

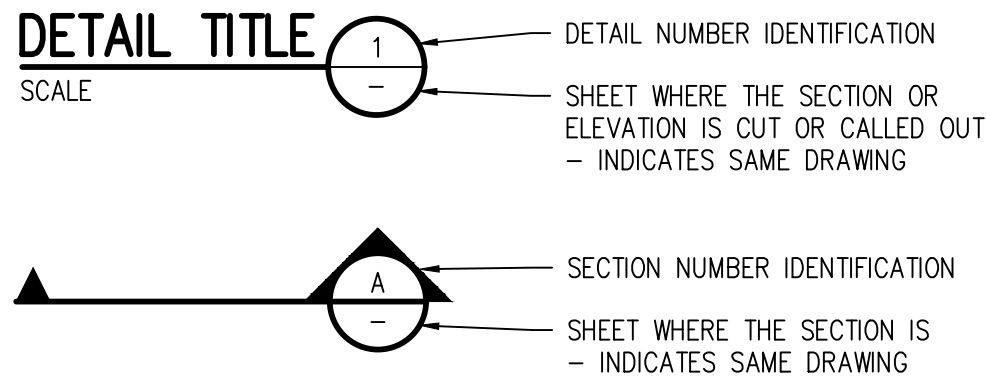
ABBREVIATIONS

AASHTO	AMERICAN ASSOC. OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS	INCL	INCLUDED
ABAN	ABANDON	ID	INSIDE DIAMETER
AC	ASPHALTIC CONCRETE PAVING	IN	INLET
ADDL	ADDITIONAL	INSUL	INSULATION
ADDM	ADDENDUM	INV	INVERT
ADJ	ADJUSTABLE	IRR	IRRIGATION
AL	ALUMINUM		
ALT	ALTERNATE	JTS	JOINTS
AMT	AMOUNT		
APPROX	APPROXIMATE	KB	KICKBLOCK
ARCH	ARCHITECT(URAL)	KO	KNOCKOUT
ARV	AIR RELIEF VALVE	KPL	KICK PLATE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	KWY	KEYWAY
ASPH	ASPHALT		
ASSY	ASSEMBLY	L	LEFT OR LITER
ASYM	ASYMMETRICAL	LSCAPE	LANDSCAPE(NG)
AUTO	AUTOMATIC	LF	LINEAR FOOT
AVG	AVERAGE	LP	LOW POINT
AWWA	AMERICAN WATER WORKS ASSOC.	LT	LIGHT
		LWL	LOW WATER LEVEL
BC	BACK OF CURB	MAINT	MAINTENANCE
BFV	BUTTERFLY VALVE	MAN	MANUAL
BLDG	BUILDING	MATL	MATERIAL
BLK	BLOCK	MAX	MAXIMUM
BM	BENCH MARK	ME	MATCH EXISTING
BMP	BEST MANAGEMENT PRACTICE	MECH	MECHANICAL
BS	BACKSIGHT	MFR	MANUFACTURER
BOS	BOTTOM OF STEP	MH	MANHOLE
BOT	BOTTOM	MIN	MINIMUM
BSMT	BASEMENT	MISC	MISCELLANEOUS
BVCE	BEGIN VERTICAL CURVE ELEVATION	MJ	MECHANICAL JOINT
BVCS	BEGIN VERTICAL CURVE STATION		
BW	BOTTOM OF WALL	N	NORTH
		NA	NOT APPLICABLE
CB	CATCH BASIN	NIC	NOT IN CONTRACT
CW	COUNTER CLOCKWISE	NPT	NATIONAL PIPE THREAD
CDOT	COLORADO DEPARTMENT OF TRANSPORTATION	NTS	NOT TO SCALE
CIP	CAST IRON PIPE		
CJ	CONSTRUCTION JOINT	OC	ON CENTER
CL	CENTER LINE OR CHAIN LINK	OD	OUTSIDE DIAMETER
CLR	CLEAR	OPP	OPPOSITE
CMF	CORRUGATED METAL PIPE	OPT	OPTIONAL
CMU	CONCRETE MASONRY UNIT		
CO	CLEANOUT	PC	POINT OF CURVATURE
CONC	CONCRETE	PCO	PRESSURE CLEAN OUT
CONST	CONSTRUCTION	PCR	POINT OF CURVE RETURN
CONT	CONTINUOUS(ATION)	PI	POINT OF INTERSECTION
COR	CORNER	PVI	POINT OF VERTICAL INTERSECTION
CR	CONCENTRIC REDUCER	PL	PROPERTY LINE
CTR	CENTER	PE	POLYETHYLENE
CY	CUBIC YARDS	PFAB	PREFABRICATED
		PRELIM	PRELIMINARY
DEMO	DEMOLITION	PREP	PREPARATION
DIA	DIAMETER	PROP	PROPOSED
DIAG	DIAGONAL	PRV	PRESSURE REDUCING VALVE OR PRESSURE RELIEF VALVE
DIP	DUCTILE IRON PIPE		
DOM	DOMESTIC	PSF	POUNDS PER SQUARE FOOT
DN	DOWN	PSI	POUNDS PER SQUARE INCH
DR	DRAIN	PT	POINT OF TANGENCY
DWG	DRAWING	PV	PLUG VALVE
DWL	DOWEL	PVC	POLYVINYL CHLORIDE OR POINT OF VERTICAL CURVATURE PAVEMENT
		PVMT	
E	EAST	QTY	QUANTITY
EA	EACH		
ECC	ECCENTRIC	R	RIGHT
EJ	EXPANSION JT	RAD	RADIUS
EL	ELEVATION	RCP	REINFORCED CONCRETE PIPE
ELB	ELBOW	RD	ROOF DRAIN
ELEC	ELECTRICAL	RE	REFERENCE
ENGR	ENGINEER	RECT	RECTANGULAR
ENP	EDGE OF PAVEMENT	REINF	REINFORCE (D) (NG) (MENT)
EQ	EQUAL	REQD	REQUIRED
EQUIP	EQUIPMENT	REQD	REQUIRED
EQUIV	EQUIVALENT	ROW	RIGHT OF WAY
ESMT	EASEMENT		
EST	ESTIMATE	SAN	SANITARY
EVCE	END VERTICAL CURVE ELEVATION	SD	STORM DRAIN
EVCS	END VERTICAL CURVE STATION	SECT	SECTION
EW	EACH WAY	SPD	STANDARD PROCTOR DENSITY SPECIFICATION
EXP JT	EXPANSION JOINT	SPEC	SPECIFICATION
EXIST	EXISTING	SQ	SQUARE
		SQ IN	SQUARE INCH
FND	FOUNDATION	SQ FT	SQUARE FOOT
FES	FLARED END SECTION	SQ YD	SQUARE YARD
FF	FINISH FLOOR	SS	SANITARY SEWER
FG	FINISH GRADE	SST	STAINLESS STEEL
FH	FIRE HYDRANT	STA	STATION
FL	FLOW LINE	STD	STANDARD
FN	FENCE	STL	STEEL
FOC	FACE OF CONCRETE	STRUCT	STRUCTURAL
FPM	FEET PER MINUTE	SWMP	STORMWATER MANAGEMENT PLAN
FPS	FEET PER SECOND		
FT	FEET	SYM	SYMMETRICAL
FTG	FOOTING OR FITTING		
		TB	THRUST BLOCK
G	GAS	TBC	TOP BACK OF CURB
GA	GAUGE	TBM	TEMPORARY BENCH MARK
GAL	GALLON	TEMP	TEMPORARY
GALV	GALVANIZED	THK	THICK
GCO	GRADE CLEANOUT	TOB	TOP OF BANK
GIP	GALVANIZED IRON PIPE	TOC	TOP OF CONCRETE OR TOP OF CURB
GND	GROUND	TOS	TOP OF STEP
GPD	GALLONS PER DAY	TOT	TOTAL
GPM	GALLONS PER MINUTE	TW	TOP OF WALL
GR	GRATE	TYP	TYPICAL
GRTG	GRATING		
GSP	GALVANIZED STEEL PIPE	UBC	UNIFORM BUILDING CODE
GV	GATE VALVE	UGE	UNDERGROUND ELECTRIC
		UTIL	UTILITY
H	HIGH		
HB	HOSE BIB	VERT	VERTICAL
HE	HORIZONTAL ELLIPTICAL	VC	POINT OF VERTICAL CURVATURE
HDWL	HEADWALL	VCP	VITRIFIED CLAY PIPE
HNDRL	HAND RAIL		
HORIZ	HORIZONTAL	W	WIDE OR WIDTH
HP	HIGH POINT	W/	WITH
HR	HOUR	W/O	WITHOUT
HVAC	HEATING, VENTILATION, AIR CONDITIONING	WQCE	WATER QUALITY CONTROL ELEVATION
HWY	HIGHWAY	WSE	WATER SURFACE ELEVATION
HWL	HIGH WATER LINE	WW	WASTEWATER
HYD	HYDRANT		
		X SECT	CROSS SECTION
		YH	YARD HYDRANT

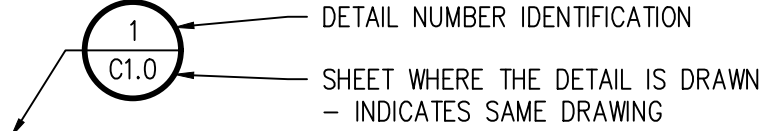
DESIGN LEGEND

	BENCHMARK
	MANHOLE
	AREA DRAIN
	COMBINATION INLET
	TYPE R INLET
	TYPE 13 FIELD INLET
	FLARED END SECTION W/ RIPRAP
	TEE W/ THRUST BLOCK
	BEND W/ THRUST BLOCK
	END CAP W/ THRUST BLOCK
	GATE VALVE
	REDUCER/INCREASER
	WATER METER
	FIRE HYDRANT
	STORM DRAIN - 12" AND SMALLER
	STORM DRAIN - LARGER THAN 12"
	ROOF DRAIN
	TRENCH DRAIN
	UNDERDRAIN
	SANITARY SEWER
	FORCE MAIN
	WATER
	NOT POTABLE WATER
	POTABLE WATER
	IRRIGATION
	CABLE TV
	DRAIN
	ELECTRIC
	UNDERGROUND ELECTRIC
	OVERHEAD ELECTRIC
	TELEPHONE
	FIBER OPTIC
	FLOOR DRAIN
	FOUNDATION DRAIN
	FUEL
	GAS
	PVC PIPE (MISC)

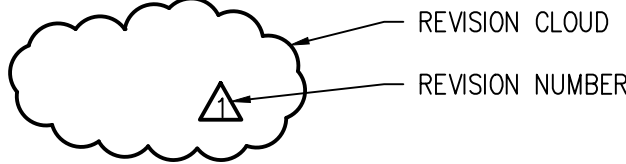
DETAIL TITLE



SECTION CALLOUT



DETAIL MARKER



GENERAL NOTES

- ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF THE CITY OF LOVELAND, LARIMER COUNTY URBAN AREA STREET STANDARDS, COLORADO DEPARTMENT OF TRANSPORTATION, CITY OF LOVELAND FIRE, AND APPLICABLE STATE AND LOCAL STANDARDS AND SPECIFICATIONS. THE CONTRACTOR SHALL HAVE IN POSSESSION AT THE JOB SITE AT ALL TIMES ONE (1) SIGNED COPY OF APPROVED PLANS, STANDARDS AND SPECIFICATIONS. CONTRACTOR SHALL CONSTRUCT AND MAINTAIN EMERGENCY ACCESS ROUTES TO THE SITE AND STRUCTURE AT ALL TIMES PER THE CITY OF LOVELAND FIRE REQUIREMENTS. THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FOR ANY VARIANCE TO THE ABOVE DOCUMENTS. NOTIFY ENGINEER OF ANY CONFLICTING STANDARDS OR SPECIFICATIONS. IN THE EVENT OF ANY CONFLICTING STANDARD OR SPECIFICATION, THE MORE STRINGENT OR HIGHER QUALITY STANDARD, DETAIL OR SPECIFICATION SHALL APPLY.
- THE CONTRACTOR SHALL OBTAIN, AT HIS OWN EXPENSE, ALL APPLICABLE CODES, LICENSES, STANDARD SPECIFICATIONS, PERMITS, BONDS, ETC., WHICH ARE NECESSARY TO PERFORM THE PROPOSED WORK, INCLUDING, BUT NOT LIMITED TO A LOCAL AND STATE GROUNDWATER DISCHARGE AND COLORADO DEPARTMENT OF HEALTH AND ENVIRONMENT (CDPHE) STORMWATER DISCHARGE PERMIT ASSOCIATED WITH CONSTRUCTION ACTIVITY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE REQUIRED PARTY OWNER, OWNER'S REPRESENTATIVE, MUNICIPAL/DISTRICT INSPECTOR, ENGINEER AND/OR UTILITY OWNER AT LEAST 48 HOURS PRIOR TO START OF ANY CONSTRUCTION. PRIOR TO BACKFILLING, AND AS REQUIRED BY JURISDICTIONAL AUTHORITY AND/OR PROJECT SPECIFICATIONS. THE CONTRACTOR SHALL CONTINUE WITH NOTIFICATIONS THROUGHOUT THE PROJECT AS REQUIRED BY THE STANDARDS AND SPECIFICATIONS.
- THE LOCATIONS OF EXISTING UTILITIES ARE SHOWN IN THE APPROXIMATE LOCATION BASED ON INFORMATION BY OTHERS. NOT ALL UTILITIES MAY BE SHOWN. THE CONTRACTOR SHALL DETERMINE THE EXACT SIZE, LOCATION AND TYPE OF ALL EXISTING UTILITIES WHETHER SHOWN OR NOT BEFORE COMMENCING WORK. THE ENGINEER AND/OR OWNER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS SHOWN ON PLANS. THE CONTRACTOR SHALL BE FULLY AND SOLELY RESPONSIBLE FOR ANY AND ALL DAMAGES AND COSTS WHICH MAY OCCUR BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES. THE CONTRACTOR SHALL NOTIFY ALL PUBLIC AND PRIVATE UTILITY COMPANIES AND DETERMINE THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO PROCEEDING WITH GRADING AND CONSTRUCTION. ALL WORK PERFORMED IN THE AREA OF UTILITIES SHALL BE PERFORMED AND INSPECTED ACCORDING TO THE REQUIREMENTS OF THE UTILITY OWNER. LIKEWISE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND MAPPING ANY EXISTING UTILITY (INCLUDING DEPTH) WHICH MAY CONFLICT WITH THE PROPOSED CONSTRUCTION, AND FOR RELOCATING ENCOUNTERED UTILITIES AS DIRECTED BY THE ENGINEER. CONTRACTOR SHALL CONTACT AND RECEIVE APPROVAL FROM MUNICIPALITY/UTILITY OWNER AND ENGINEER BEFORE RELOCATING ANY ENCOUNTERED UTILITIES. CONTRACTOR RESPONSIBLE FOR SERVICE CONNECTIONS, AND RELOCATING AND RECONNECTING AFFECTED UTILITIES AS COORDINATED WITH UTILITY OWNER AND/OR ENGINEER, INCLUDING NON-MUNICIPAL UTILITIES (TELEPHONE, GAS, CABLE, ETC., WHICH SHALL BE COORDINATED WITH THE UTILITY OWNER). THE CONTRACTOR SHALL IMMEDIATELY CONTACT ENGINEER UPON DISCOVERY OF A UTILITY DISCREPANCY OR CONFLICT. AT LEAST 48 HOURS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY NOTIFICATION CENTER OF COLORADO (1-800-922-1987, WWW.UNCC.ORG).
- THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS AT AND ADJACENT TO THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL PREPARE A TRAFFIC CONTROL PLAN FOR OWNER AND/OR CITY APPROVAL AND PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FENCING, FLAGMEN OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR AGREES TO COMPLY WITH THE PROVISIONS OF THE TRAFFIC CONTROL PLAN AND THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," PART VI, FOR CONSTRUCTION SIGNAGE AND TRAFFIC CONTROL. ALL TEMPORARY AND PERMANENT TRAFFIC SIGNS SHALL COMPLY TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) WITH REGARD TO SIGN SHAPE, COLOR, SIZE, LETTERING, ETC. UNLESS OTHERWISE SPECIFIED. IF APPLICABLE, PART NUMBERS ON SIGNAGE DETAILS REFER TO MUTCD SIGN NUMBERS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ANY GROUNDWATER ENCOUNTERED DURING THE CONSTRUCTION OF ANY PORTION OF THIS PROJECT. GROUNDWATER SHALL BE PUMPED, PIPED, REMOVED AND DISPOSED OF IN A MANNER WHICH DOES NOT CAUSE FLOODING OF EXISTING STREETS NOR EROSION ON ADJUTING PROPERTIES IN ORDER TO CONSTRUCT THE IMPROVEMENTS SHOWN ON THESE PLANS. GROUNDWATER TO BE PUMPED SHALL BE TESTED, PERMITTED, AND PUMPED PER THE STATE OF COLORADO AND LOCAL GROUNDWATER DISCHARGING PERMIT REQUIREMENTS.
- RIM AND GRATE ELEVATIONS SHOWN ON PLANS ARE APPROXIMATE ONLY AND ARE NOT TO BE TAKEN AS FINAL ELEVATIONS. THE CONTRACTOR SHALL ADJUST RIMS AND OTHER IMPROVEMENTS TO MATCH FINAL PAVEMENT AND FINISHED GRADE ELEVATIONS.
- THE EXISTING AND PROPOSED ELEVATIONS OF FLATWORK, SIDEWALKS, CURBS, PAVING, ETC. AS SHOWN HEREON ARE BASED ON EXTRAPOLATION OF FIELD SURVEY DATA AND EXISTING CONDITIONS. AT CRITICAL AREAS AND SITE FEATURES, CONTRACTOR SHALL HAVE FORMWORK INSPECTED AND APPROVED BY OWNER, OWNER'S REPRESENTATIVE, OR ENGINEER PRIOR TO PLACING CONCRETE. MINOR ADJUSTMENTS, AS APPROVED, TO PROPOSED GRADES, INVERTS, ETC. MAY BE REQUIRED TO PREVENT PONDING OR SLOPE NOT IN CONFORMANCE WITH MUNICIPAL STANDARDS. ALL FLATWORK MUST PREVENT PONDING AND PROVIDE POSITIVE DRAINAGE AWAY FROM EXISTING AND PROPOSED BUILDINGS, WALLS, ROOF DRAIN OUTFALLS, ACROSS DRIVES AND WALKS, ETC., TOWARDS THE PROPOSED INTENDED DRAINAGE FEATURES AND CONVEYANCES.
- FINAL LIMITS OF REQUIRED ASPHALT SAWCUTTING AND PATCHING MAY VARY FROM LIMITS SHOWN ON PLANS. CONTRACTOR TO PROVIDE SAWCUT AND PATCH WORK TO ACHIEVE POSITIVE DRAINAGE AND A SMOOTH TRANSITION TO EXISTING ASPHALT WITHIN SLOPES ACCEPTABLE TO THE ENGINEER AND WITHIN MUNICIPAL STANDARDS. CONTRACTOR SHALL PROVIDE ADDITIONAL SAWCUTTING AND PATCHING AT UTILITY WORK, CONNECTION POINTS TO EXISTING PAVEMENT AND FEATURES, ETC. THAT MAY NOT BE DELINEATED ON PLANS.
- ANY EXISTING MONITORING WELLS, CLEANOUTS, VALVE BOXES, ETC. TO BE PROTECTED AND TO REMAIN IN SERVICE. IF FEATURES EXIST, EXTEND OR LOWER TO FINAL SURFACE WITH LIKE KIND CAP WITH STANDARD CAST ACCESS LID WITH SAME MARKINGS. IN LANDSCAPED AREAS PROVIDE A CONCRETE COLLAR (18"x18"x6" THICK) AT ALL EXISTING AND PROPOSED MONITORING WELLS, CLEANOUTS, VALVE BOXES, ETC.
- OWNER TO APPROVE ALL PRIVATE CONCRETE FINISHING, JOINT PATTERNS AND COLORING REQUIREMENTS PRIOR TO CONSTRUCTION. SUBMIT JOINT LAYOUT PLAN TO OWNER FOR APPROVAL PRIOR TO CONSTRUCTION.
- PIPE LENGTHS AND HORIZONTAL CONTROL POINTS SHOWN ARE FROM CENTER OF STRUCTURES, END OF FLARED END SECTIONS, ETC. SEE STRUCTURE DETAILS FOR EXACT HORIZONTAL CONTROL LOCATION. CONTRACTOR IS RESPONSIBLE FOR ADJUSTING ACTUAL PIPE LENGTHS TO ACCOUNT FOR STRUCTURES AND LENGTH OF FLARED END SECTIONS.
- ALL SURPLUS MATERIALS, TOOLS, AND TEMPORARY STRUCTURES, FURNISHED BY THE CONTRACTOR, SHALL BE REMOVED FROM THE PROJECT SITE BY THE CONTRACTOR. ALL DEBRIS AND RUBBISH CAUSED BY THE OPERATIONS OF THE CONTRACTOR SHALL BE REMOVED, AND THE AREA OCCUPIED DURING CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO ITS ORIGINAL CONDITION, WITHIN 48 HOURS OF PROJECT COMPLETION, UNLESS OTHERWISE DIRECTED BY THE MUNICIPALITY OR OWNER'S REPRESENTATIVE.
- THE CONTRACTOR IS REQUIRED TO PROVIDE AND MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE LOCAL JURISDICTION, THE STATE OF COLORADO, URBAN DRAINAGE AND FLOOD CONTROL DISTRICT "URBAN STORM DRAINAGE CRITERIA MANUAL VOLUME 3", THE M-STANDARD PLANS OF THE COLORADO DEPARTMENT OF TRANSPORTATION, AND THE APPROVED EROSION CONTROL PLAN. JURISDICTIONAL AUTHORITY MAY REQUIRE THE CONTRACTOR TO PROVIDE ADDITIONAL EROSION CONTROL MEASURES AT THE CONTRACTOR'S EXPENSE DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE PLANS DO NOT FUNCTION AS INTENDED. THE CONTRACTOR IS RESPONSIBLE FOR PROHIBITING SILT AND DEBRIS LADEN RUNOFF FROM LEAVING THE SITE, AND FOR KEEPING ALL PUBLIC AREAS FREE OF MUD AND DEBRIS. THE CONTRACTOR IS RESPONSIBLE FOR RE-ESTABLISHING FINAL GRADES AND FOR REMOVING ACCUMULATED SEDIMENTATION FROM ALL AREAS INCLUDING SWALES AND DETENTION/WATER QUALITY AREAS. CONTRACTOR SHALL REMOVE TEMPORARY EROSION CONTROL MEASURES AND REPAIR AREAS AS REQUIRED AFTER VEGETATION IS ESTABLISHED AND ACCEPTED BY OWNER AND MUNICIPALITY.
- ADA COMPLIANCE: THE CROSS-SLOPE OF ALL WALKS MUST NOT BE STEEPER THAN 1:48 (2.0%) PERPENDICULAR TO DIRECTION OF TRAVEL. RUNNING SLOPE OF ACCESSIBLE WALKS MUST BE NOT STEEPER THAN 1:20 (5.0%) IN DIRECTION OF TRAVEL. MAXIMUM GRADE OF ACCESSIBLE CURB RAMPS AND RAMPS IS 1:12 (8.3%). CURB RAMPS SHALL PROVIDE A LANDING AT THE TOP AND RAMP RUNS PROVIDE LANDINGS AT THE BOTTOM AND TOP OF EACH RAMP RUN AT A SLOPE NOT TO EXCEED 1:48. RAMPS RUNS EXCEEDING SIX INCHES SHALL INCLUDE HANDRAILS. ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL NOT EXCEED 1:48 IN ANY DIRECTION. CONTRACTOR SHALL NOTIFY ENGINEER PRIOR TO PLACEMENT OF FLATWORK OF SITE CONDITIONS OR DISCREPANCIES WHICH PREVENT TYPICAL REQUIRED GRADES FROM BEING ACHIEVED. ALL RAMPS, STAIRS, EDGE PROTECTION, AND RAILINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT ADA STANDARDS. ACCESSIBLE CURB RAMPS SHALL CONFORM TO THE CDOT M-STANDARDS (SEE DETAIL M-608-1, ETC). ACCESSIBLE FEATURE WITHIN THE PUBLIC RIGHTS-OF-WAY SHALL BE CONSTRUCTED TO CONFORM TO THE LOCAL AUTHORITY HAVING JURISDICTION REQUIREMENTS.
- TREES AND VEGETATION TO BE PROTECTED ARE SHOWN AND CALLED OUT ON THE DEMOLITION PLAN. PLACE CONSTRUCTION FENCING AT DRIP LINE OF TREES AND PLANTS NEAR THE WORK ZONE. DEEP WATER TREES WEEKLY. HAND EXCAVATION REQUIRED AT ROOT ZONES WHERE PROPOSED PAVING OR UTILITY WORK IS WITHIN DRIPLINE OF TREES.
- LOCATIONS OF CLEANOUTS, LIGHTS, SIGNAGE, JUNCTION BOXES, AND OTHER SIGNIFICANT SITE FEATURES TO BE STAKED FOR ENGINEER AND OR OWNER APPROVAL PRIOR TO WORK. CLEANOUTS, JUNCTION BOXES, AND ADJACENT GRADES TO BE RAISED ONE-HALF INCH AT ASPHALT/CONCRETE (OR 1" AT LANDSCAPING) TO PROVIDE POSITIVE DRAINAGE AWAY FROM FEATURES.
- BENCHMARK INFORMATION: TOPOGRAPHIC INFORMATION WAS PROVIDED BY KING SURVEYORS SEE TOPOGRAPHIC SURVEY DATED 7/28/2017. PROJECT BENCHMARK ELEVATION: 4967.15 AT LOVELAND BM 95-06 NGVD29. COORDINATE AND VERIFY ALL VERTICAL AND HORIZONTAL DATA SHOWN IN SURVEY AND REPORT ANY IRREGULARITIES OR DISCREPANCIES TO ENGINEER PRIOR TO CONSTRUCTION.
- HORIZONTAL CONTROL INFORMATION: HORIZONTAL CONTROL COORDINATES ARE BASED ON TRIMBLE VRS NETWORK, COLORADO STATE PLANE COORDINATES NAD 83(2011) DATUM ARE PROVIDED BY THE FOLLOWING POINTS AS SHOWN ON THE PLANS:
CP-116 N1389679.75 E3135763.69 ELEV4929.96
CP-117 N13896997.90 E31355662.00 ELEV4927.42
CP-124 N1390056.49 E3134930.92 ELEV4930.40

BASIS OF BEARINGS: SEE PLANS.

