OR FLATTER.
3. EARTH (VEGETATED) SLOPES STEEPER THAN 3 TO 1 ARE NOT ALLOWED ON THE SITE.

TERRACING MAINTENANCE NOTES

1. 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.
2. ANY RILL EROSION OCCURRING ON SLOPES SHALL BE REPAIRED AND RESEEDED AND MULCHED IN ACCORDANCE WITH DETAIL 17.

(TER) TERRACING (23)



PLAN
SCALE: 1" = 20'-0"

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

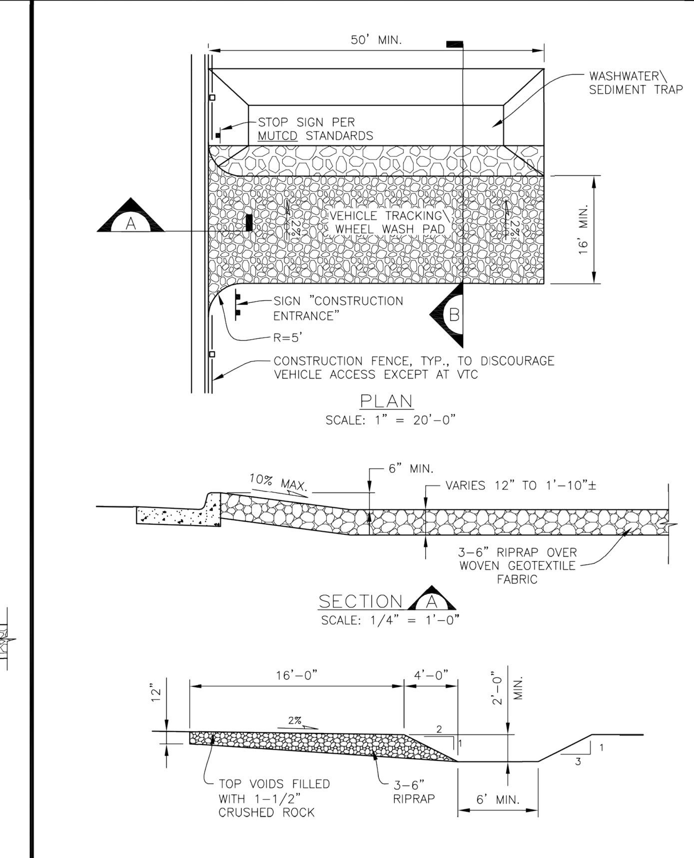
VEHICLE TRACKING CONTROL INSTALLATION NOTES

1. VEHICLE TRACKING CONTROL PADS SHALL BE INSTALLED AT EVERY ACCESS POINT TO SITE.
2. 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 INSPECTIONS.
3. WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE VTC STONE TO HELP MINIMIZE MIGRATION OF THE STONE INTO THE UNDERLYING MATERIAL.
4. ANY CRACKED OR DAMAGED CURB AND GUTTER AND SIDEWALK SHALL BE REPLACED BY PERMITTEE.
5. A CITY OF LONE TREE TEMPORARY CONSTRUCTION ACCESS PERMIT IS REQUIRED FOR EACH ACCESS/EXIT POINT FROM THE SITE.
6. A STOP SIGN INSTALLED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), AS AMENDED, SHALL BE INSTALLED FOR EXITING TRAFFIC AT THE VTC.

VEHICLE TRACKING CONTROL 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.
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) C



PLAN
SCALE: 1" = 20'-0"

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

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

VEHICLE TRACKING CONTROL WITH WHEEL WASH INSTALLATION NOTES

1. ALTHOUGH NOT NORMALLY USED, THE CITY RESERVES THE RIGHT TO REQUIRE VEHICLE TRACKING CONTROL WITH WHEEL WASH FACILITIES AT SITES WHERE TRACKING ONTO PAVED AREAS BECOMES A SIGNIFICANT PROBLEM.
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.
3. 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.
4. 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.
6. A CITY OF LONE TREE TEMPORARY CONSTRUCTION ACCESS PERMIT IS REQUIRED FOR EACH ACCESS/EXIT POINT FROM THE SITE.
7. A STOP SIGN INSTALLED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), AS AMENDED, SHALL BE INSTALLED FOR EXITING TRAFFIC AT THE VTC.

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

Sheet Revisions

6/30/05	ADOPTED FROM DOUGLAS COUNTY GESC PLANS	MLP
5/ /08	EDIT UPDATES A	GAW
11/ /08	ADD CURB SOCK DETAIL B (REF UDFCD, V3 FIGURE C5-23), MISC. NOTE EDITS	GAW
12/ /09	UPDATE VTC & WW C	GAW

NOTE: SCALES SHOWN ARE FOR 24"x36" SHEETS; ADJUST ACCORDINGLY FOR 11"x17" SHEETS.

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

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

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No.	REVISION	BY	DATE

H-SCALE	N/A
V-SCALE	N/A
DATE	2/12/21
DESIGNED BY	MEP
DRAWN BY	MEP
CHECKED BY	

RIDGEGATE SW VILLAGE FLG 1 INFRASTRUCTURE GESC PLANS
GESC DETAILS

JOB NO. 15950.01