- THE CONTRACTOR SHALL FURNISH THE ENGINEER OF RECORD A COMPLETE SET OF CONSTRUCTION RECORD DRAWINGS ("AS-BUILTS"), FOR THE CONSTRUCTED IMPROVEMENTS. THE PLANS SHALL SHOW SUFFICIENT DIMENSION TIES TO PERMANENT SURFACE FEATURES FOR ALL BURIED FACILITIES TO ALLOW FOR FUTURE LOCATING. THE PLANS SHALL SHOW FINAL PAVEMENT, FLOW LINE ELEVATIONS, CONTOURS AT POND/DRAINAGE FEATURES (AS SURVEYED AND CERTIFIED BY A COLORADO P.L.S.), MANHOLE, PIPE, AND INLET LOCATIONS, INVERTS, GRATE ELEVATIONS, SIZES OF ALL UTILITIES, AND ANY VARIATIONS FROM THE APPROVED PLAN. ENGINEER WILL PRODUCE FINAL RECORD DRAWINGS.



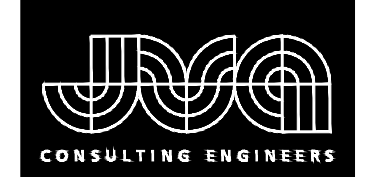
DESIGN CONCEPTS

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LOVELAND SPORTS PARK PHASE TWO

950 North Boyd Lake Ave.
Loveland, CO 80537

NOT FOR CONSTRUCTION

Project No.: 21739.00

Issued For: BID SET

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Drafted By: AMF

Checked By: NGD

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LEGEND, NOTES & ABBREVIATIONS

C0.1

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PUBLIC WATER/WASTEWATER STANDARD NOTES

1. IN ADDITION TO MEETING APPLICABLE LCUASS, STATE OR FEDERAL STANDARDS, ALL MATERIALS, WORKMANSHIP AND CONSTRUCTION OF PUBLIC WATER AND WASTEWATER SYSTEM IMPROVEMENTS SHALL MEET OR EXCEED THE STANDARDS SET FORTH IN THE CITY OF LOVELAND WATER AND WASTEWATER DEVELOPMENT STANDARDS.
2. IN CASES OF CONFLICT BETWEEN THESE SIGNED PICP'S AND APPLICABLE STANDARDS, THE MOST RESTRICTIVE STANDARD SHALL APPLY.
3. IN CASES OF CONFLICT BETWEEN THE CITY OF LOVELAND WATER AND WASTEWATER DEVELOPMENT STANDARDS AND LCUASS, RELATING TO WATER AND/OR WASTEWATER SYSTEMS, THE CITY OF LOVELAND WATER AND WASTEWATER DEVELOPMENT STANDARDS SHALL TAKE PRECEDENCE.
4. THE DEVELOPER/CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM ALL APPLICABLE AGENCIES. THE DEVELOPER SHALL NOTIFY THE DEPARTMENT OF WATER AND POWER (970-962-3000) AT LEAST 2 WORKING DAYS PRIOR TO THE START OF ANY PUBLIC WATER AND/OR WASTEWATER SYSTEM IMPROVEMENTS.
5. A PRE-CONSTRUCTION MEETING SHALL BE REQUIRED PRIOR TO COMMENCEMENT OF ANY WORK.
6. THE DEVELOPER/CONTRACTOR SHALL HAVE, ONSITE AT ALL TIMES, TWO (2) SIGNED COPIES OF THE APPROVED PICP'S (ONE FOR CONSTRUCTION ACTIVITIES AND ONE FOR RECORD DRAWINGS), ONE (1) COPY OF THE CITY OF LOVELAND WATER AND WASTEWATER DEVELOPMENT STANDARDS, AND COPIES OF ANY APPLICABLE PERMITS AND AGREEMENTS.
7. PRIOR TO INITIAL ACCEPTANCE, THE DEPARTMENT OF WATER AND POWER SHALL APPROVE RECORD DRAWINGS FOR ALL PUBLIC WATER AND/OR WASTEWATER SYSTEM IMPROVEMENTS.

CITY OF LOVELAND WATERLINE NOTE:

1. THE MINIMUM COVER OVER WATER LINES IS 4.5 FEET AND THE MAXIMUM COVER IS 5.5 FEET UNLESS OTHERWISE NOTED IN THE PLANS AND APPROVED BY THE WATER UTILITY.

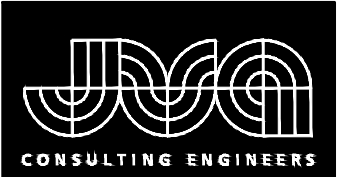
LARIMER COUNTY RURAL AREA STREET STANDARDS GENERAL NOTES:

1. LARIMER COUNTY WILL NOT BE PROVIDING ONGOING MANAGEMENT, MONITORING, INSPECTION OR SUPERVISION OF THIS PROJECT TO INSURE COMPLIANCE WITH THE APPROVED CONSTRUCTION DRAWINGS, AND ALL APPLICABLE STANDARDS AND SPECIFICATIONS. THIS RESPONSIBILITY FALLS UPON THE DEVELOPER/OWNER, THEIR MANAGERS, ENGINEERS, AND CONTRACTORS. UPON PROJECT COMPLETION, LARIMER COUNTY WILL REQUIRE EXTENSIVE DOCUMENTATION, SUCH AS PROFESSIONAL ENGINEER'S SITE/DRAINAGE/MATERIAL TESTING CERTIFICATION LETTERS, MATERIAL TESTING RECORDS, RECORD DRAWINGS, AND FIELD INSPECTION REPORTS, TO DEMONSTRATE THAT THIS PROJECT IS IN COMPLIANCE WITH THE APPROVED CONSTRUCTION DRAWINGS, AND ALL APPLICABLE STANDARDS AND SPECIFICATIONS. THESE DOCUMENTS MUST BE PREPARED BY LICENSED ENGINEERS AND LAND SURVEYORS.
2. NO WORK MAY COMMENCE WITHIN ANY IMPROVED OR UNIMPROVED PUBLIC RIGHT-OF-WAY UNTIL A RIGHT-OF-WAY CONSTRUCTION PERMIT AND/OR DEVELOPMENT CONSTRUCTION PERMIT IS OBTAINED FROM THE LARIMER COUNTY ENGINEERING DEPARTMENT.
3. RIGHT OF WAY CONSTRUCTION PERMITS AND FEES WILL BE REQUIRED FOR UTILITY INSTALLATIONS (I.E. PHONE, CABLE, GAS, OTHER DRY UTILITIES) AND STREET CUTS IN LARIMER COUNTY RIGHT OF WAY. THE FEES WILL BE PAID PRIOR TO ISSUANCE OF THE DEVELOPMENT CONSTRUCTION PERMIT AND ARE A PART OF THE DEVELOPMENT CONSTRUCTION PERMIT ISSUANCE PROCEDURE.
4. THE DEVELOPER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM ALL APPLICABLE AGENCIES PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE DEVELOPER SHALL NOTIFY THE LARIMER COUNTY ENGINEERING DEPARTMENT (498-5700) AT LEAST 2 WORKING DAYS PRIOR TO THE START OF ANY EARTH DISTURBING ACTIVITY, OR CONSTRUCTION ON ANY AND ALL PUBLIC IMPROVEMENTS. IF THE LARIMER COUNTY ENGINEERING DEPARTMENT IS NOT AVAILABLE AFTER PROPER NOTICE OF CONSTRUCTION ACTIVITY HAS BEEN PROVIDED, THE DEVELOPER MAY COMMENCE WORK IN THE ENGINEER DEPARTMENTS ABSENCE. HOWEVER, THE LARIMER COUNTY ENGINEERING DEPARTMENT RESERVES THE RIGHT NOT TO ACCEPT THE IMPROVEMENT IF SUBSEQUENT TESTING REVEALS AN IMPROPER INSTALLATION.
5. THE DEVELOPER SHALL SUBMIT A CONSTRUCTION TRAFFIC CONTROL PLAN, IN ACCORDANCE WITH MUTCD, TO THE LARIMER COUNTY ENGINEERING DEPARTMENT FOR APPROVAL, PRIOR TO ANY CONSTRUCTION ACTIVITIES WITHIN, OR AFFECTING, THE RIGHT-OF-WAY. THE DEVELOPER SHALL BE RESPONSIBLE FOR PROVIDING ANY AND ALL TRAFFIC CONTROL DEVICES AS MAY BE REQUIRED BY THE CONSTRUCTION ACTIVITIES. THE TRAFFIC CONTROL PLAN AND ASSOCIATED IMPLEMENTATION MUST BE DONE BY A CERTIFIED TRAFFIC CONTROL COMPANY.
6. ALL MATERIALS, WORKMANSHIP, AND CONSTRUCTION OF PUBLIC IMPROVEMENTS SHALL MEET OR EXCEED THE STANDARDS AND SPECIFICATIONS SET FORTH IN THE LARIMER COUNTY RURAL AREA ROAD STANDARDS AND APPLICABLE STATE AND FEDERAL REGULATIONS. WHERE THERE IS CONFLICT BETWEEN THESE PLANS AND THE SPECIFICATIONS, OR ANY APPLICABLE STANDARDS, THE MOST RESTRICTIVE STANDARD SHALL APPLY.
7. ALL REFERENCES TO ANY PUBLISHED STANDARDS SHALL REFER TO THE LATEST REVISION OF SAID STANDARD, UNLESS SPECIFICALLY STATED OTHERWISE.
8. THESE PUBLIC IMPROVEMENT CONSTRUCTION PLANS SHALL BE VALID FOR A PERIOD OF TWO YEARS FROM THE DATE OF APPROVAL BY THE LARIMER COUNTY ENGINEERING DEPARTMENT. USE OF THESE PLANS AFTER THE EXPIRATION DATE MAY REQUIRE A NEW REVIEW AND APPROVAL PROCESS BY THE LARIMER COUNTY ENGINEERING DEPARTMENT PRIOR TO COMMENCEMENT OF ANY WORK SHOWN IN THESE PLANS.
9. ALL SANITARY SEWER, STORM SEWER, AND WATER LINE CONSTRUCTION, AS WELL AS POWER AND OTHER 'DRY' UTILITY INSTALLATIONS, SHALL CONFORM TO THE GOVERNING AUTHORITY STANDARDS AND SPECIFICATIONS CURRENT AT THE DATE OF APPROVAL OF THE PLANS BY THE LARIMER COUNTY ENGINEERING DEPARTMENT.
10. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES ALONG THE ROUTE OF THE WORK BEFORE COMMENCING NEW CONSTRUCTION. THE DEVELOPER SHALL BE RESPONSIBLE FOR UNKNOWN UNDERGROUND UTILITIES.
11. THE DEVELOPER SHALL BE RESPONSIBLE FOR PROTECTING ALL UTILITIES DURING CONSTRUCTION AND FOR COORDINATING WITH THE APPROPRIATE UTILITY COMPANY FOR ANY UTILITY CROSSINGS REQUIRED OR UTILITY RELOCATION DUE TO A UTILITY CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS. THE DEVELOPER SHALL COMPLETE ANY UTILITY WORK IN A TIMELY FASHION AND WITH A MINIMUM DISRUPTION OF SERVICE AND SHALL BE RESPONSIBLE FOR CONTACTING, IN ADVANCE, ALL PARTIES AFFECTED BY ANY DISRUPTION OF ANY UTILITY SERVICE AS WELL AS THE UTILITY COMPANIES. THE DEVELOPER SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) AT 1-800-922-1987, AT LEAST 2 WORKING DAYS PRIOR TO BEGINNING EXCAVATION OR GRADING, TO HAVE ALL REGISTERED UTILITY LOCATIONS MARKED. OTHER UNREGISTERED UTILITY ENTITIES (I.E. DITCH / IRRIGATION COMPANY) ARE TO BE LOCATED BY CONTACTING THE RESPECTIVE REPRESENTATIVE. IF A CONFLICT EXISTS BETWEEN EXISTING AND PROPOSED UTILITIES AND/OR A DESIGN MODIFICATION IS REQUIRED, THE DEVELOPER SHALL COORDINATE WITH THE ENGINEER TO MODIFY THE DESIGN. DESIGN MODIFICATION(S) MUST BE APPROVED BY THE LARIMER COUNTY ENGINEERING DEPARTMENT PRIOR TO BEGINNING CONSTRUCTION.
12. NO WORK MAY COMMENCE ON ANY PUBLIC STORM WATER, SANITARY SEWER OR POTABLE WATER SYSTEM UNTIL THE DEVELOPER NOTIFIES THE UTILITY PROVIDER. NOTIFICATION SHALL BE A MINIMUM OF 2 WORKING DAYS PRIOR TO COMMENCEMENT OF ANY WORK. AT THE DISCRETION OF THE WATER UTILITY PROVIDER, A PRE-CONSTRUCTION MEETING MAY BE REQUIRED PRIOR TO COMMENCEMENT OF ANY WORK.
13. ALL UTILITY INSTALLATIONS WITHIN OR ACROSS THE ROADBED OF NEW RESIDENTIAL ROADS MUST BE COMPLETED PRIOR TO THE FINAL STAGES OF ROAD CONSTRUCTION. FOR THE PURPOSES OF THESE STANDARDS ANY WORK ABOVE THE SUBGRADE IS CONSIDERED FINAL STAGE WORK. ALL SERVICE LINES MUST BE STUBBED TO THE PROPERTY LINES AND MARKED SO AS TO REDUCE THE EXCAVATION NECESSARY FOR BUILDING CONNECTIONS.
14. PORTIONS OF LARIMER COUNTY ARE WITHIN A FLOODPLAIN OVERLAY DISTRICT. THE LARIMER COUNTY LAND USE CODE SHOULD BE REFERRED TO FOR ADDITIONAL CRITERIA FOR IMPROVEMENTS WITHIN THESE DISTRICTS.
15. THE DEVELOPER SHALL BE RESPONSIBLE FOR ALL ASPECTS OF SAFETY INCLUDING, BUT NOT LIMITED TO, EXCAVATION, TRENCHING, SHORING, TRAFFIC CONTROL, AND SECURITY. REFER TO OSHA PUBLICATION 2226, EXCAVATING AND TRENCHING.
16. THE WORK HOURS FOR ANY WORK REQUIRING AN ENGINEERS INSPECTION SHALL BE 7:00 A.M. TO 6:00 P.M.- MONDAY THROUGH FRIDAY. MORE RESTRICTIVE HOURS OF OPERATION (9:00 A.M. TO 3:00 P.M.) MAY BE IN PLACE FOR MAINLINE COUNTY ROAD IMPROVEMENTS DEPENDING ON THE LOCATION AND NATURE OF THE IMPROVEMENTS BEING CONSTRUCTED. WORK REQUIRING AN ENGINEERS INSPECTION WILL NOT BE PERMITTED ON WEEKENDS OR HOLIDAYS, UNLESS REQUESTED IN WRITING BY THE CONTRACTOR AND APPROVED BY THE COUNTY IN WRITING.
17. THE DEVELOPER IS RESPONSIBLE FOR PROVIDING ALL LABOR AND MATERIALS NECESSARY FOR THE COMPLETION OF THE INTENDED IMPROVEMENTS SHOWN ON THESE DRAWINGS, OR DESIGNATED TO BE PROVIDED, INSTALLED, OR CONSTRUCTED, UNLESS SPECIFICALLY NOTED OTHERWISE.
18. DIMENSIONS FOR LAYOUT AND CONSTRUCTION ARE NOT TO BE SCALED FROM ANY DRAWING. IF PERTINENT DIMENSIONS ARE NOT SHOWN, CONTACT THE DESIGNER FOR CLARIFICATION, AND ANNOTATE THE DIMENSION ON THE RECORD DRAWINGS.
19. THE DEVELOPER SHALL HAVE, ONSITE AT ALL TIMES, ONE (1) SIGNED COPY OF THE APPROVED PLANS, ONE (1) COPY OF THE APPROPRIATE STANDARDS AND SPECIFICATIONS, AND A COPY OF ANY PERMITS AND EXTENSION AGREEMENTS NEEDED FOR THE JOB. IF, DURING THE CONSTRUCTION PROCESS, CONDITIONS ARE ENCOUNTERED WHICH COULD INDICATE A SITUATION THAT IS NOT IDENTIFIED IN THE PLANS OR SPECIFICATIONS, THE DEVELOPER SHALL CONTACT THE DESIGNER AND THE LARIMER COUNTY ENGINEERING DEPARTMENT IMMEDIATELY.
20. THE DESIGNER SHALL PROVIDE, IN THIS LOCATION ON THE PLAN, THE LOCATION AND DESCRIPTION OF THE NEAREST SURVEY BENCHMARKS (1) FOR THE PROJECT AS WELL AS THE BASIS OF BEARINGS. THE INFORMATION SHALL BE AS FOLLOWS: BENCHMARKS-LOCAL ENTITY SURVEY. B.M.NUMBER: LOVELAND BM 95-06, ELEV.=4967.15.
21. ALL STATIONING IS BASED ON CENTERLINE OF ROADWAYS UNLESS OTHERWISE NOTED.
22. UPON COMPLETION OF CONSTRUCTION, THE SITE SHALL BE CLEANED AND RESTORED TO A CONDITION EQUAL TO, OR BETTER THAN, THAT WHICH EXISTED BEFORE CONSTRUCTION, OR TO THE GRADES AND CONDITION AS REQUIRED BY THESE PLANS. ANY EXISTING IMPROVEMENTS DESTROYED, DAMAGED OR REMOVED DUE TO CONSTRUCTION OF THIS PROJECT, SHALL BE REPLACED OR RESTORED IN LIKE KIND AT THE DEVELOPER'S EXPENSE, UNLESS OTHERWISE INDICATED ON THESE PLANS, PRIOR TO THE ACCEPTANCE OF COMPLETED IMPROVEMENTS.
23. THE LARIMER COUNTY ENGINEERING DEPARTMENT SHALL NOT BE RESPONSIBLE FOR THE MAINTENANCE OF ROADWAY AND APPURTENANT IMPROVEMENTS, INCLUDING STORM DRAINAGE STRUCTURES AND PIPES.
24. APPROVED VARIANCES ARE LISTED AS FOLLOWS: THERE ARE NO VARIANCES ON THIS PROJECT.



DESIGN CONCEPTS

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LOVELAND SPORTS PARK
PHASE TWO

950 North Boyd Lake Ave.
Loveland, CO 80537



Project No.: 21739.00

Issued For: BID SET Date: 04.05.18

Drafted By: AMF
Checked By: NGD

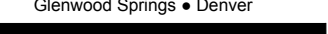
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LCUASS
GENERAL
NOTES

C0.2



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DEMOLITION PLAN

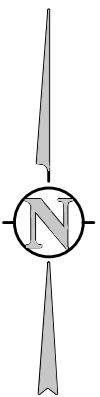
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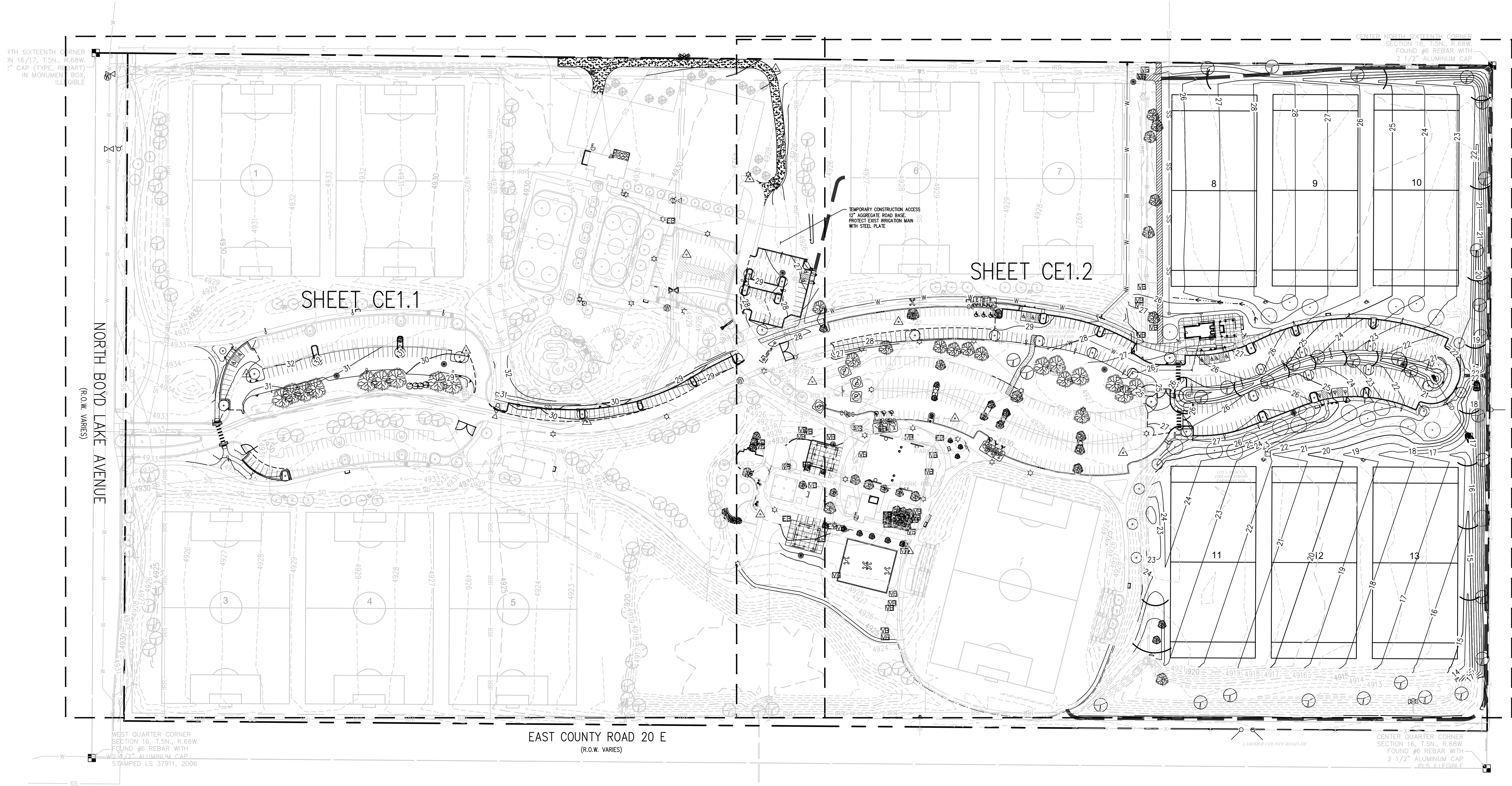
- | | |
|---|-------------------------|
|  | DEMO SUBSURFACE FEATURE |
|  | DEMO SURFACE FEATURE |
|  | DEMO BUILDING |
|  | ABANDON UTILITY |
|  | DEMO (REMOVE) TREE |
|  | PROTECT (KEEP) TREE |
|  | LIMITS OF SAWCUT |

DEMOLITION NOTES:

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. REFER TO GENERAL NOTES FOR UTILITY LOCATION AND PROTECTION.
2. ACTUAL LIMITS MAY VARY, CONTRACTOR IS RESPONSIBLE FOR ADJUSTING LIMITS OF DEMOLITION AND CONSTRUCTION AS NECESSARY. COORDINATE DEMOLITION REQUIREMENTS, LIMITS OF DEMOLITION, SALVAGE ITEMS, PROTECTION OF ITEMS TO REMAIN, TREES, FENCING, ETC. WITH OWNER, ARCHITECT, ENGINEER, AND RELEVANT CONSTRUCTION AND PHASING PLANS.
3. ADDITIONAL DEMOLITION MAY BE REQUIRED AND IS TO BE PERFORMED AS PART OF THE BASE CONTRACT.
4. IF BUILDING DEMOLITION IS REQUIRED, REFER TO ARCHITECT AND APPLICABLE ENGINEERS FOR DETAILED DEMOLITION INFORMATION.
5. REPLACE EXISTING FLATWORK AT UTILITY TRENCHES AS REQUIRED.
6. ALL SAMCUTTING AND PAVEMENT REMOVAL SHOULD BE TO THE NEAREST JOINT.
7. ALL DRY UTILITY AND ELECTRIC DEMOLITION OR RELOCATION SHOULD BE COORDINATED WITH PROPERTY OWNER, UTILITY OWNER, ARCHITECT, AND ENGINEER PRIOR TO CONSTRUCTION.
8. ALL NECESSARY EROSION AND SEDIMENTATION CONTROLS MUST BE INSTALLED PRIOR TO CONSTRUCTION.
9. CONTRACTOR TO COMPLY WITH ALL REGULATORY REQUIREMENTS FOR HAZARDOUS MATERIAL REMOVAL AND DISPOSAL.
10. REFER TO GENERAL NOTES FOR TREE PROTECTION. COORDINATE WITH LANDSCAPE ARCHITECT FOR TREE REMOVAL.
11. CONTRACTOR TO MAINTAIN SAFE PEDESTRIAN ACCESS. PROVIDE TEMPORARY ROUTE AND SIGNAGE AS NEEDED.
12. CONTRACTOR TO TAKE NECESSARY PRECAUTIONS TO PROTECT AND MAINTAIN SERVICES DURING CONSTRUCTION.



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EROSION CONTROL LEGEND

	EXISTING INDEX CONTOUR		SILT FENCE		ROOF DRAIN DOWNSPOUT
	EXISTING INTERMEDIATE CONTOUR		CONSTRUCTION FENCE		CONCRETE WASHOUT AREA
	PROPOSED INDEX CONTOUR		TEMPORARY SLOPE DRAIN		TEMPORARY SEDIMENTATION POND
	PROPOSED INTERMEDIATE CONTOUR		DIVERSION DITCH		EROSION CONTROL BLANKET
	LIMITS OF WORK		SEDIMENT CONTROL LOG		CHANNEL STABILIZATION MATTING
	INLET PROTECTION		CURB SOCK		STAGING AREA
	OUTLET PROTECTION		ROCK CHECK DAM		
	VEHICLE TRACKING CONTROL				
	STRAW BALE EROSION BARRIER				

EROSION AND SEDIMENTATION NOTES:

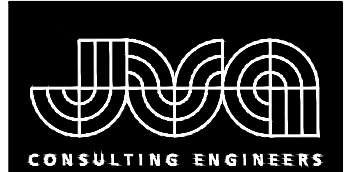
1. CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING ALL CONTROLS DURING INITIAL, INTERIM, AND FINAL CONDITIONS.
2. ALL CONTROLS SHALL BE INSTALLED WITHIN THE PROPERTY LINES UNLESS OTHERWISE SPECIFIED. WHEN CONSTRUCTION ACTIVITIES DISTURB ADJACENT AND/OR RIGHT-OF-WAY PROPERTIES, COORDINATION WITH PROPERTY OWNERS IS REQUIRED PRIOR TO CONSTRUCTION.



**DESIGN
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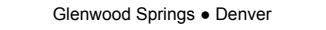
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**OVERALL
EROSION
CONTROL
PLAN**

CE1.0



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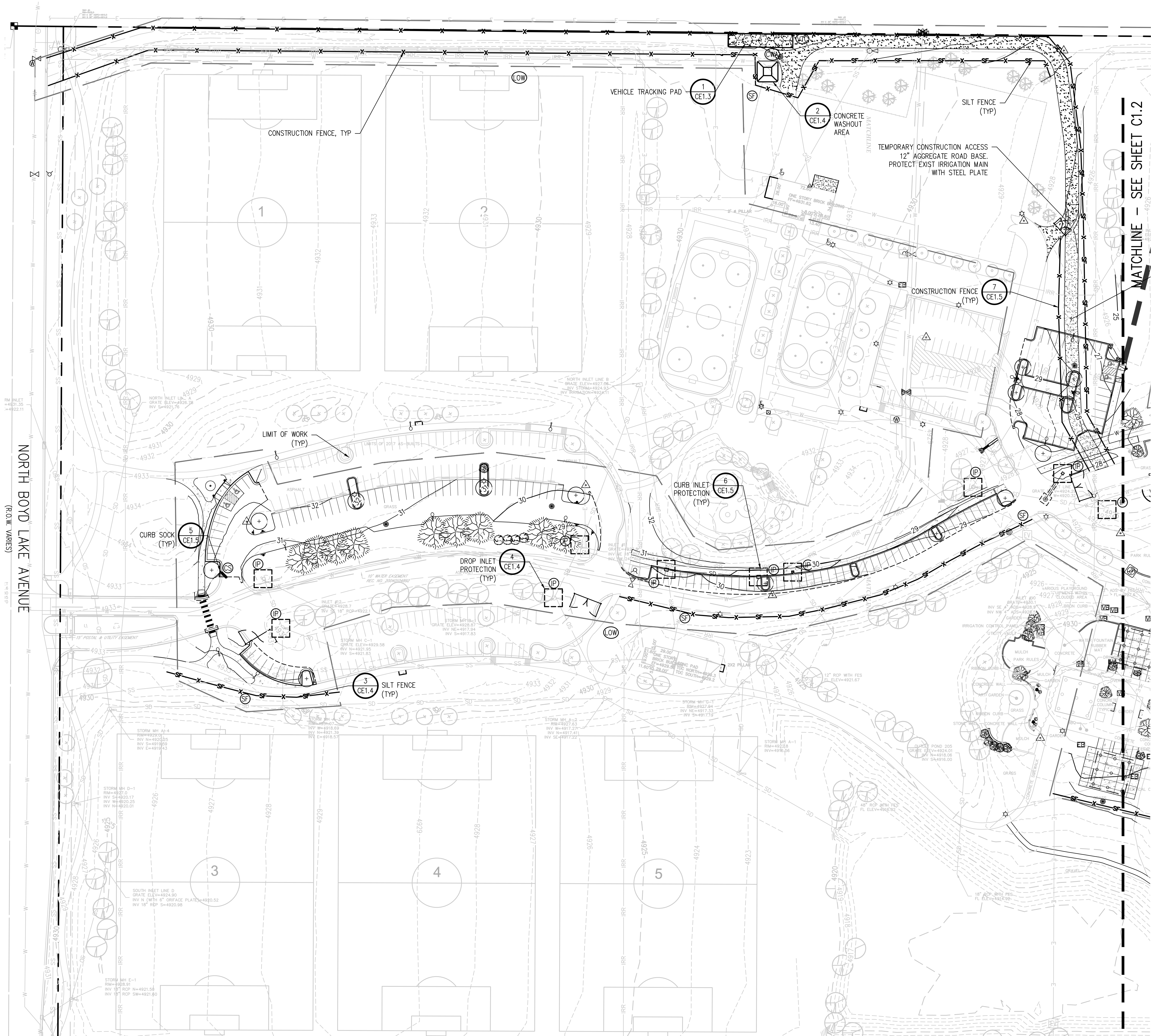


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DETAILED EROSION CONTROL PLAN

CE1.1



STORMWATER MANAGEMENT PLAN (SWMP)

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

NAME: _____
CONTACT INFO: _____

THE SITE IS LOCATED AT 950 N BOYD LAKE AVENUE, AND AT APPROXIMATELY 40°24'6" LATITUDE, 105°01'3" LONGITUDE. THE PROPOSED PROJECT CONSISTS OF PARKING, UTILITY SERVICE CONNECTIONS, OVERLOT GRADING, BUILDING CONSTRUCTION, PAVING OF SIDEWALKS, PLAY AREAS, PARKING LOTS, AND UTILITY INFRASTRUCTURE CONSTRUCTION IN THE CITY OF LOVELAND. THE TOTAL SITE AREA IS APPROXIMATELY 79.7 ACRES WITH AT TOTAL DISTURBANCE OF 35.9 ACRES. NO AREAS GREATER THAN 40 ACRES SHALL BE DISTURBED AT ANY GIVEN TIME. NO CONSTRUCTION ACTIVITIES SHALL OCCUR OFFSITE OR OUTSIDE OF THE CONSTRUCTION LIMITS SHOWN ON THE CONSTRUCTION DOCUMENTS. THE SEQUENCE OF CONSTRUCTION STARTS IS AS FOLLOWS:

PHASE	ESTIMATED	ACTUAL
CONSTRUCTION START	MAY 2018	_____
ROAD AND OVERLOT GRADING	MAY 2018	_____
UTILITY CONSTRUCTION	JUNE 2018	_____
BUILDING CONSTRUCTION	JUNE 2018	_____
PAVING	JUNE 2018	_____
SITE RESTORATION	JULY 2018	_____

THE EXISTING SITE CONSISTS OF DEVELOPED LAND & NATIVE GRASSLAND AND IS APPROXIMATELY 80% COVERED WITH VEGETATIVE GROUND COVER. THE ESTIMATED HISTORIC AND DEVELOPED RUNOFF COEFFICIENTS ARE XX AND XX RESPECTIVELY.

OFFSITE RUNOFF FLOWS ONTO THE PROPERTY FROM THE NORTH AND IS DIRECTED TO THE PRIVATE STORM SEWER ONSITE. ONSITE FLOWS ARE DIRECTED NORTH TO SOUTH. ONSITE DETENTION IS PROVIDED WITH A SERIES OF SMALL PONDS AND TWO PRIMARY DETENTION PONDS DRAINED BY SEVERAL STORM SEWER SYSTEMS. STORMWATER IS DISCHARGED FROM THIS SITE TO KOPPE'S POND SOUTH OF THE PROPERTY THAT ULTIMATELY OUTFALLS TO THE BIG THOMPSON RIVER.

OTHER POTENTIAL POLLUTION SOURCES SUCH AS DO NOT EXIST AT THIS SITE.
NON-STORMWATER COMPONENTS OF THE DISCHARGE, SUCH AS LANDSCAPE IRRIGATION RETURN FLOW MAY EXIST ONSITE.

BEST MANAGEMENT PRACTICES FOR STORMWATER MANAGEMENT

NON STRUCTURAL BMP'S WILL BE IMPLEMENTED TO THE MAXIMUM EXTENT POSSIBLE. THE UTILIZATION OF NON STRUCTURAL BMP'S WILL BE AN ONGOING PROCESS DIRECTED AT PREVENTING EROSION. THE NON STRUCTURAL BMP'S WILL RECEIVE CONTINUOUS EMPHASIS THROUGHOUT CONSTRUCTION BECAUSE THEY AVERT PROBLEMS BEFORE THEY OCCUR AND REDUCE THE NEED FOR STRUCTURAL BMP'S. NON STRUCTURAL BMP'S WILL CONSIST PRIMARILY OF PRESERVATION OF EXISTING MATURE VEGETATION AND TREES, PLANNING AND SCHEDULING CONSTRUCTION ACTIVITIES AIMED AT ACHIEVING THE GOAL OF MINIMIZING EROSION. FURTHERMORE, CONSTRUCTION PERSONNEL WILL BE INSTRUCTED AND SUPERVISED IN CONSTRUCTION METHODS CONSISTENT WITH EROSION PREVENTION PRACTICES.

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

APPLICATION OF THESE BMP'S FOR STORMWATER MANAGEMENT ARE FOR CONSTRUCTION PERIODS AND ARE CONSIDERED TEMPORARY. POST-DEVELOPMENT STORMWATER MANAGEMENT IS PROVIDED THROUGH VEGETATED LANDSCAPED AREAS, GRASSED SWALES, RIPRAP PROTECTION, STORM COLLECTION SYSTEM, AND THE UTILIZATION OF THE PERMANENT DETENTION POND.

VEHICLE TRACKING CONTROL (VTC):

A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED AT N BOYD LAKE AVE. THE CONSTRUCTION ACCESS AND PARKING WILL BE GRADED AND COVERED WITH A CRUSHED STONE BASE COURSE DURING CONSTRUCTION. THE VEHICLE TRACKING CONTROL WILL BE RELOCATED WITH THE CONSTRUCTION ACCESS AS NECESSARY.

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

SILT FENCING AND SEDIMENT CONTROL LOGS SHALL BE INSTALLED WITH RESPECT TO PROPOSED DRAINAGE PATTERNS. SILT FENCE AND SEDIMENT CONTROL LOGS SHALL BE CONSTRUCTED ALONG THE PORTIONS OF THE SOUTHEAST SIDE OF THE PROPERTY AND ALONG ANY DRAINAGE AREAS SUBJECT TO EROSION. THE SILT FENCING AND SEDIMENT CONTROL LOGS SHALL BE INSTALLED AT THE DOWNHILL SIDE OF THE EXISTING SLOPES ACROSS THE SITE AND AT ALL POINT DISCHARGE AREAS WHETHER SHOWN OR NOT. SILT FENCE AND SEDIMENT CONTROL LOGS SHALL BE MAINTAINED AS NEEDED THROUGHOUT THE CONSTRUCTION PROCESS. THE TEMPORARY SILT FENCE AND SEDIMENT CONTROL LOGS WILL REMAIN UNTIL THE STORM SEWER STRUCTURES ARE COMPLETED AND GROUND COVER IS EFFECTIVE.

INLET PROTECTION (IP):

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

ROCK CHECK DAMS (RCD):

ROCK CHECK DAMS WILL BE INSTALLED AS SHOWN AND MAINTAINED AT LOCATIONS AROUND THE SITE WHERE FUTURE GRASS LINES SWALES WILL CARRY THE STORM RUNOFF. PRIOR TO LANDSCAPING OF THE SITE, THESE BARRIERS WILL REDUCE THE FLOW VELOCITIES IN THESE SWALES AND ALLOW THE DISTURBED SOIL TO SETTLE OUT. THE ROCK CHECK DAMS WILL BE LEFT IN PLACE AS PART OF THE PERMANENT STORMWATER MANAGEMENT PLAN.

OUTLET PROTECTION (OP):

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

OVERLOT GRADING:

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

DUST CONTROL MEASURES:

DISTURBED AREAS NOT YET READY TO BE SEEDED, LANDSCAPES, PAVED, OR OTHERWISE STABILIZED SHALL BE WATERED, OR RIPPED AS NECESSARY TO PRECLUDE VISIBLE DUST EMISSIONS.

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

THE EROSION AND SEDIMENT CONTROL PLAN MAY BE MODIFIED BY THE DEPARTMENT OF HIGHWAYS AND TRANSPORTATION, OWNER'S ENGINEER, COUNTY ENGINEERING INSPECTORS, MUNICIPALITY OR ITS AUTHORIZED REPRESENTATIVE AS FIELD CONDITIONS WARRANT.

STORMWATER DETENTION AND WATER QUALITY:

STORMWATER DETENTION IS PROVIDED (ONSITE) IN A SERIES OF SEVEN SMALL PONDS AND TWO PRIMARY DETENTION PONDS WATER QUALITY TREATMENT IS PROVIDED ONSITE THROUGH PERMANENT BMP'S SUCH AS BIO-SWALES AND VEGETATED CHANNELS.

TEMPORARY SEEDING AND MULCHING:

ALL SEEDS FURNISHED SHALL BE FREE FROM NOXIOUS SEEDS SUCH AS RUSSIAN OR CANADIAN THISTLE, COURSE FESCUE, EUROPEAN BINDWEED, JOHNSON GRASS, KNAWEED, AND LEAFY SPURGE. THE FORMULA USED FOR DETERMINING THE QUALITY OF PURE LIVE SEED (PLS) SHALL BE (POUNDS OF SEED) X (PURITY) X (GERMINATION) = POUNDS OF PURE LIVE SEED (PLS). SEEDING RECOMMENDATIONS ARE PROVIDED BELOW, BUT MAY BE MODIFIED WITH THE OWNER'S APPROVAL TO MAKE THE BEST USE OF EXISTING CLEARINGS AND GRUBBINGS:

SPECIES	COMMON NAME	VARIETY	LBS/ACRE
AGROPYRON SMITHI	WESTERN WHEATGRASS	ARRIBA	8.0
ARRHENATHERUM ELATES	TALL OATGRASS		3.0
LOLIUM PERENNE	PERENNIAL RYEGRASS	PENNFINE	2.0

ALL SEEDS SHALL BE DRILLED NOT HYDROSEEDED. ALL DISTURBED AREAS SHALL BE SEEDED AND CRIMP MULCHED IF PERMANENT VEGETATION IS NOT IMMEDIATELY INSTALLED. AFTER SEEDING HAS BEEN COMPLETED, A RATE OF 4,000 LBS. OF STRAW PER ACRE SHALL BE APPLIED UNIFORMLY, CRIMPED IN WITH A CRIMPER OR OTHER APPROVED EQUIPMENT OR OTHERWISE ATTACHED. A TACKIFIER OR JUTE NETTING TO ATTACH MULCH MAY BE USED WITH THE OWNER'S APPROVAL. THE SEEDED AREA SHALL BE CRIMPED MULCHED AND THE MULCH ATTACHED WITHIN TWENTY-FOUR (24) HOURS AFTER SEEDING. AREAS NOT MULCHED AND ATTACHED WITHIN TWENTY-FOUR (24) HOURS AFTER SEEDING MUST BE RESEEDED WITH THE SPECIFIED MIX AT THE CONTRACTOR'S EXPENSE, PRIOR TO MULCHING AND ATTACHING. ON STEEP SLOPES OR OTHER SPECIFIED AREAS AS SHOWN ON THE PLANTING PLAN, WHICH ARE DIFFICULT TO MULCH AND ATTACH BY CONVENTIONAL METHOD, BURLAP OR OTHER BLANKETING MATERIALS PROPERLY ANCHORED AND SECURED MAY BE USED WHEN APPROVED BY THE CITY OF LOVELAND ENGINEER.

PERMANENT STABILIZATION MEASURES:

RIPRAP FOR STORM DRAIN OUTFALLS AND ROCK CHECK DAMS WILL BECOME PART OF THE PERMANENT STORMWATER MANAGEMENT PLAN AND WILL NOT BE REMOVED. PERMANENT LANDSCAPING WILL INCLUDE SODDING, SEEDING, TREES, SHRUBS, OR OTHER VEGETATIVE COVER TO OPEN AREAS. NATIVE PERENNIAL SEEDING WILL BE ESTABLISHED IN NON-IRRIGATED AREAS AND SOD OR OTHER VEGETATIVE COVER WILL BE ESTABLISHED IN IRRIGATED OPEN AREAS. ALL PERMANENT STABILIZATION MEASURES WILL BE SPECIFIED BY THE LANDSCAPE ARCHITECT OR OWNER.

MATERIALS AND SPILL PREVENTION:

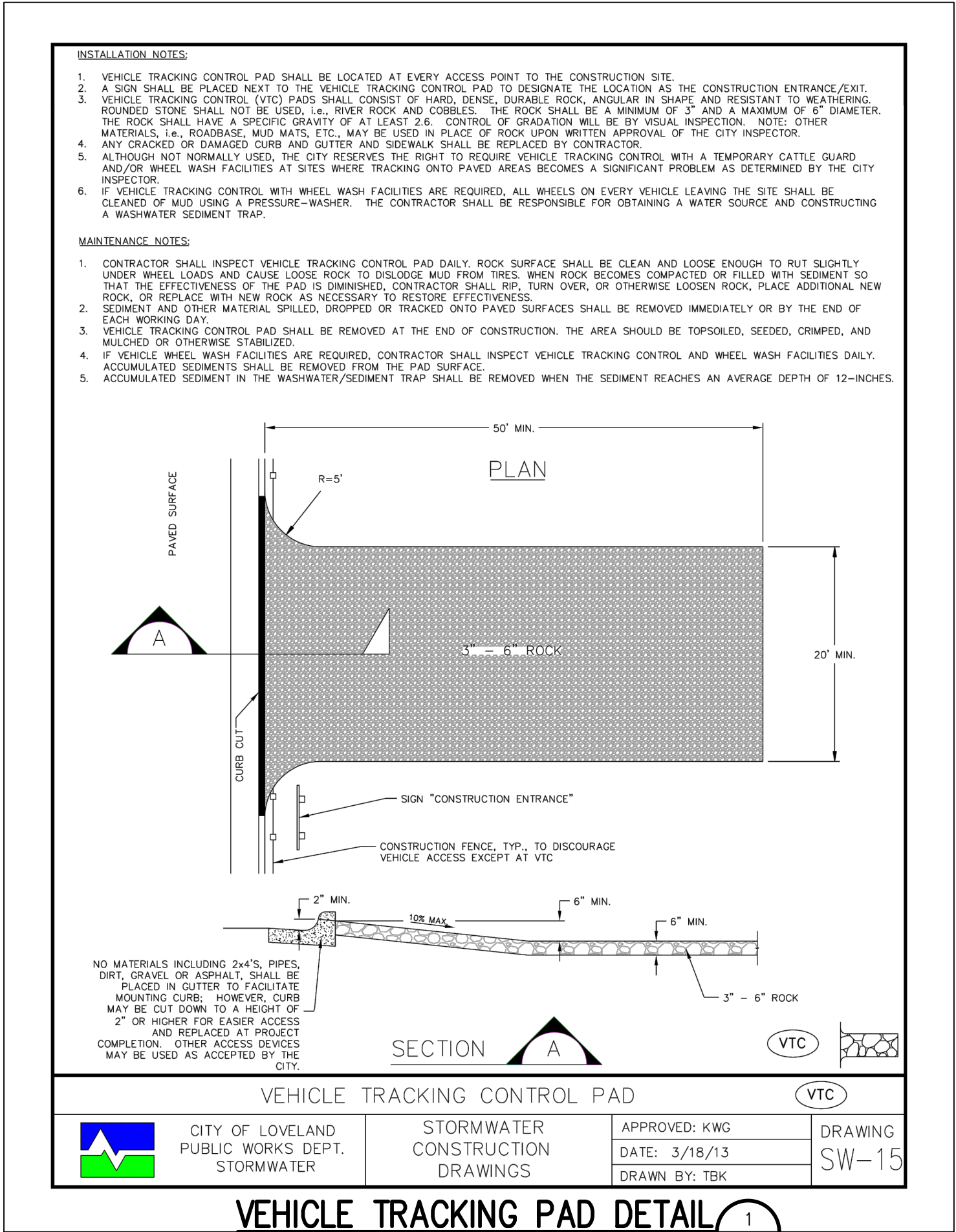
THE CONTRACTOR WILL STORE CONSTRUCTION MATERIALS AND EQUIPMENT IN CONFINED AREAS ON SITE FROM WHICH RUNOFF WILL BE CONTAINED AND FILTERED. MATERIALS WILL BE STORED OFF THE GROUND AND PROTECTED FROM THE WEATHER BY A COVER OR STORED IN A CONTAINER SUCH AS A VAN OR TRAILER. AN EARTHEN DIKE WILL BE CONSTRUCTED AROUND THE PERIMETER OF THE FUEL STORAGE AREA TO PREVENT MATERIALS FROM CONTACT WITH SURFACE RUNOFF. EQUIPMENT MAINTENANCE WILL BE PERFORMED IN A DESIGNATED AREA AND STANDARD MAINTENANCE PROCEDURES, SUCH AS THE USE OF DRIP PANS, WILL BE USED TO CONTAIN PETROLEUM PRODUCTS.

INSPECTION AND MAINTENANCE:

THE EROSION CONTROL MEASURES WILL BE INSPECTED DAILY DURING CONSTRUCTION BY THE CONTRACTOR AND AFTER EACH RAIN EVENT. ALL INSPECTIONS SHALL BE DOCUMENTED AND SHALL INCLUDE THE DATE OF INSPECTION, ANY INCIDENCE OF NON-COMPLIANCE, SIGNED CERTIFICATION THAT THE SITE IS IN COMPLIANCE, AND ANY NOTES, DRAWINGS, MAPS, ETC. PERTAINING TO REPAIRS. COPIES OF ALL DOCUMENTATION SHALL BE DISTRIBUTED TO MUNICIPALITIES AND OWNER ON A REGULAR BASIS AS SPECIFIED BY OWNER. SILT FENCE AND STRAW BALE BARRIERS WILL BE CHECKED FOR UNDERMINING AND BYPASS AND REPAIRED OR EXPANDED AS NEEDED. SEDIMENT SHOULD BE REMOVED FROM INLET FILTERS AND SILT FENCING BEFORE ONE HALF OF THE DESIGN DEPTH HAS BEEN FILLED. SEDIMENTS DEPOSITED IN THE PUBLIC RIGHTS-OF-WAY WILL BE REMOVED IMMEDIATELY. THE TEMPORARY VEGETATION OF BARE SOILS WILL BE CHECKED REGULARLY AND AREAS WHERE IT IS LOST OR DAMAGED WILL BE RESEEDED. AT MINIMUM THE CONTRACTOR OR HIS AGENT SHALL INSPECT ALL BMP'S EVERY 14 DAYS AND AFTER SIGNIFICANT PRECIPITATION OR SNOWMELT EVENTS. INSTALLATIONS AND MODIFICATIONS AS REQUIRED BY THE CITY OF LOVELAND WILL BE IMPLEMENTED WITHIN 48 HOURS OF NOTIFICATION. CONTRACTOR SHALL REMOVE TEMPORARY EROSION CONTROL MEASURES AND REPAIR AREAS AS REQUIRED AFTER VEGETATION IS ESTABLISHED AND ACCEPTED BY OWNER AND MUNICIPALITY.

FINAL STABILIZATION AND LONG-TERM STORMWATER QUALITY:

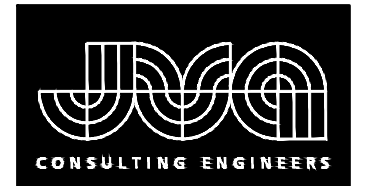
FINAL STABILIZATION IS REACHED WHEN ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED, AND UNIFORM VEGETATIVE COVER HAS BEEN ESTABLISHED WITH A DENSITY OF AT LEAST 70% OR PRE-DISTURBANCE LEVELS OR EQUIVALENT PERMANENT, PHYSICAL EROSION REDUCTION METHODS HAVE BEEN EMPLOYED. FINAL STABILIZATION WILL BE ACHIEVED USING SOD, NATIVE SEEDING, PERMANENT BMP'S, AND OTHER METHODS. CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL STABILIZATION REGARDLESS OF ACCEPTANCE BY OWNER OF THE CONTRACTOR ITEM.



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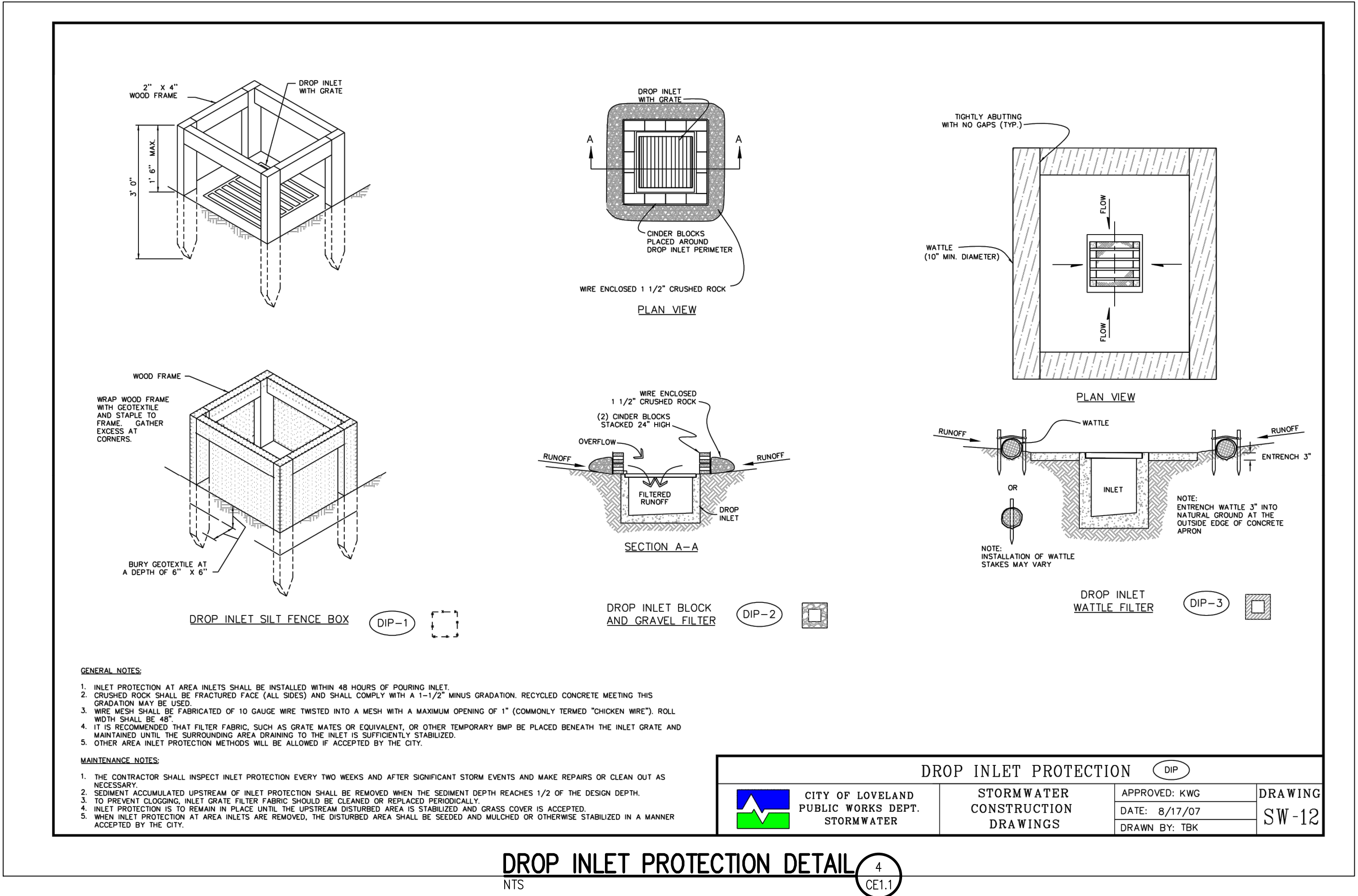
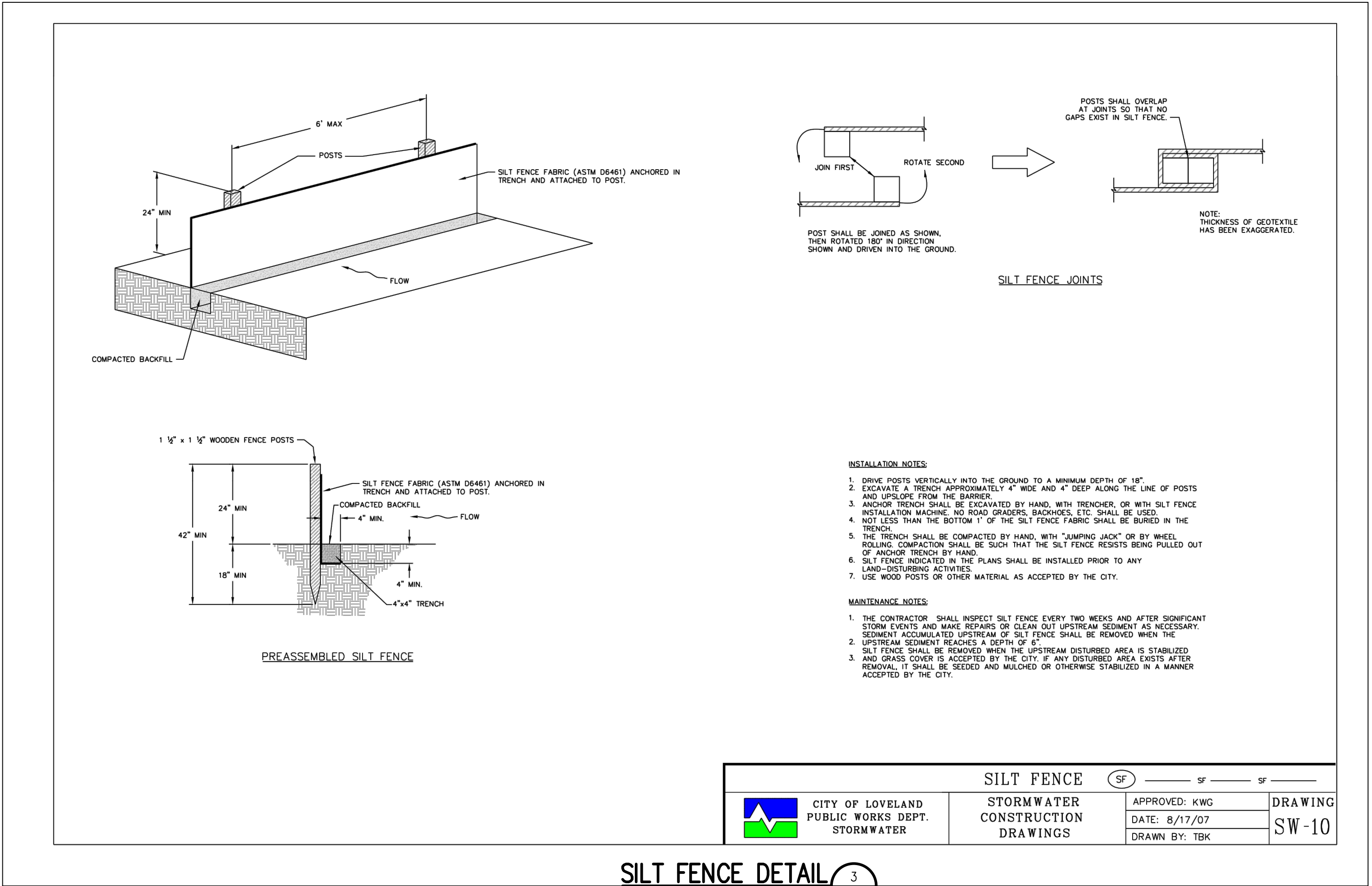
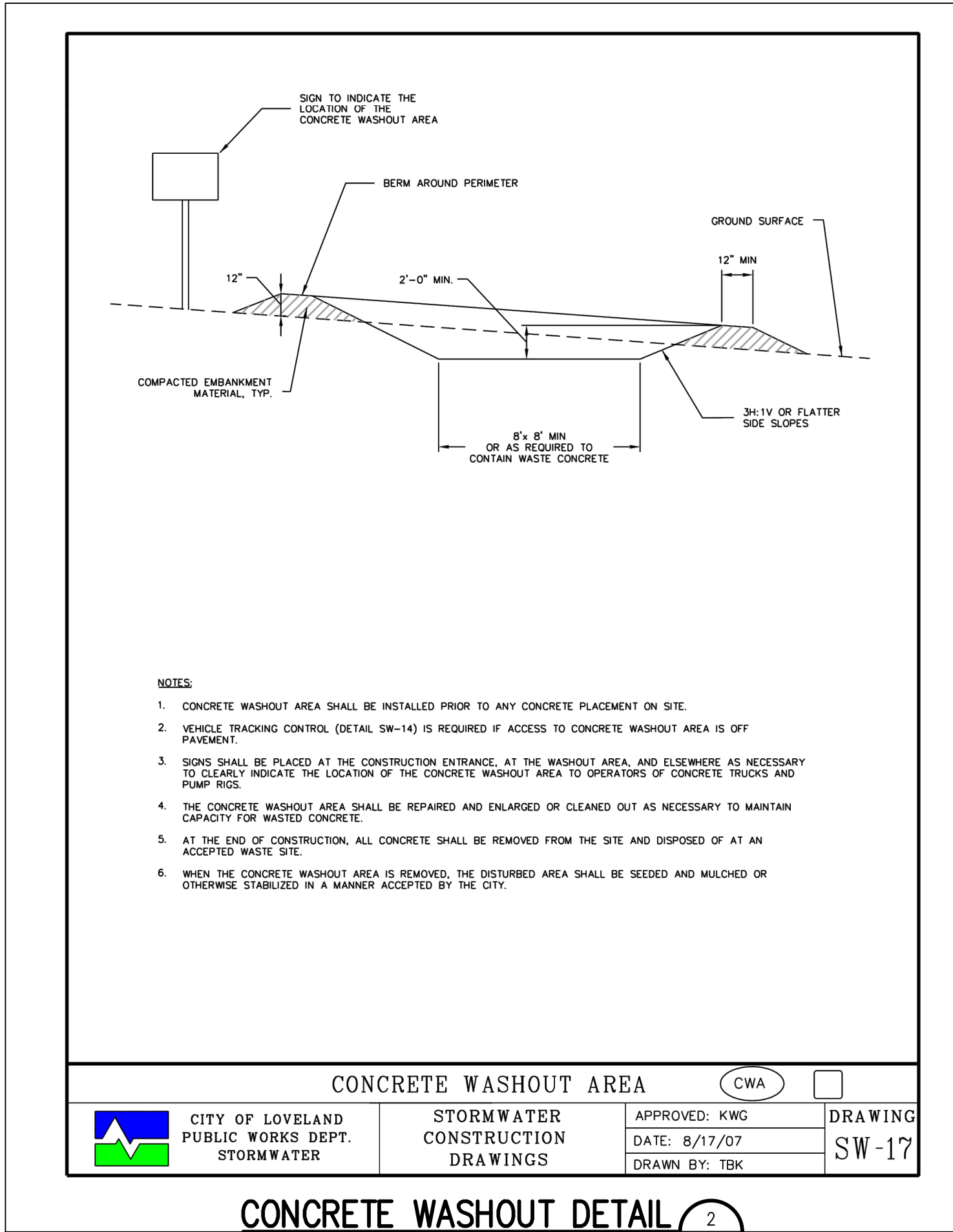
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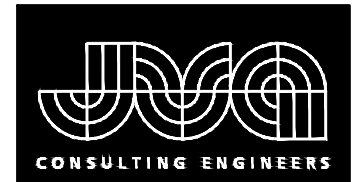
SWMP & EROSION CONTROL DETAILS

CE1.3



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**EROSION
CONTROL
DETAILS**

CE1.4

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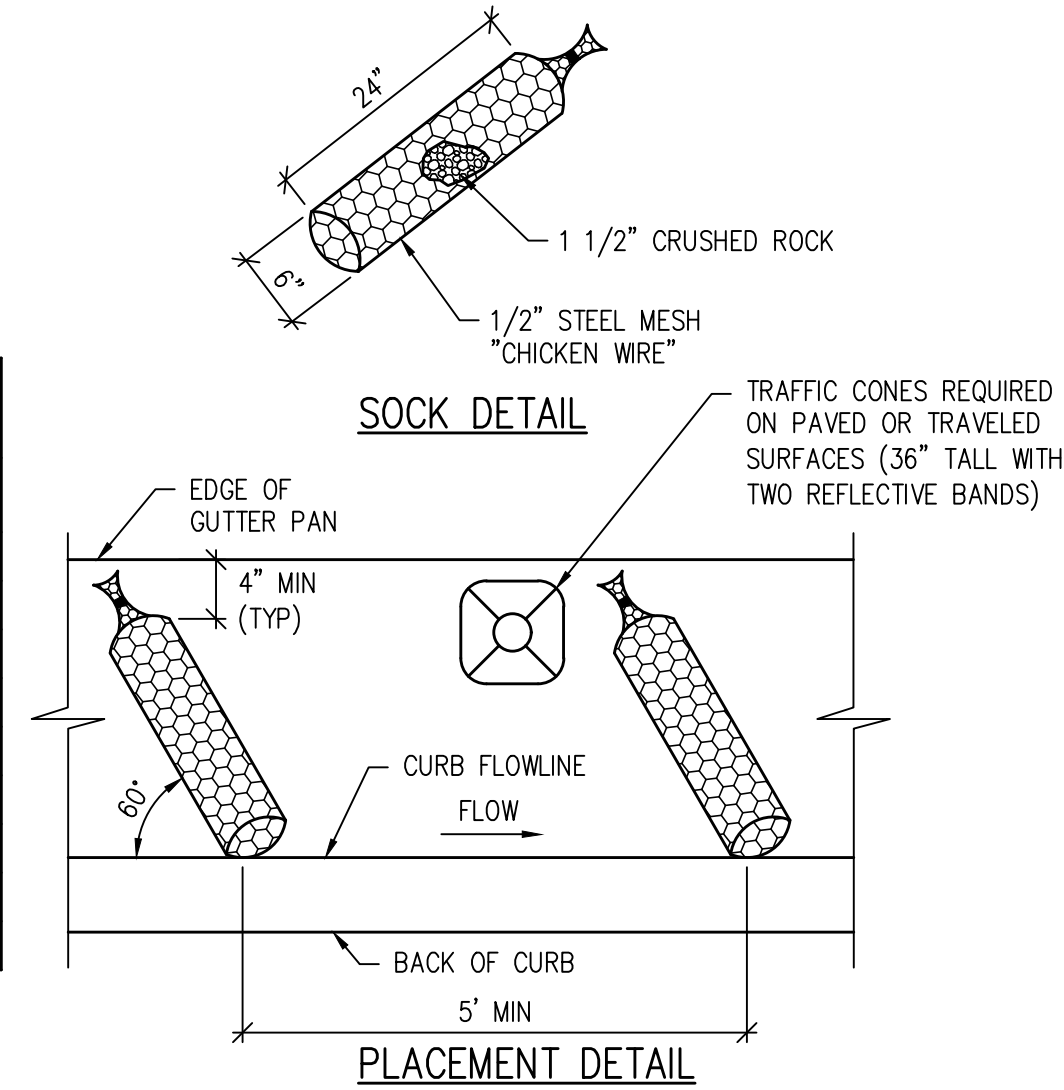
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**EROSION
CONTROL
DETAILS**

CE1.5

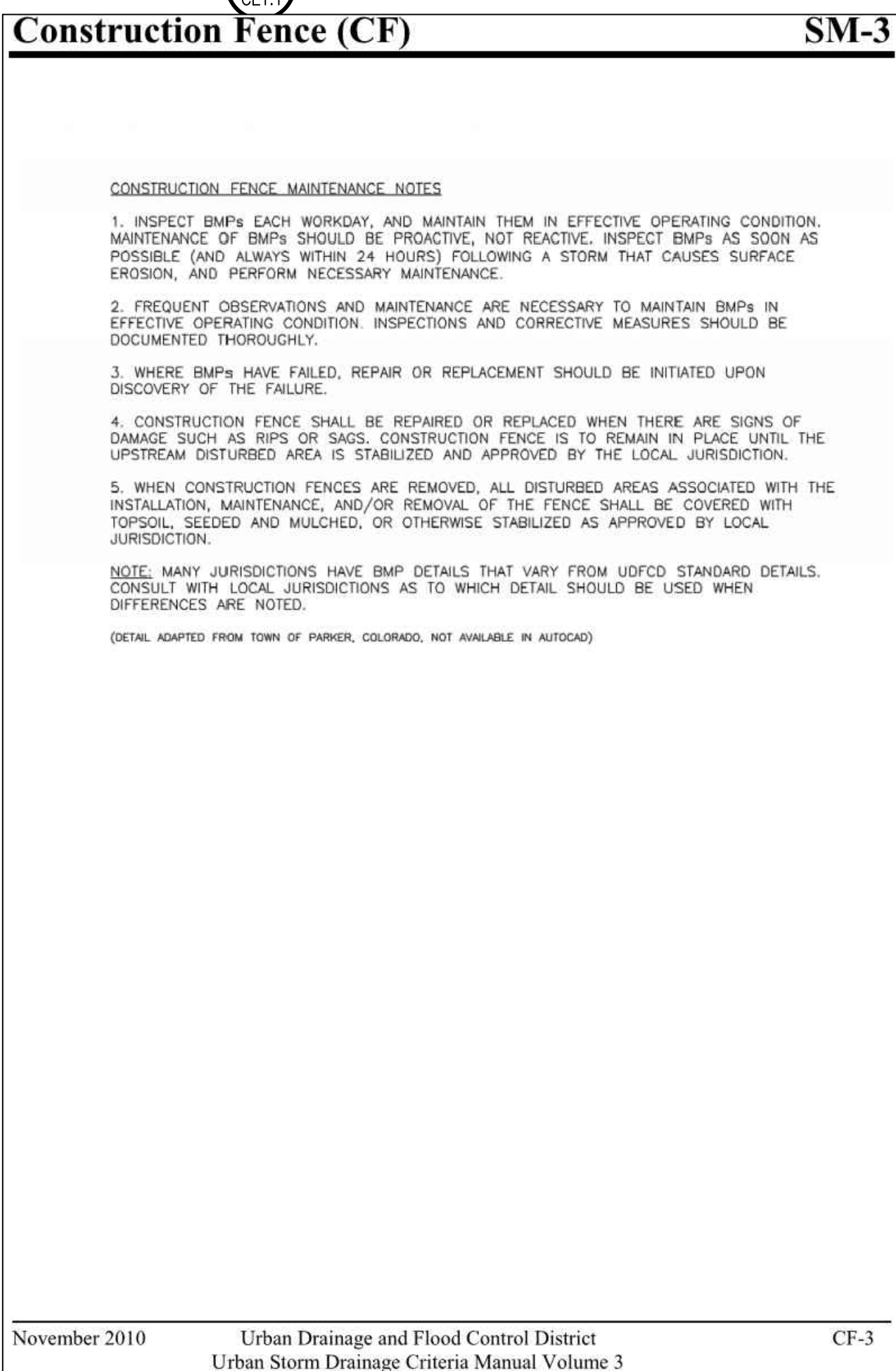
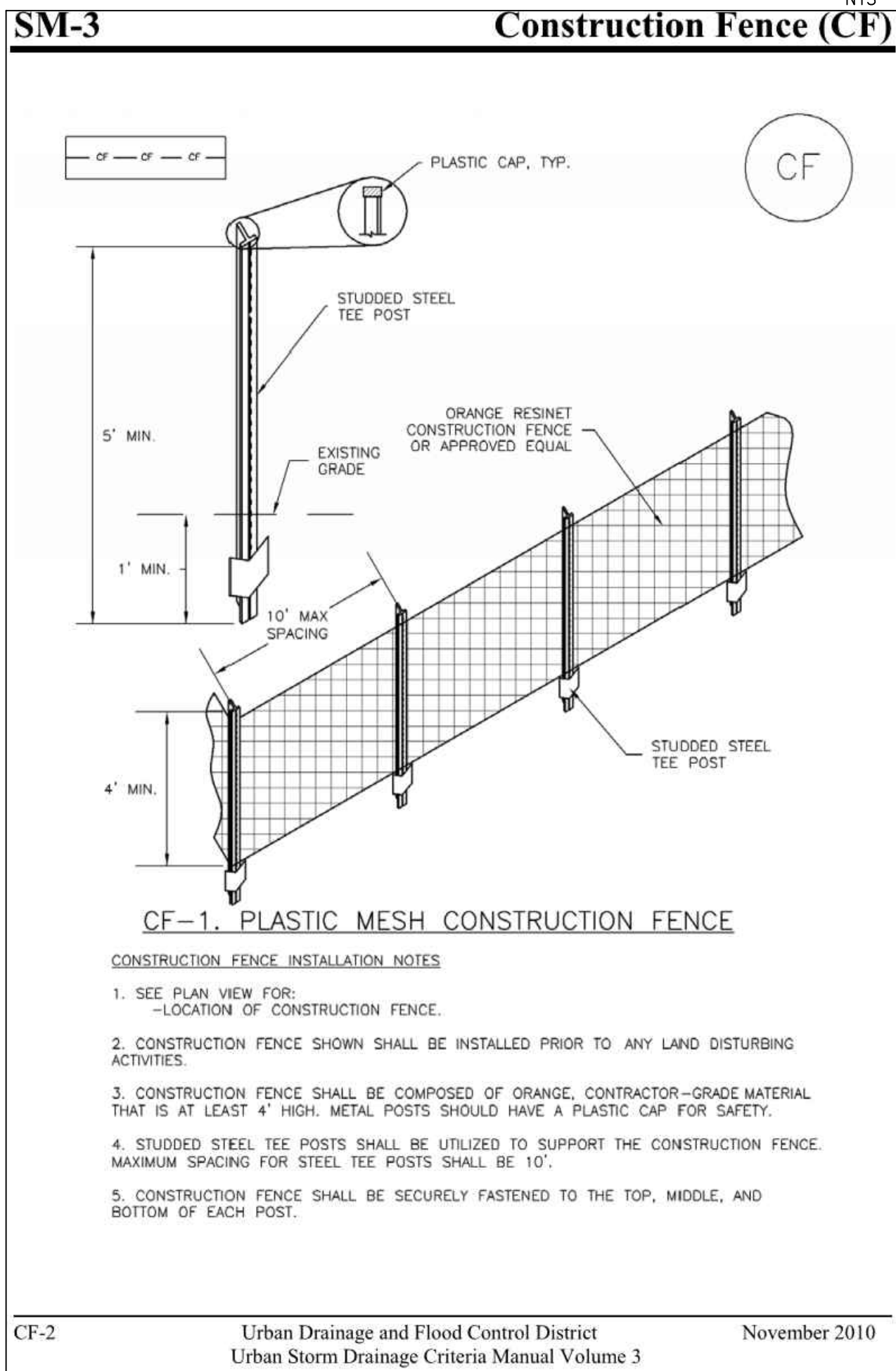
MAX SPACING ALONG STREET GRADE	
STREET SLOPE	CURB SOCK SPACING
0.50%	100
1.00%	100
2.00%	75
3.00%	50
4.00%	50
5.00%	25
6.00%	25
7.00%	25
8.00%	25



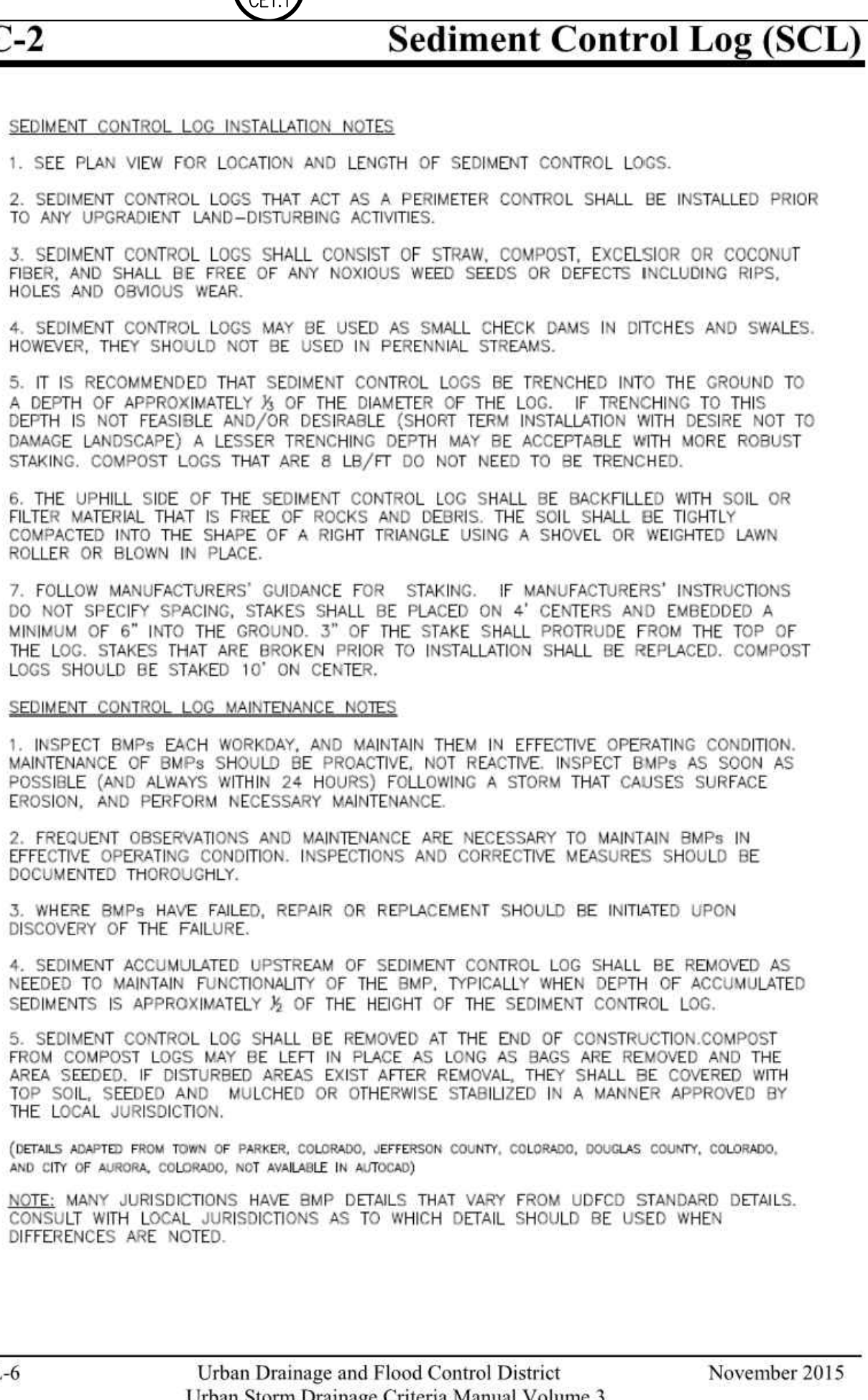
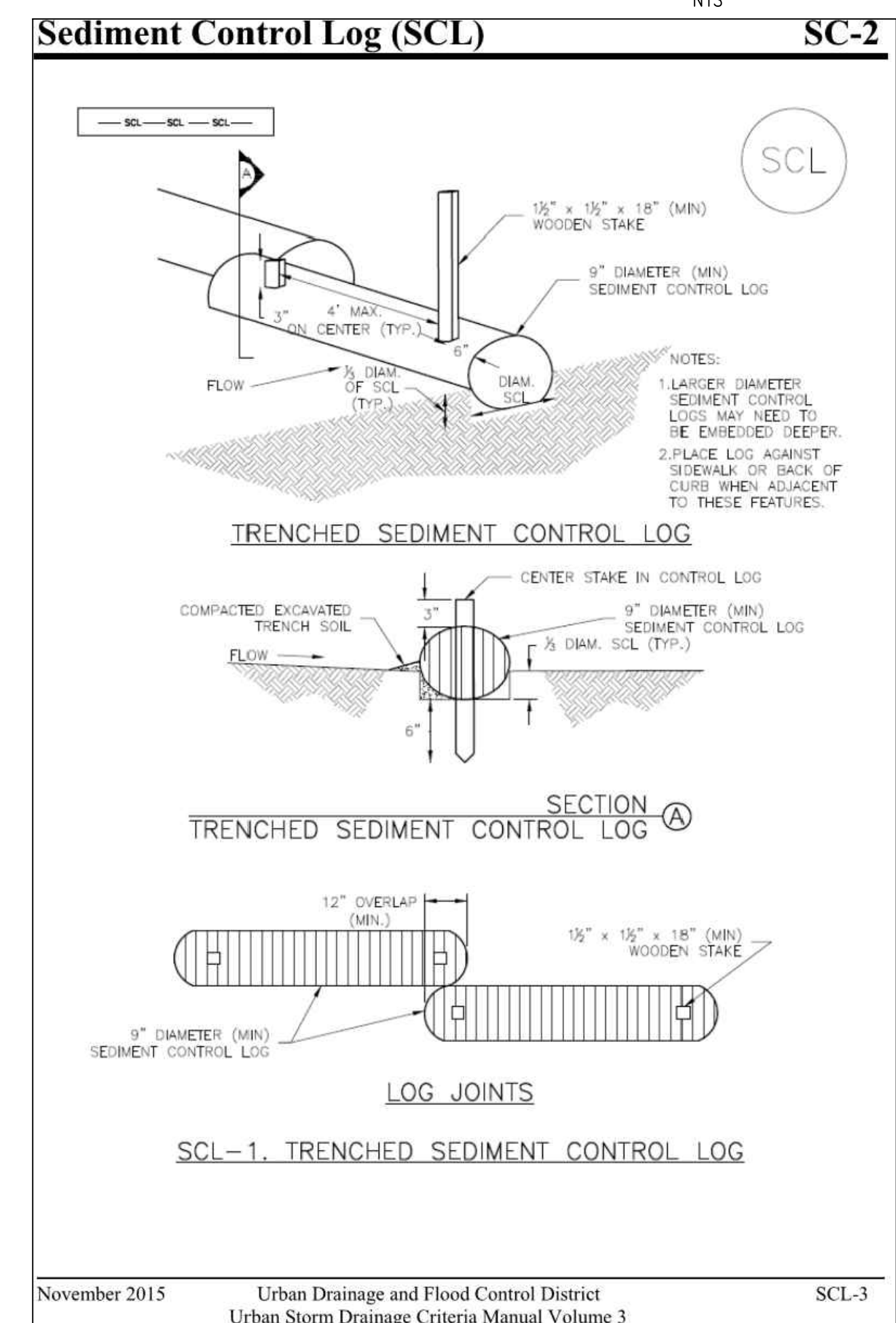
NOTES:

1. SOCKS WILL BE USED UPGRADIENT OF INLET ANGLED AS SHOWN AND FLUSH WITH CURB.
2. AT INLETS, NO LESS THAN THREE 6-INCH DIAMETER SOCKS MUST BE USED IN SEQUENCE, SPACE NO MORE THAN FIVE FEET APART.
3. INCLINE AT 30° FROM PERPENDICULAR, OPPOSITE DIRECTION OF FLOW.

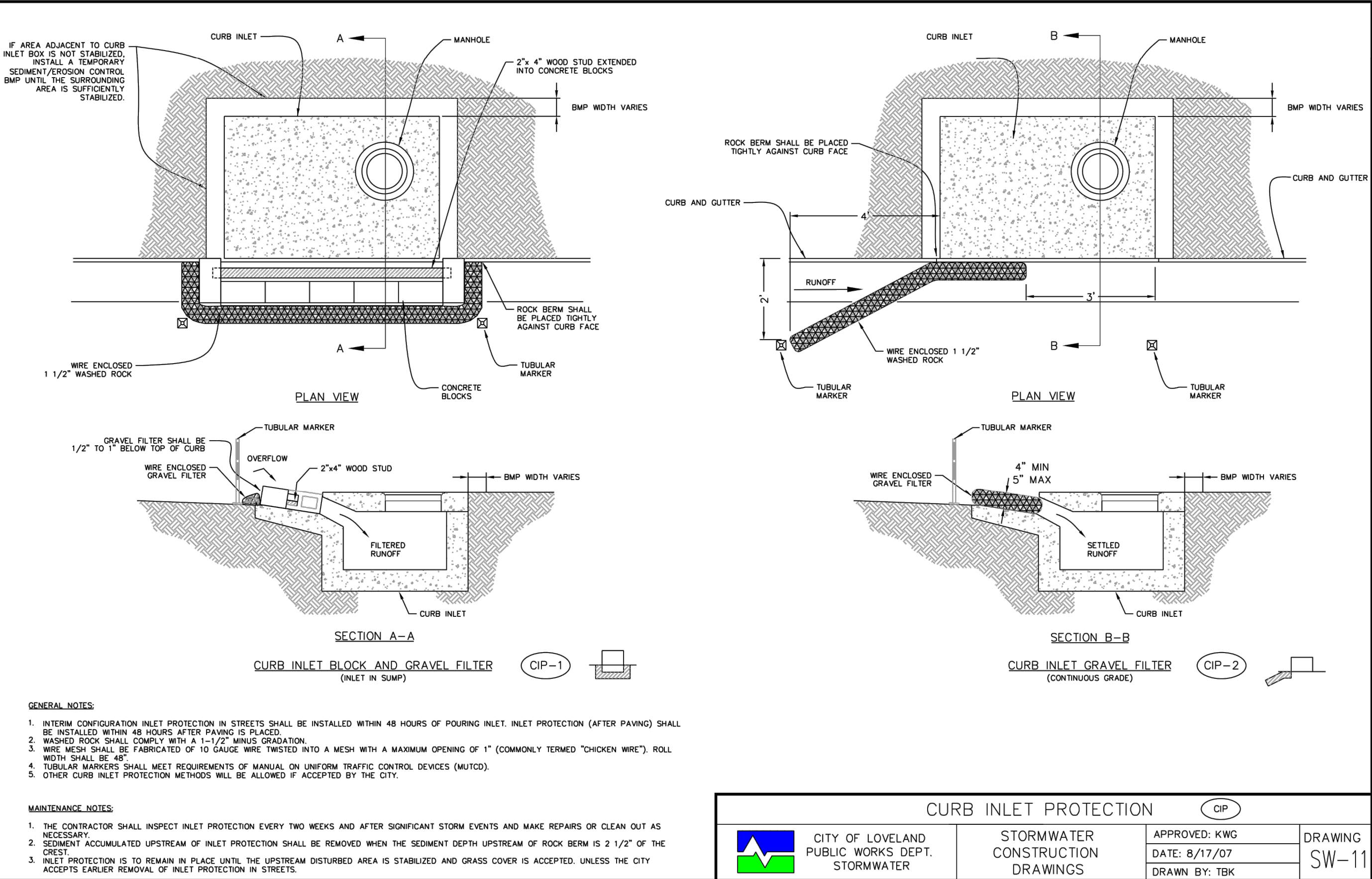
CURB SOCK DETAIL (5)
CE1.1



CONSTRUCTION FENCE (7)
CE1.1

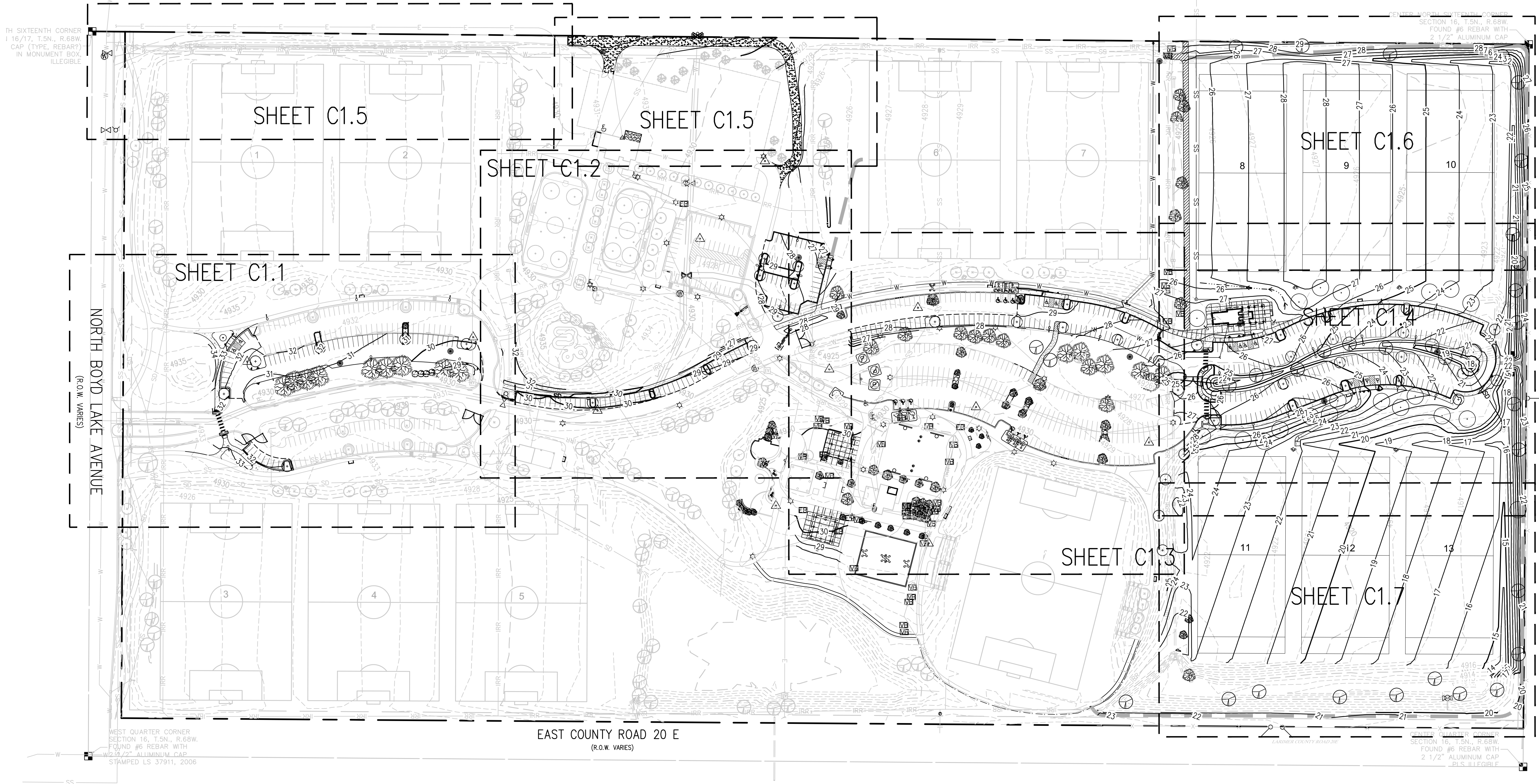


SEDIMENT CONTROL LOG (8)
CE1.2

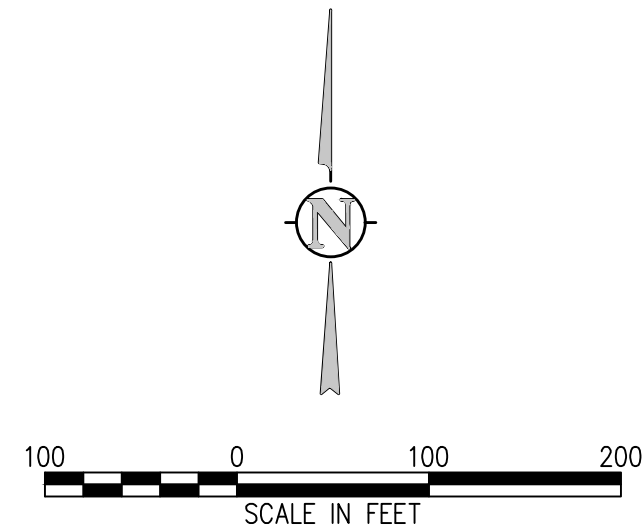


CURB INLET PROTECTION DETAIL (6)
CE1.1

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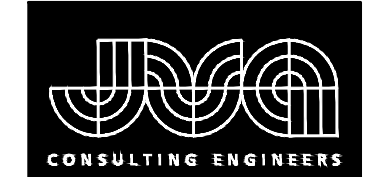
- GRADING AND DRAINAGE NOTES:**
1. CONTRACTOR TO FIELD VERIFY ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. REFER TO GENERAL NOTES FOR UTILITY LOCATION AND PROTECTION.
 2. REFER TO HORIZONTAL CONTROL PLAN FOR FURTHER INFORMATION PERTAINING TO CURB & GUTTER, CHASES, AND DRAINAGE PANS.
 3. CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL DISTURBED AREAS TO THEIR ORIGINAL CONDITIONS.
 4. ALL SPOT ELEVATIONS ARE TO FINISHED GRADE OR FLOWLINE UNLESS OTHERWISE SPECIFIED.



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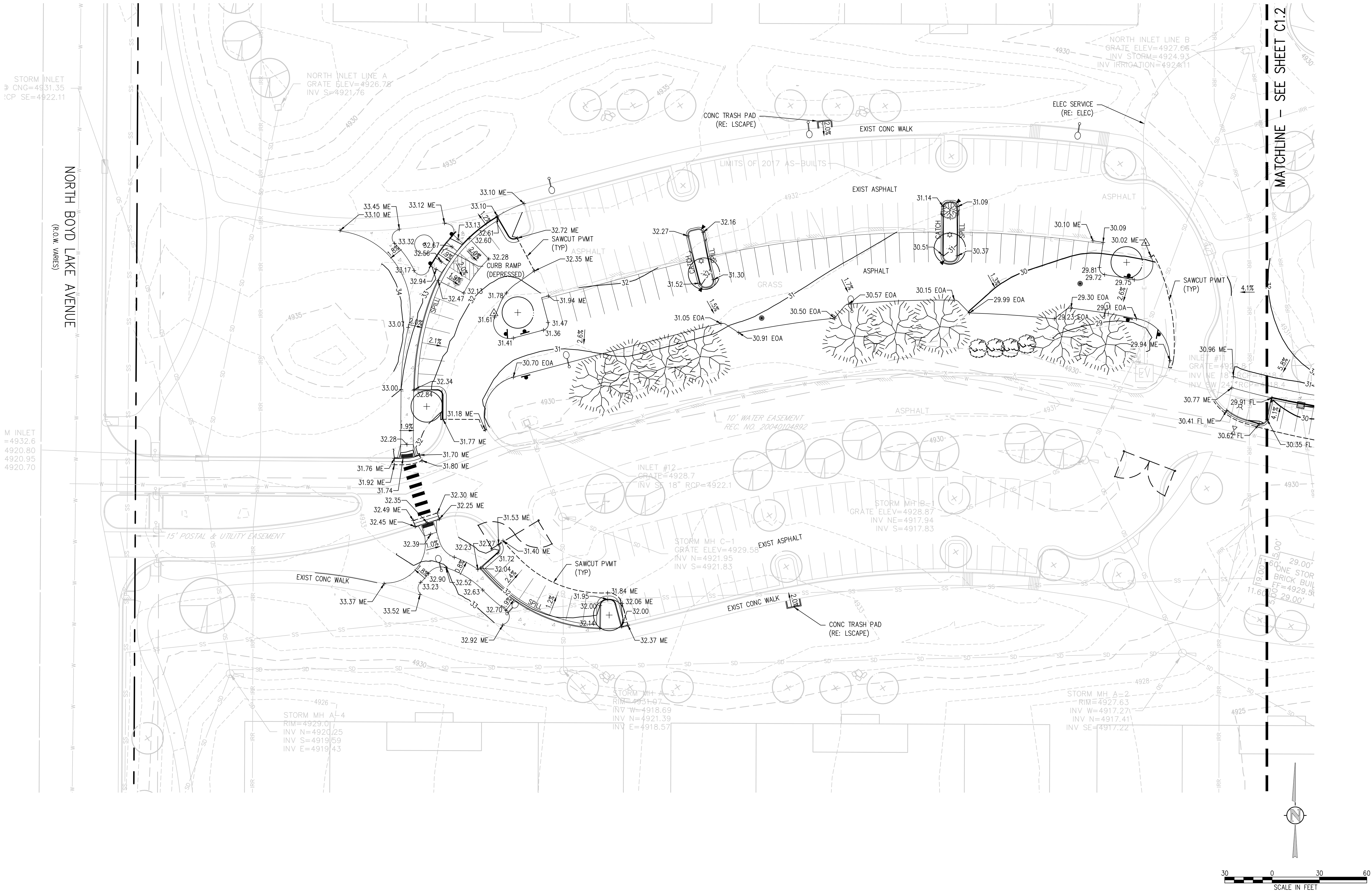
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**OVERALL
GRADING &
DRAINAGE PLAN**

C1.0

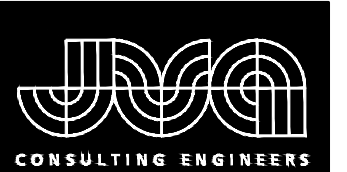
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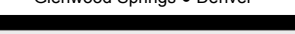
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DETAILED
GRADING &
DRAINAGE PLAN

C1.1



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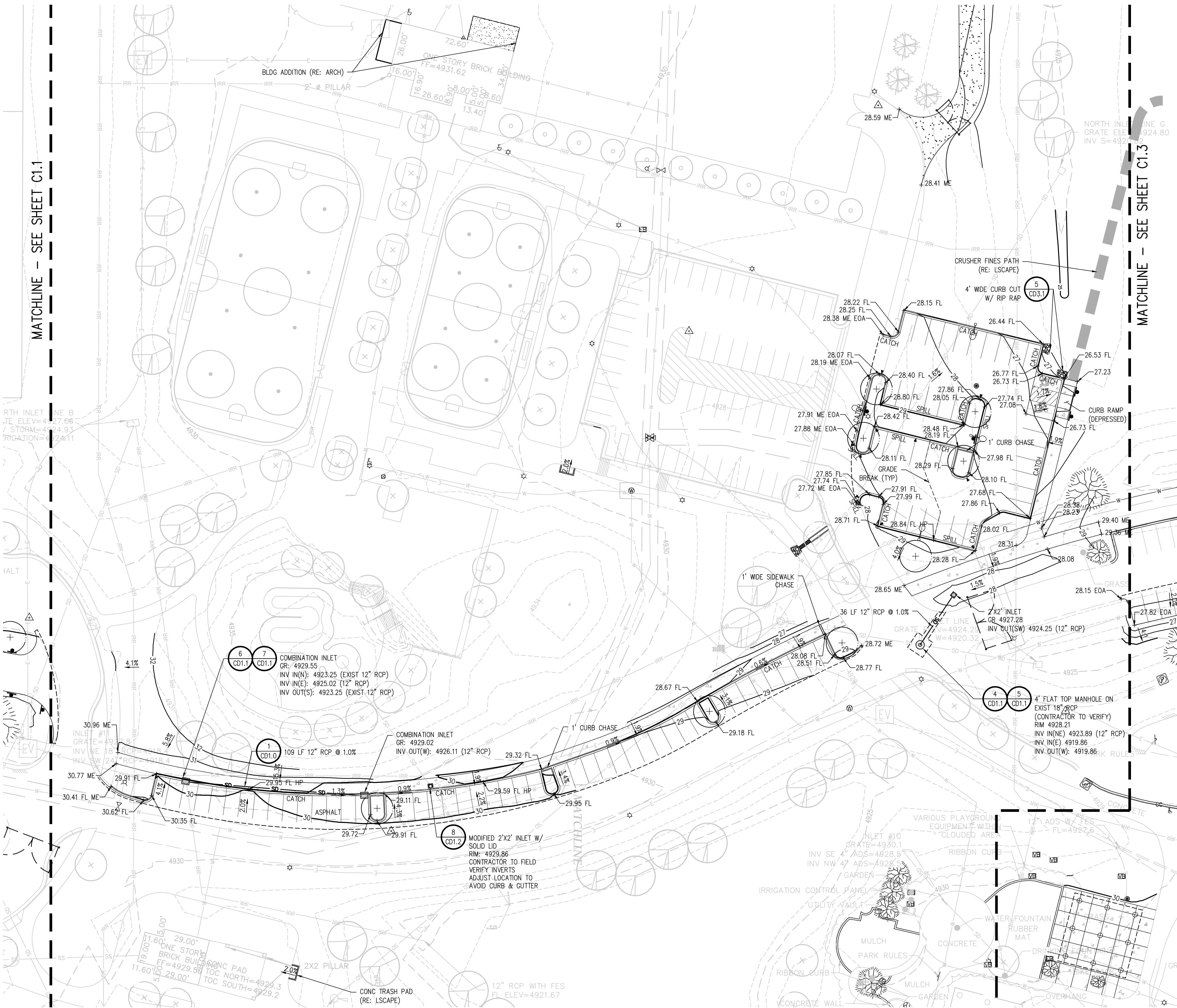
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DETAILED GRADING & DRAINAGE PLAN

C1.2



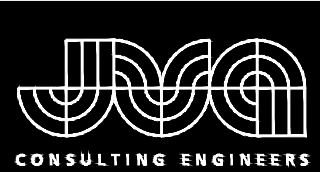
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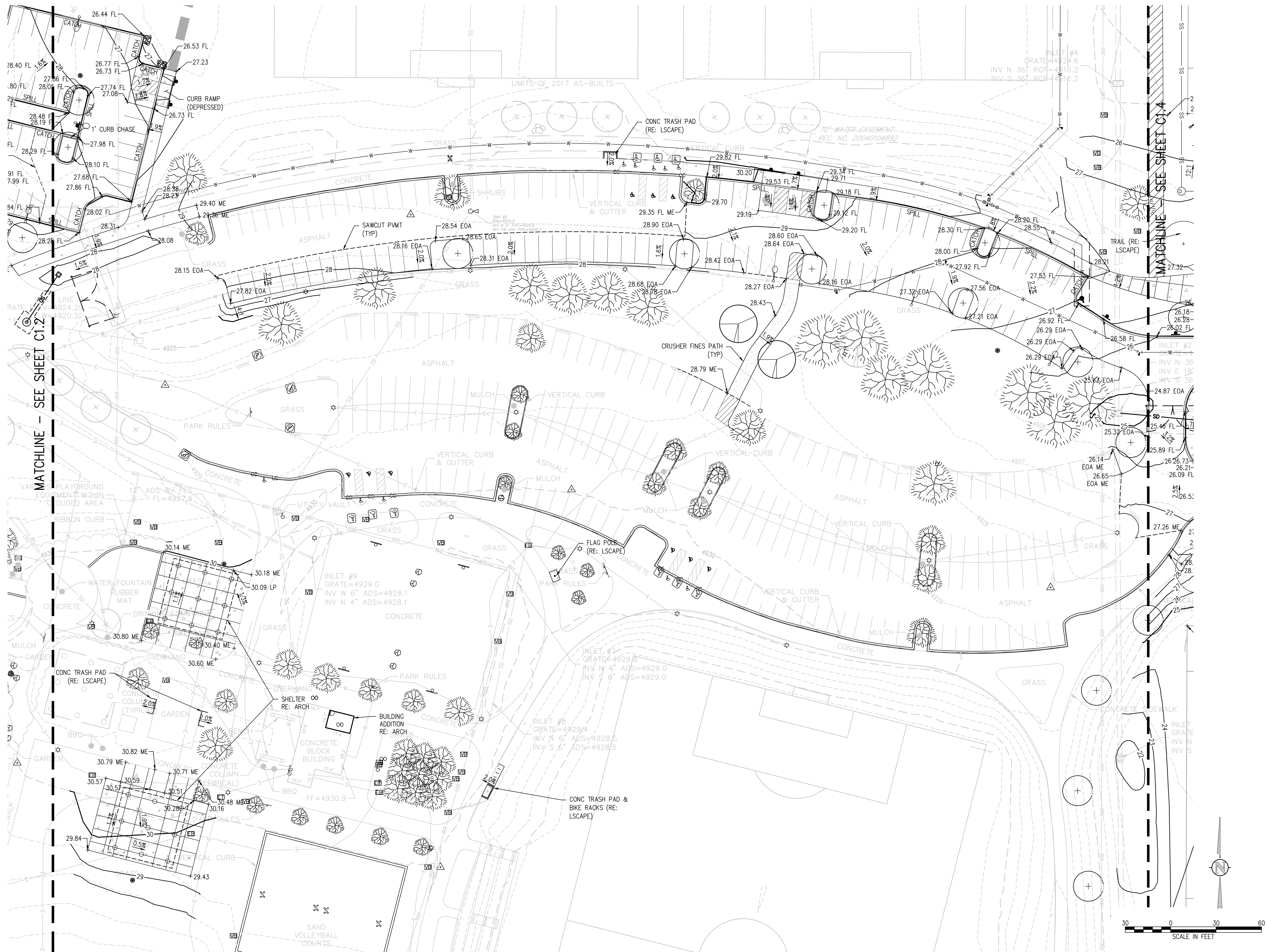
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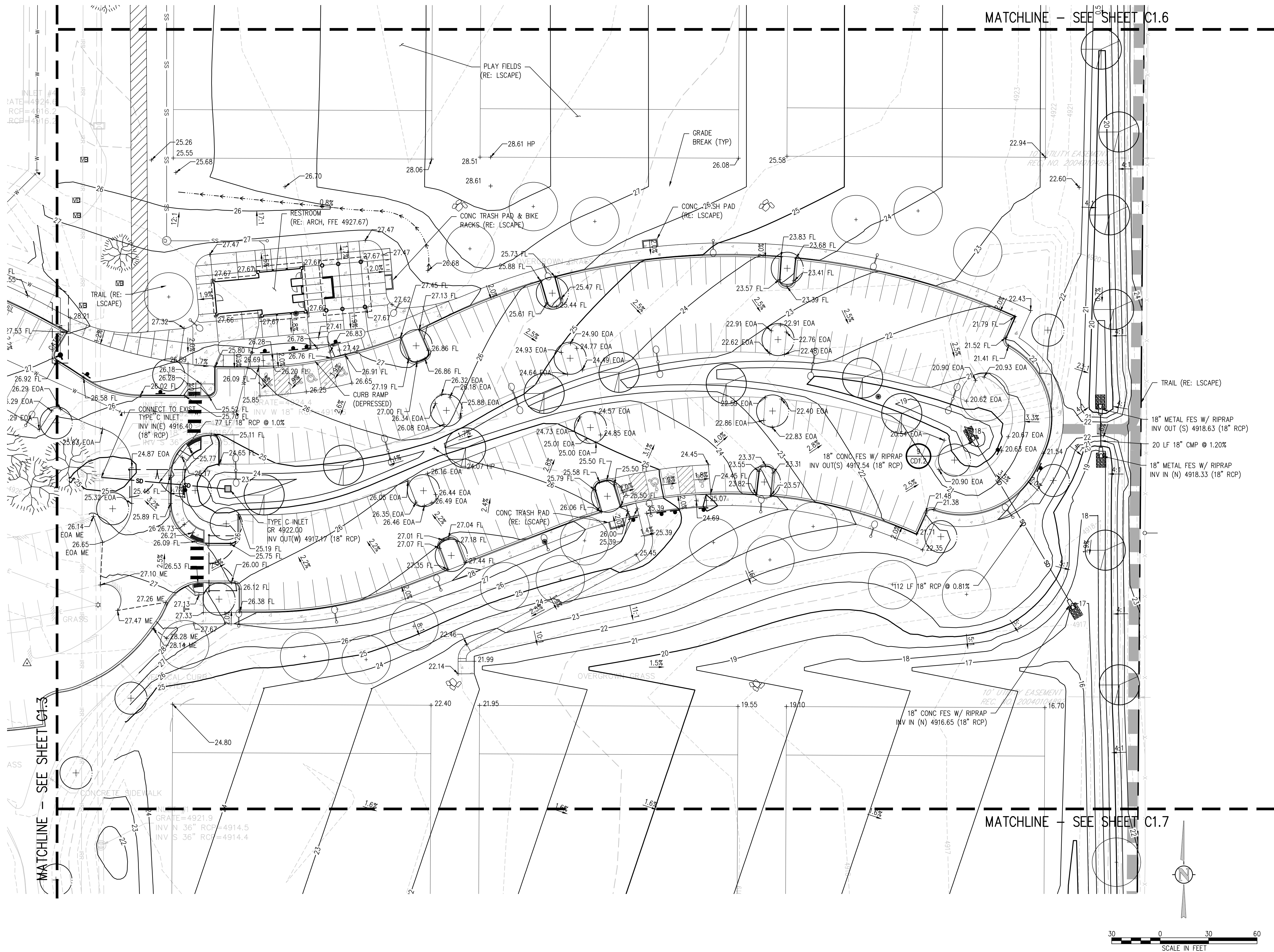
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DETAILED
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C1.3





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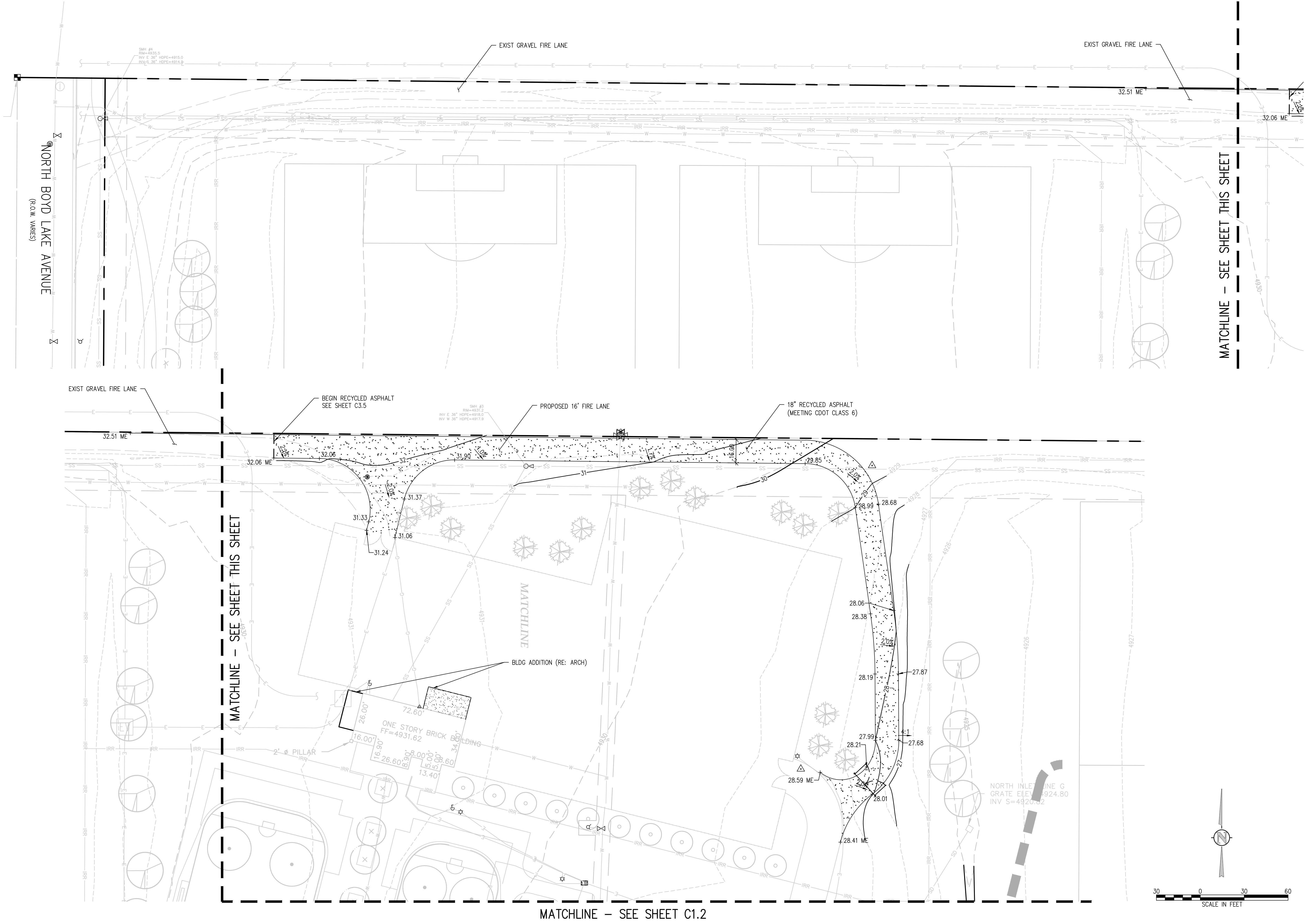
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DETAILED
GRADING &
DRAINAGE PLAN

C1.4

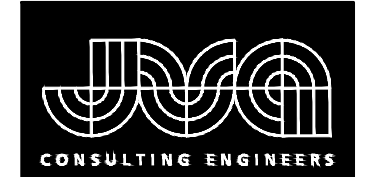
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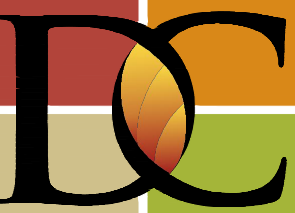
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DRAINAGE PLAN**

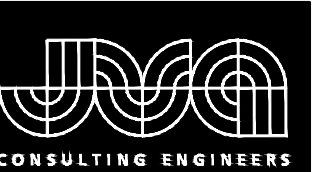
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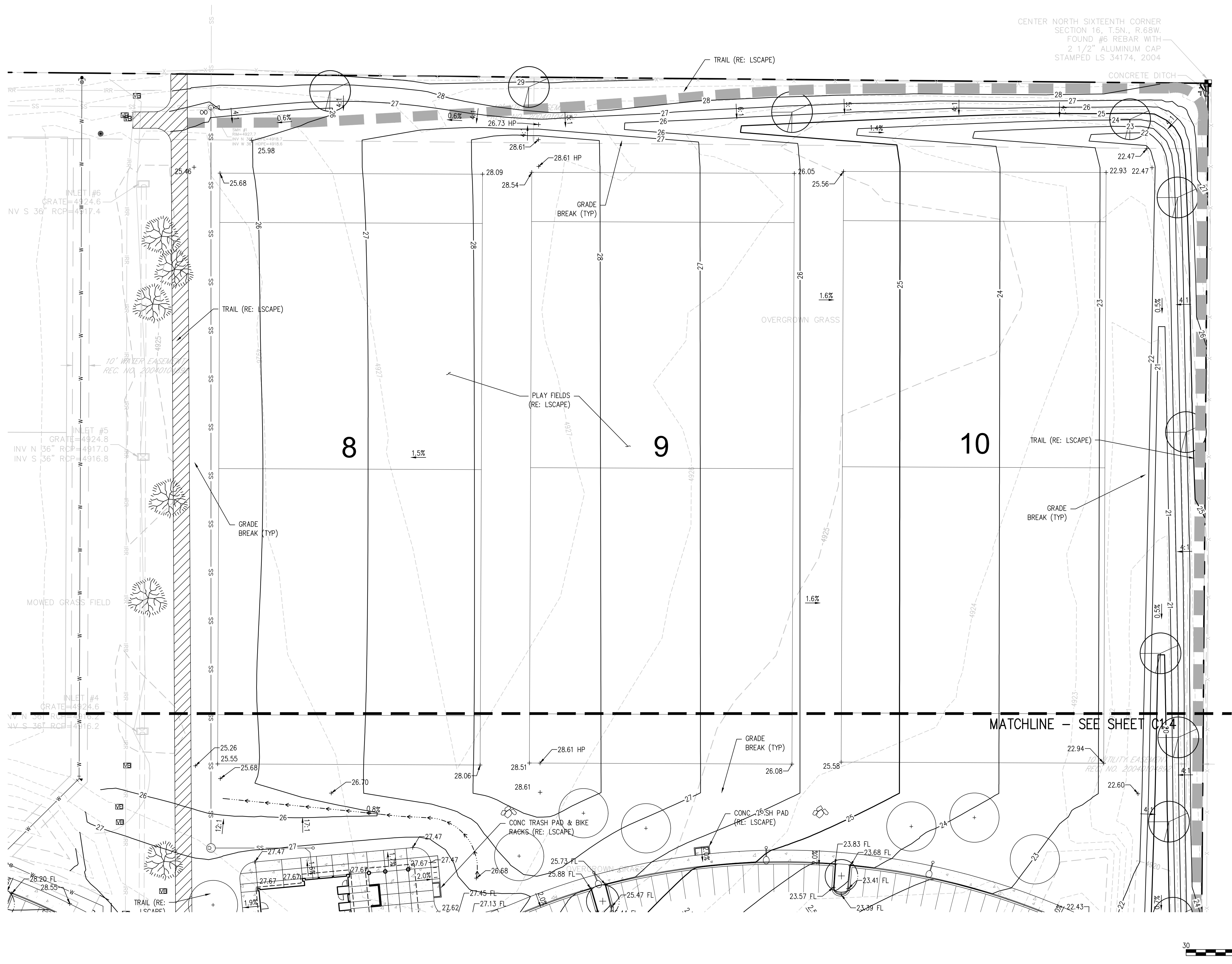
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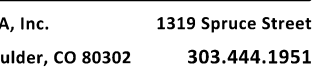
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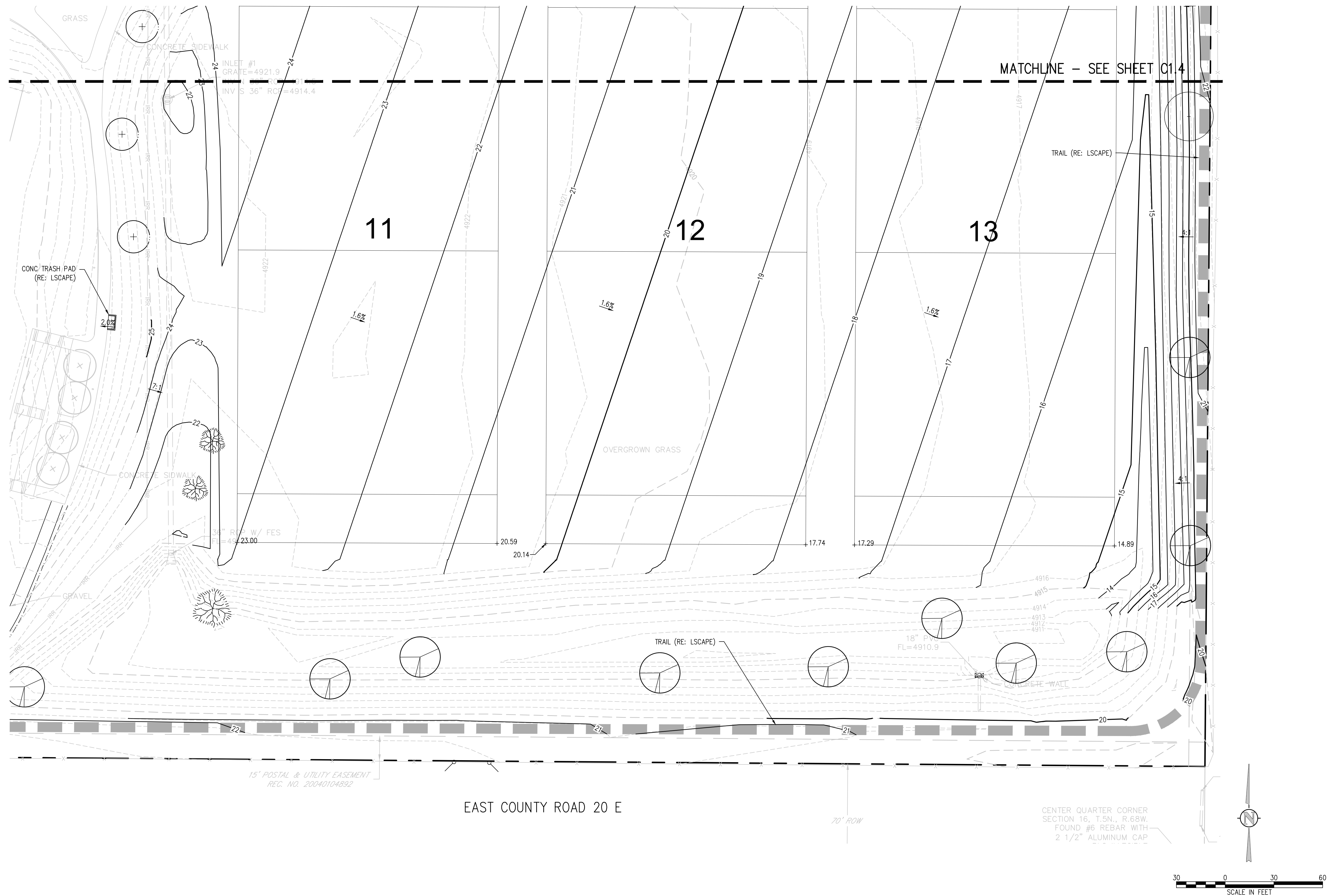
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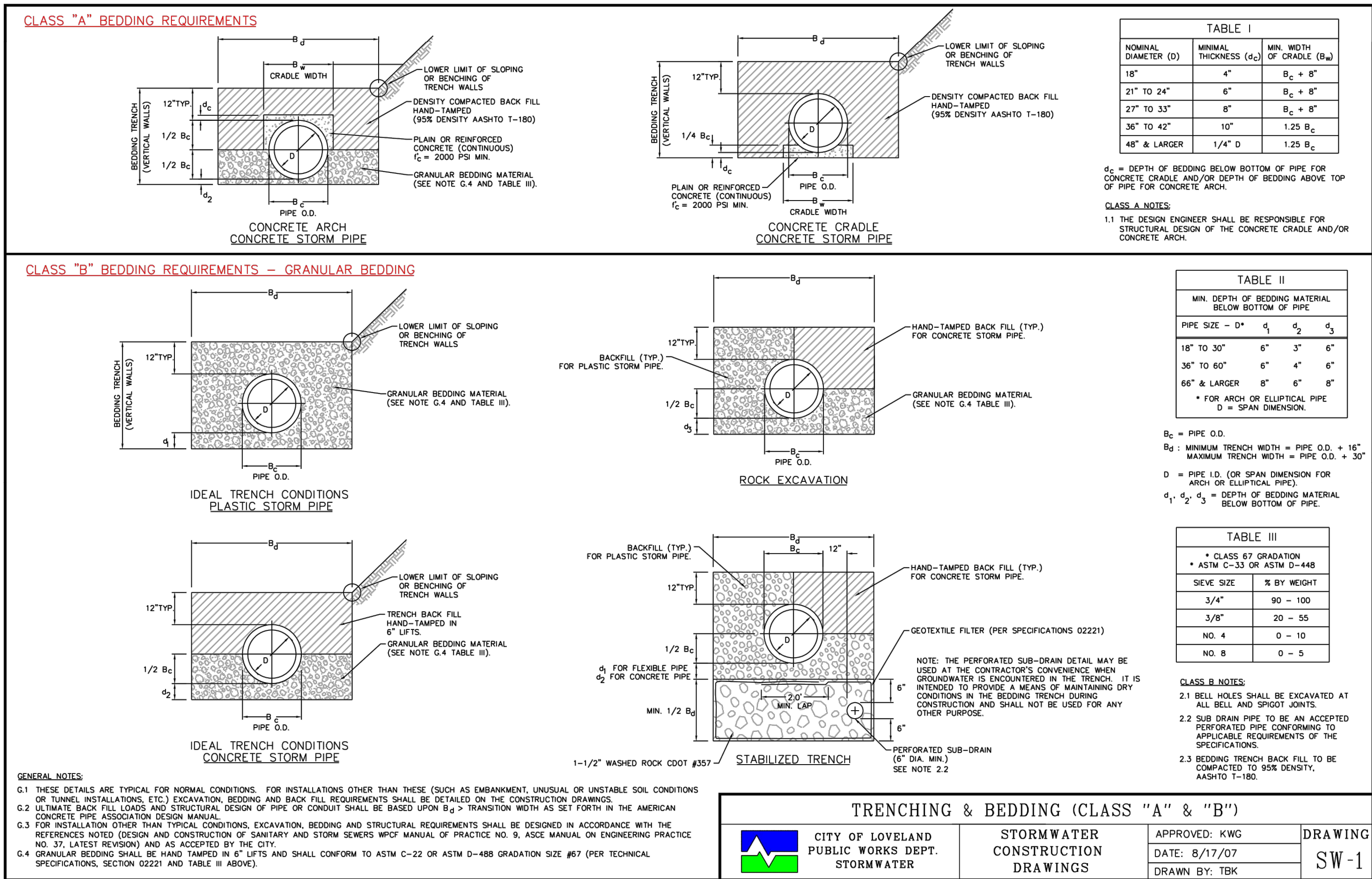
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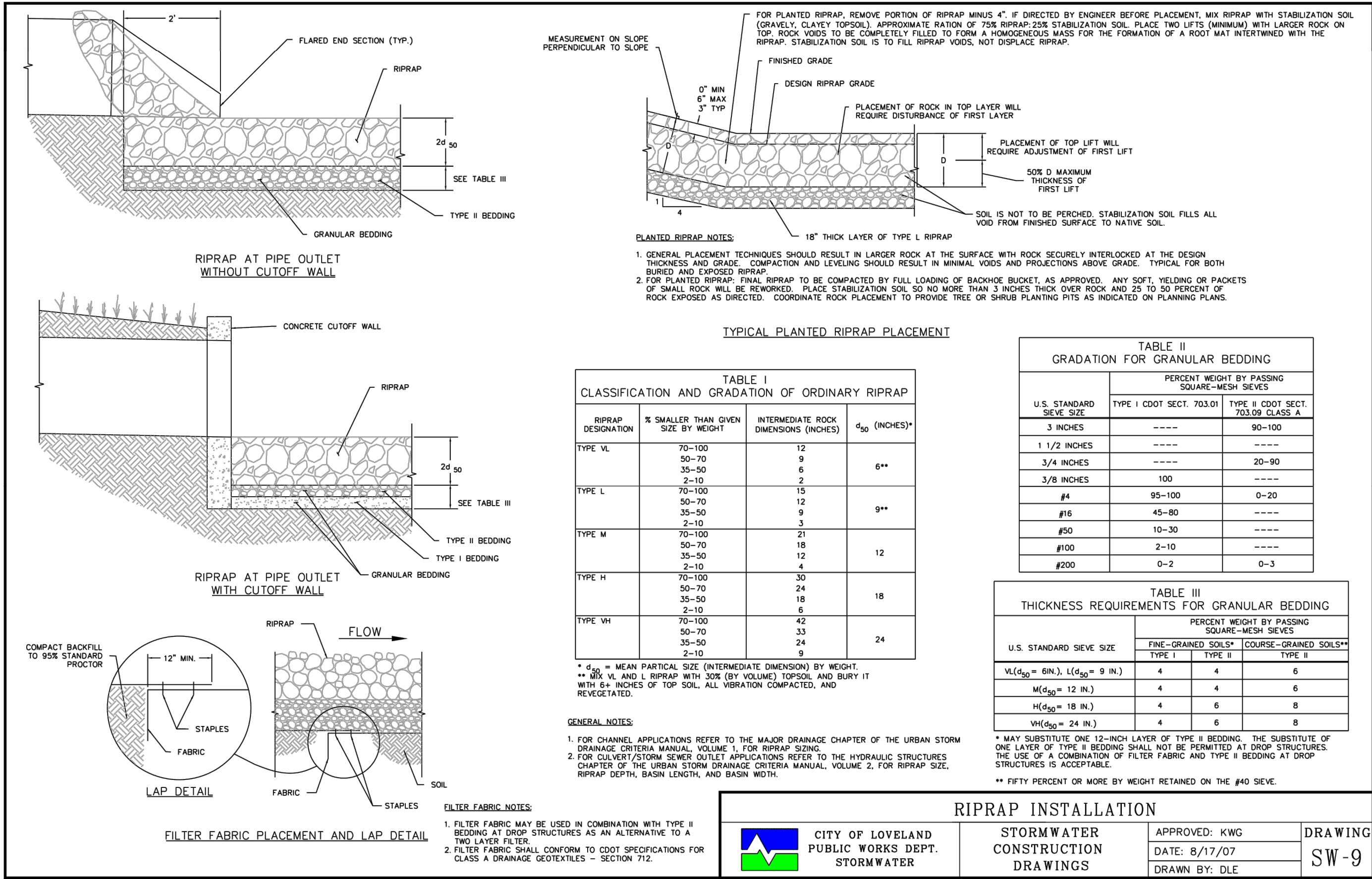
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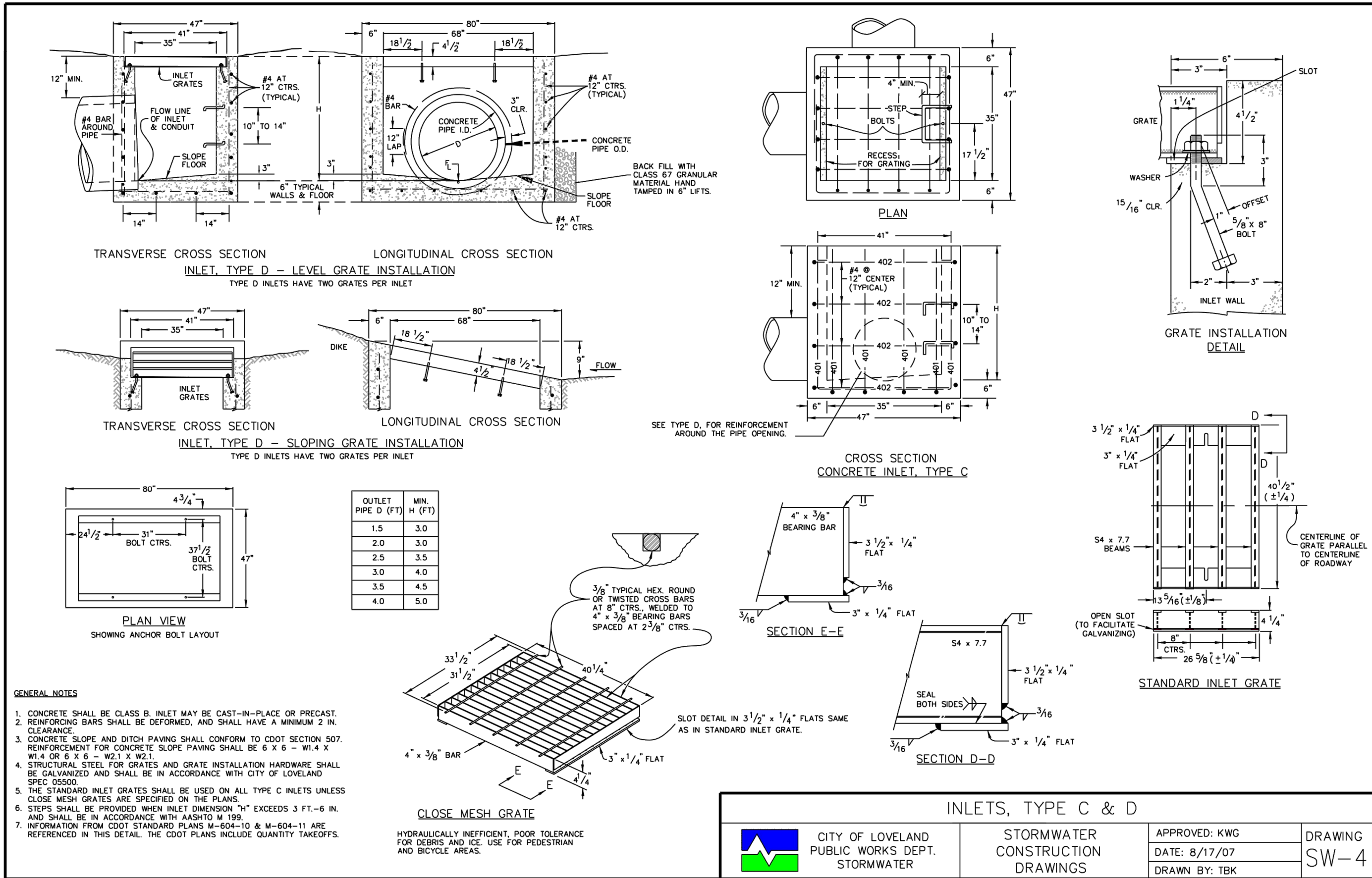
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TRENCH DETAIL
NTS



RIPRAP DETAIL
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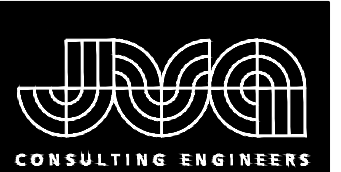
TYPE C INLET DETAIL
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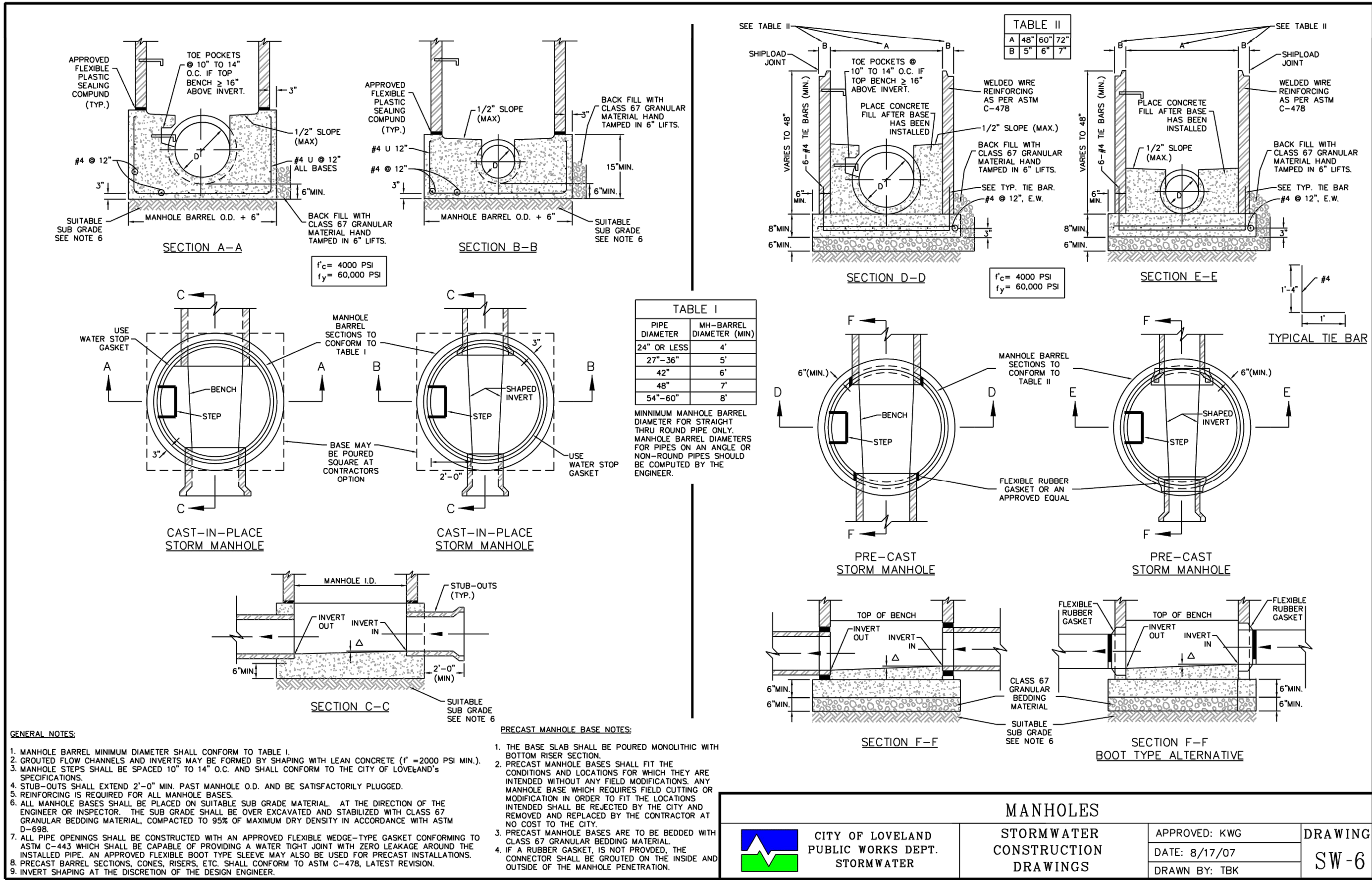
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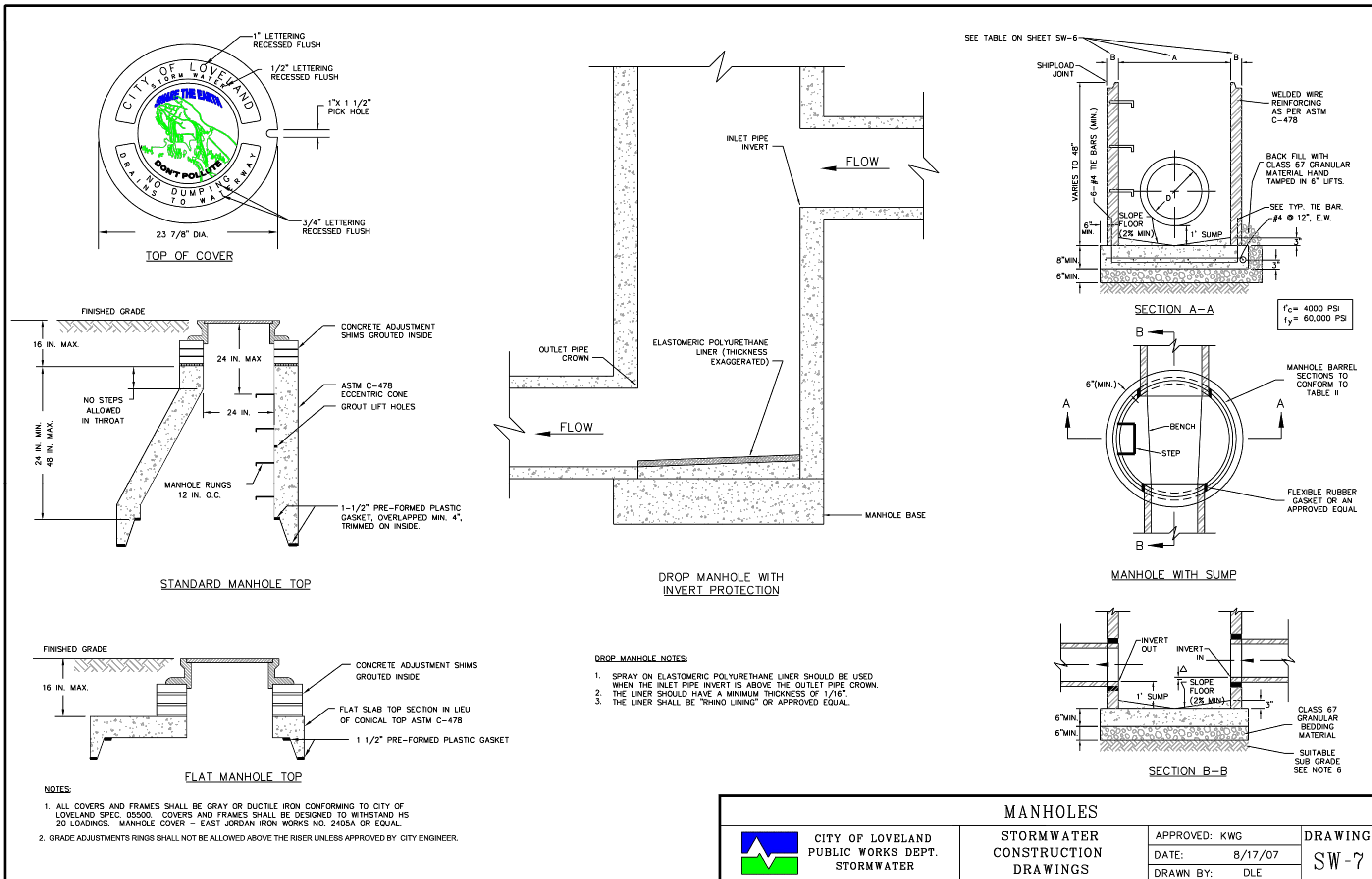
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DRAINAGE
DETAILS

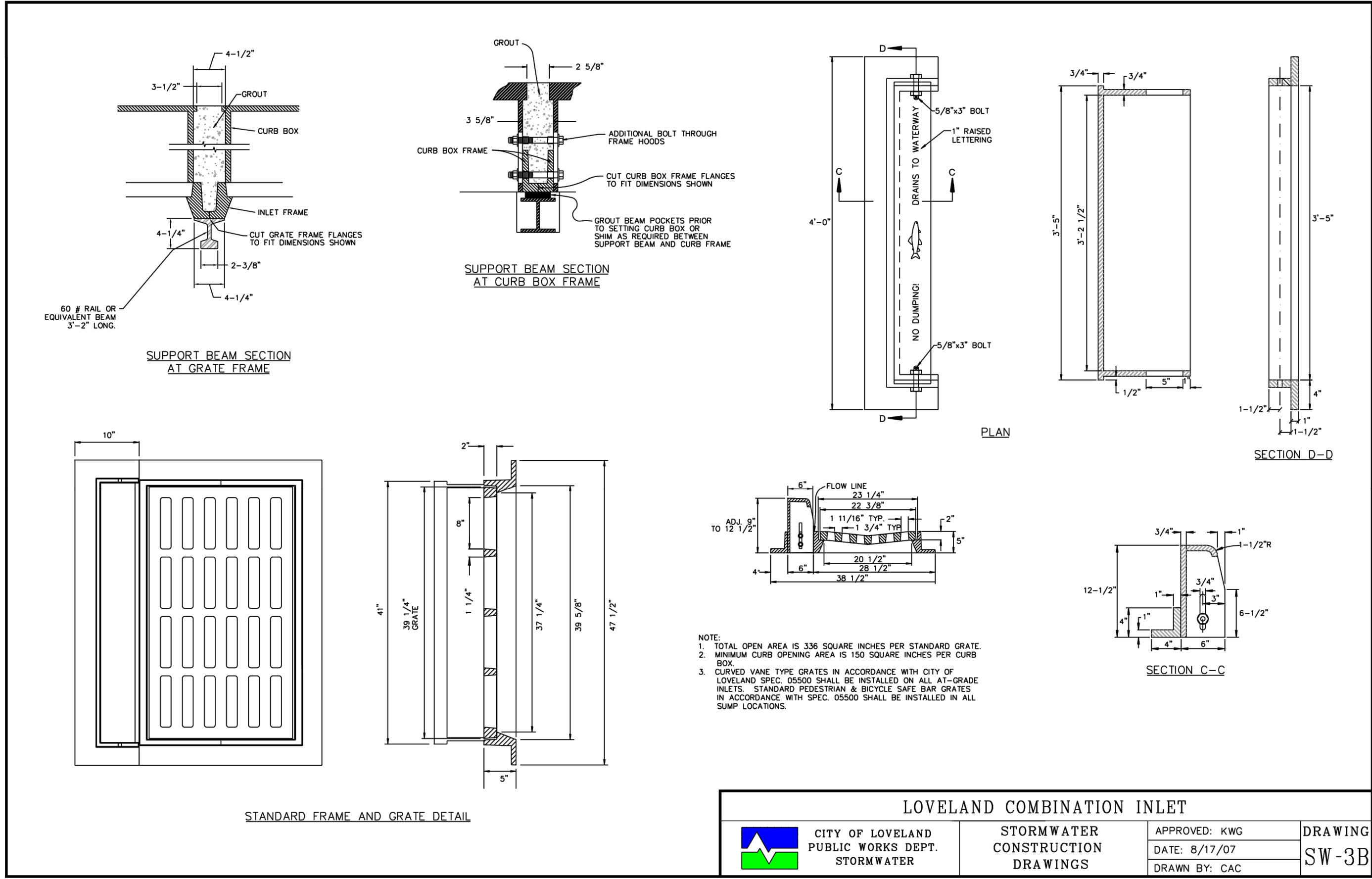
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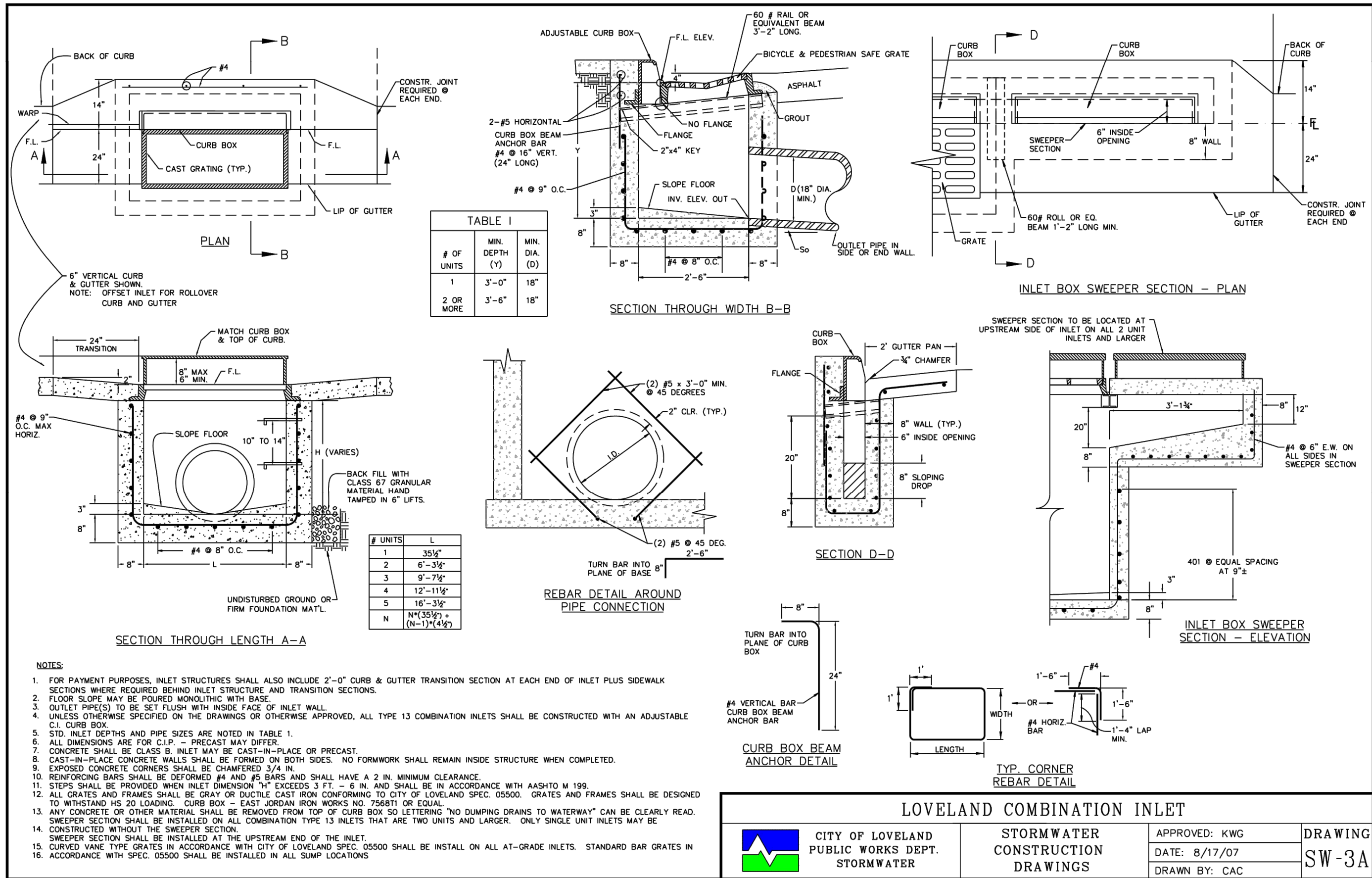
STORM MANHOLE DETAIL 4 C1.2



STORM MANHOLE DETAIL 5 C1.2



COMBINATION INLET DETAIL 6 C1.2



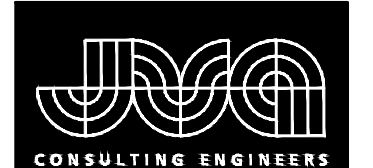
TYPE 16 (COMBINATION) INLET DETAIL 7 C1.2



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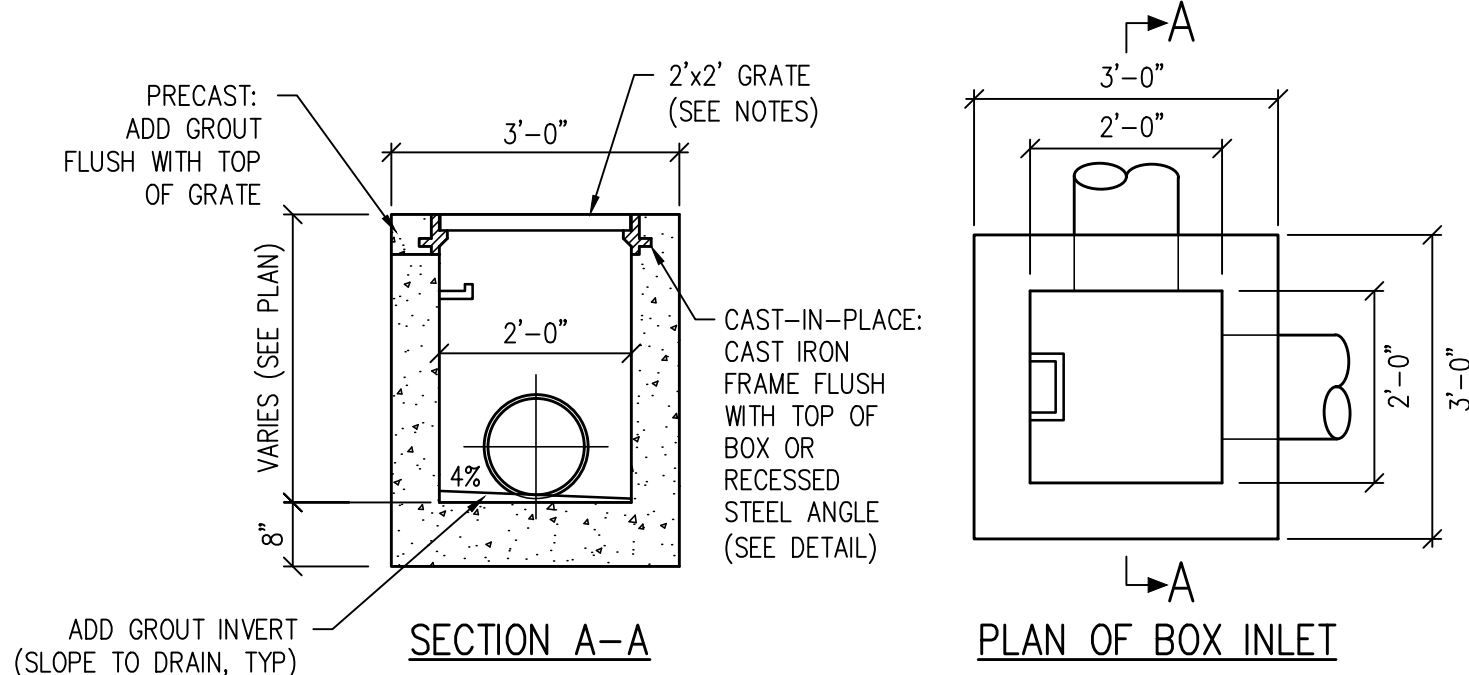
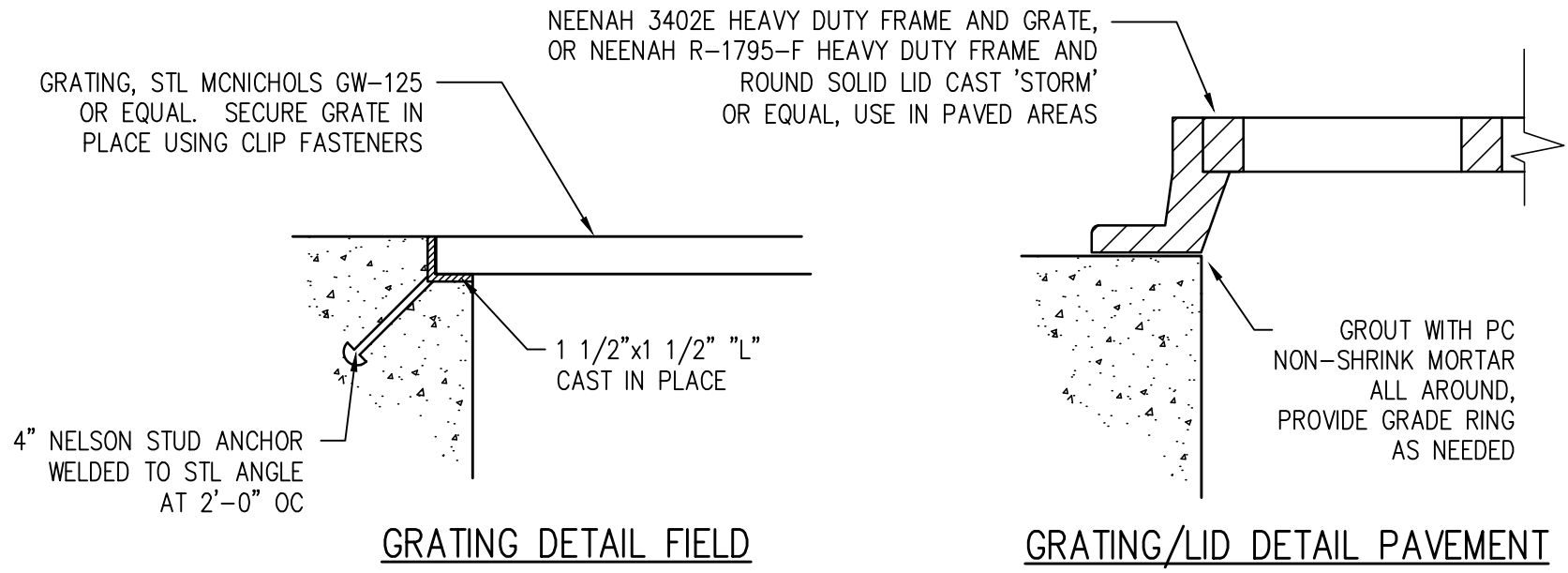
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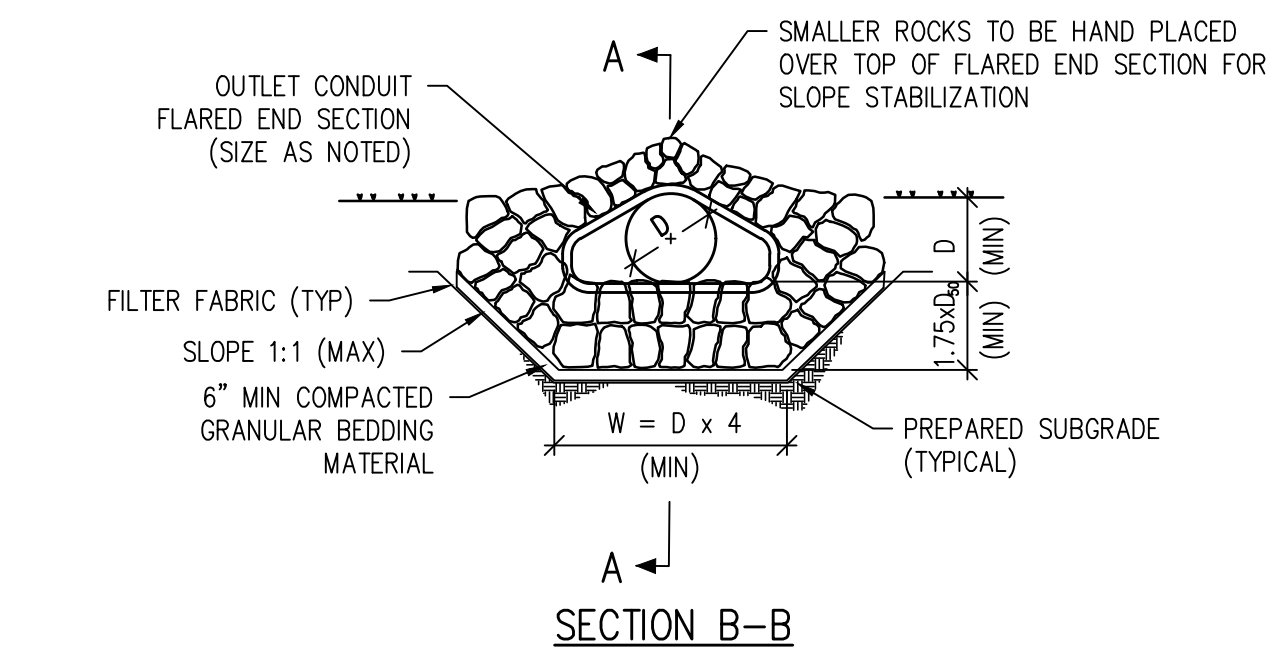
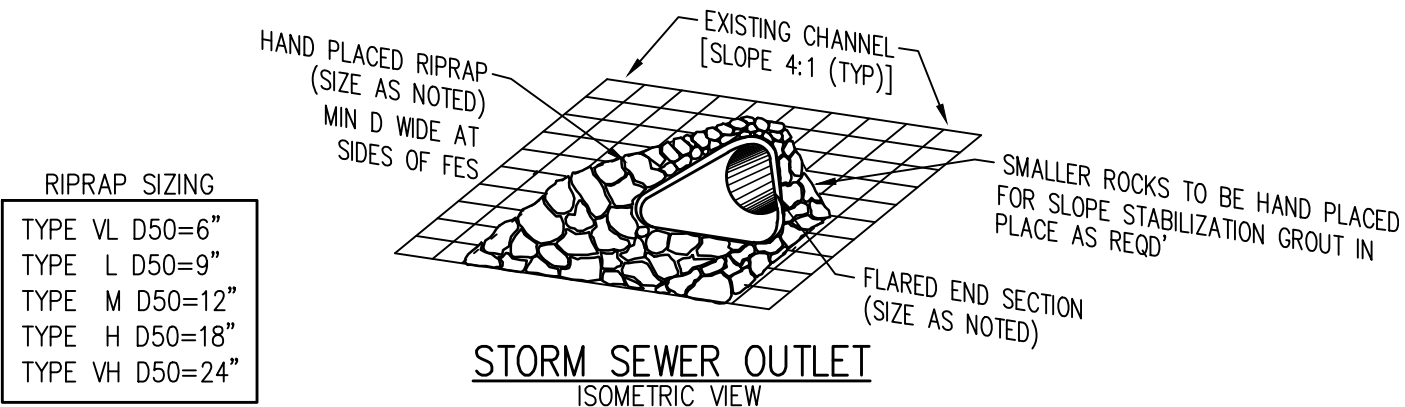
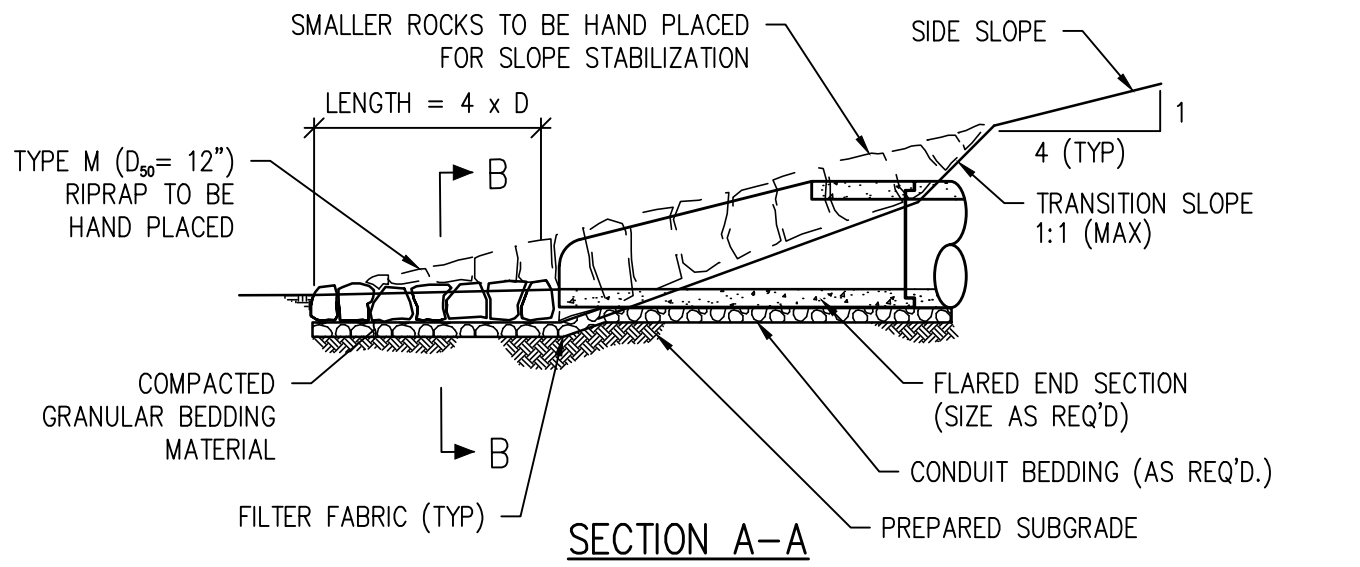
DRAINAGE DETAILS

CD1.1



- NOTES:
1. CONCRETE SHALL BE CDOT CLASS B. INLET MAY BE CAST-IN-PLACE OR PRECAST AND SHALL CONFORM TO ASTM C478. PRECAST BOX IS SHOWN.
 2. CAST-IN-PLACE CONCRETE WALLS SHALL BE 6" MIN THICKNESS WITH 3/4" CHAMFERED EDGES.
 3. ALL WALLS AND BASE SHALL BE REINFORCED WITH #4'S @ 8" OC EACH WAY. REINFORCING BARS SHALL BE DEFORMED AND SHALL HAVE A 2" MIN CLEARANCE.
 4. WHERE INLET IS INSTALLED IN TRAFFIC AREAS, ALL GRATES AND FRAMES SHALL BE GRAY OR DUCTILE CAST IRON CONFORMING TO CDOT 712.06. GRATES AND FRAMES SHALL BE DESIGNED TO WITHSTAND HS20 LOADING.
 5. USE NEENAH 3402E CAST GRATING OR ACCEPTED SUBSTITUTE.
 6. SEE PLAN FOR LOCATION AND SIZE OF PIPE. WHERE INLET IS INSTALLED IN PEDESTRIAN AREAS, A PEDESTRIAN/ADA GRATE SHALL BE USED (MAX 1/4" OPEN SPACING, IRONSMITH GRAY CAST GRATE 9032DR-24, MCNICHOLS GCM-1-125 METAL BAR GRATING W/ CLIPS, OR ACCEPTED SUBSTITUTE)
 7. WHEN CONCRETE OR BITUMINOUS PAVING IS TO EXTEND TO THE EDGE OF THE INLET, USE NEENAH 3402E HEAVY DUTY FRAME AND GRATE, OR NEENAH R-1795-F HEAVY DUTY FRAME AND ROUND SOLID LID CAST 'STORM' OR EQUAL, REFER TO PLANS.
 8. PROVIDED EMBEDDED PLASTIC LADDER STEPS AT 18" VERTICAL SPACING FOR INLETS DEEPER THAN 4'. SEE PLASTIC STEP DETAIL.

2'x2' INLET DETAIL 8 C1.2 NTS



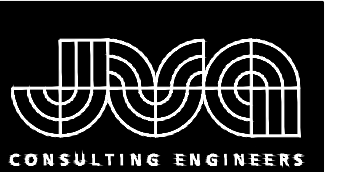
STORM SEWER FLARED END SECTION DETAIL 9 C1.4 NTS



DESIGN CONCEPTS

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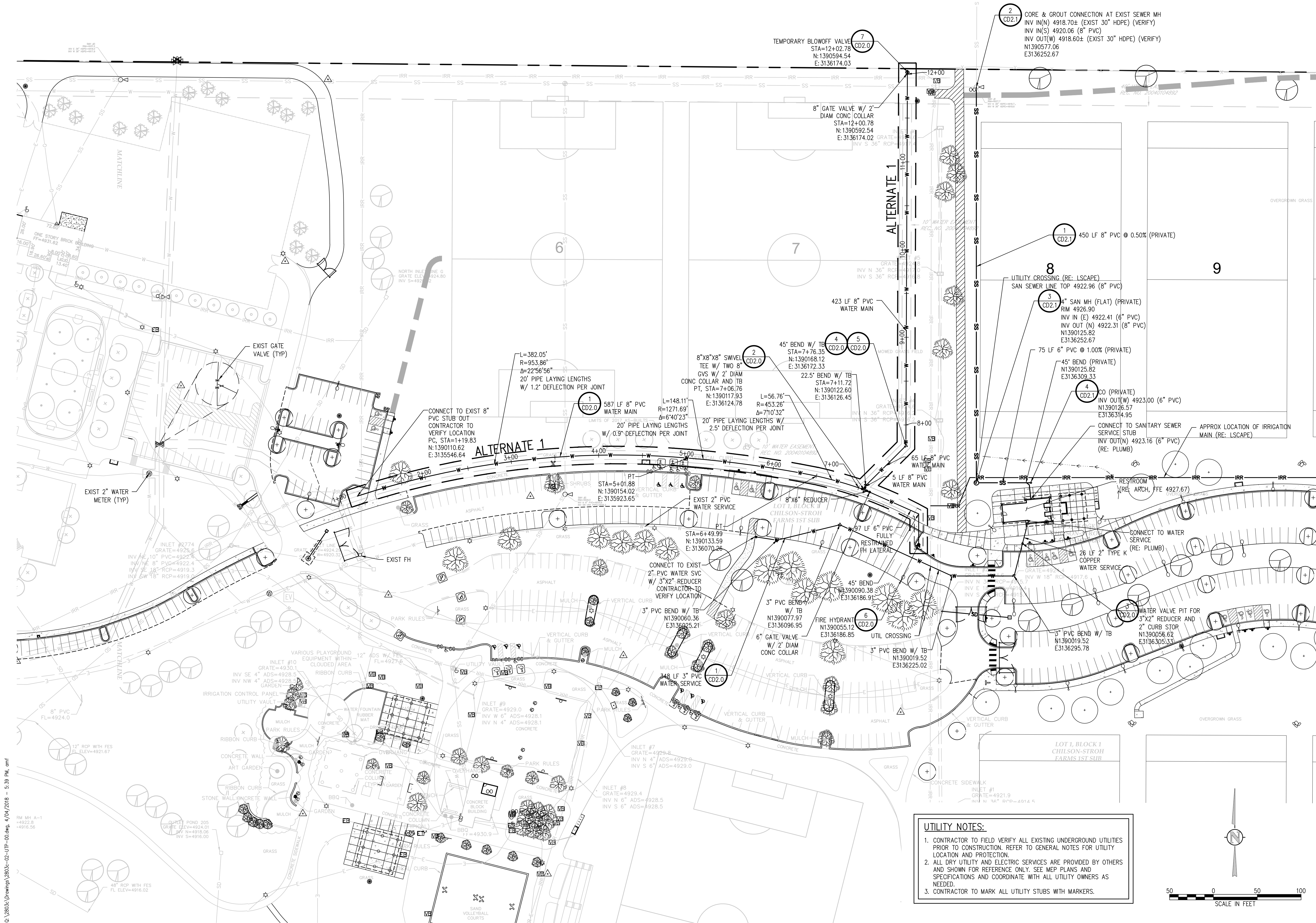
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DRAINAGE
DETAILS

CD1.2

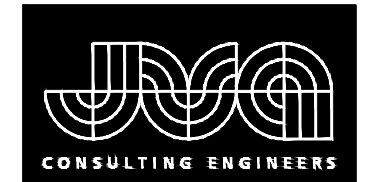
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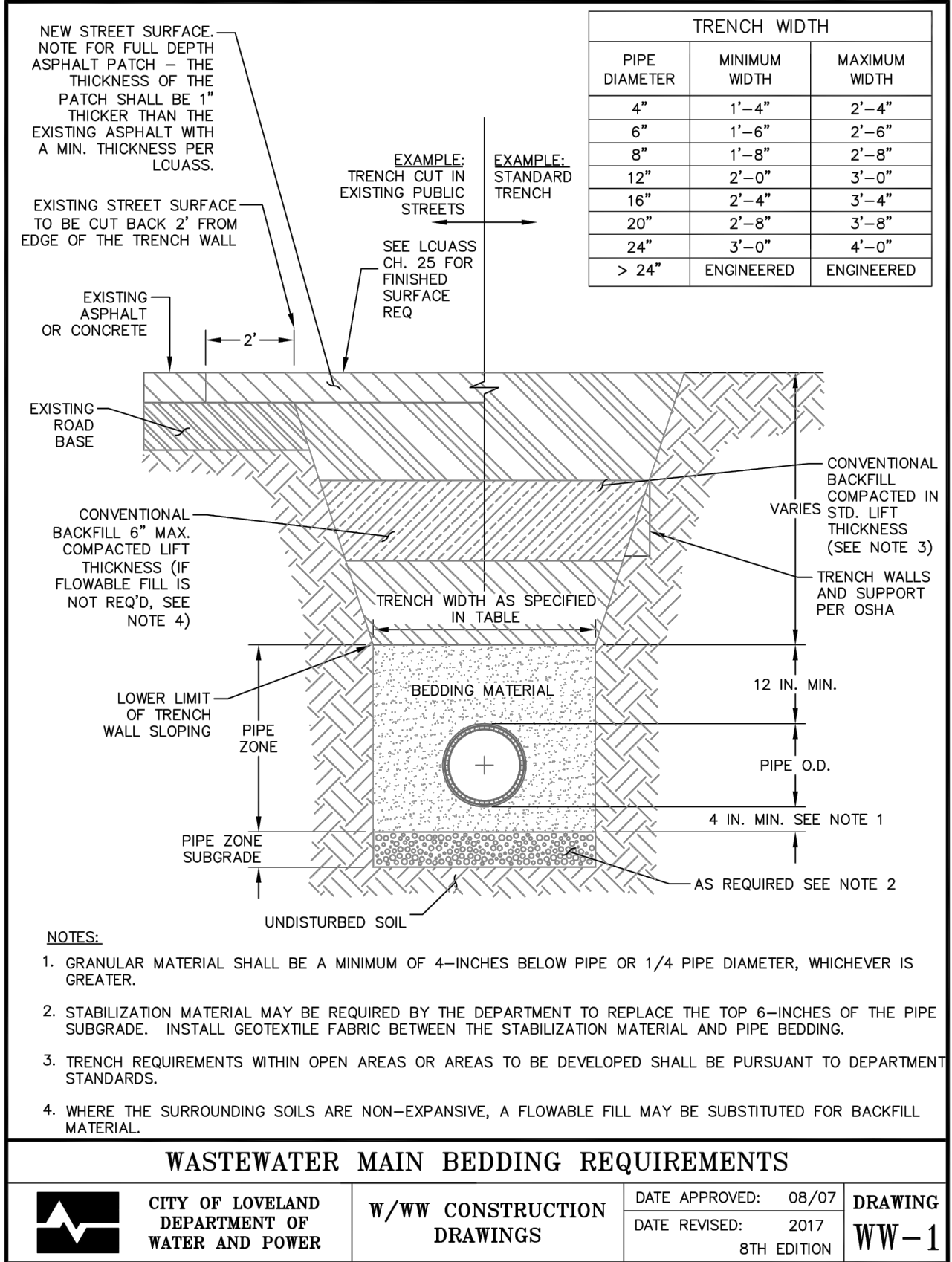
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UTILITY PLAN

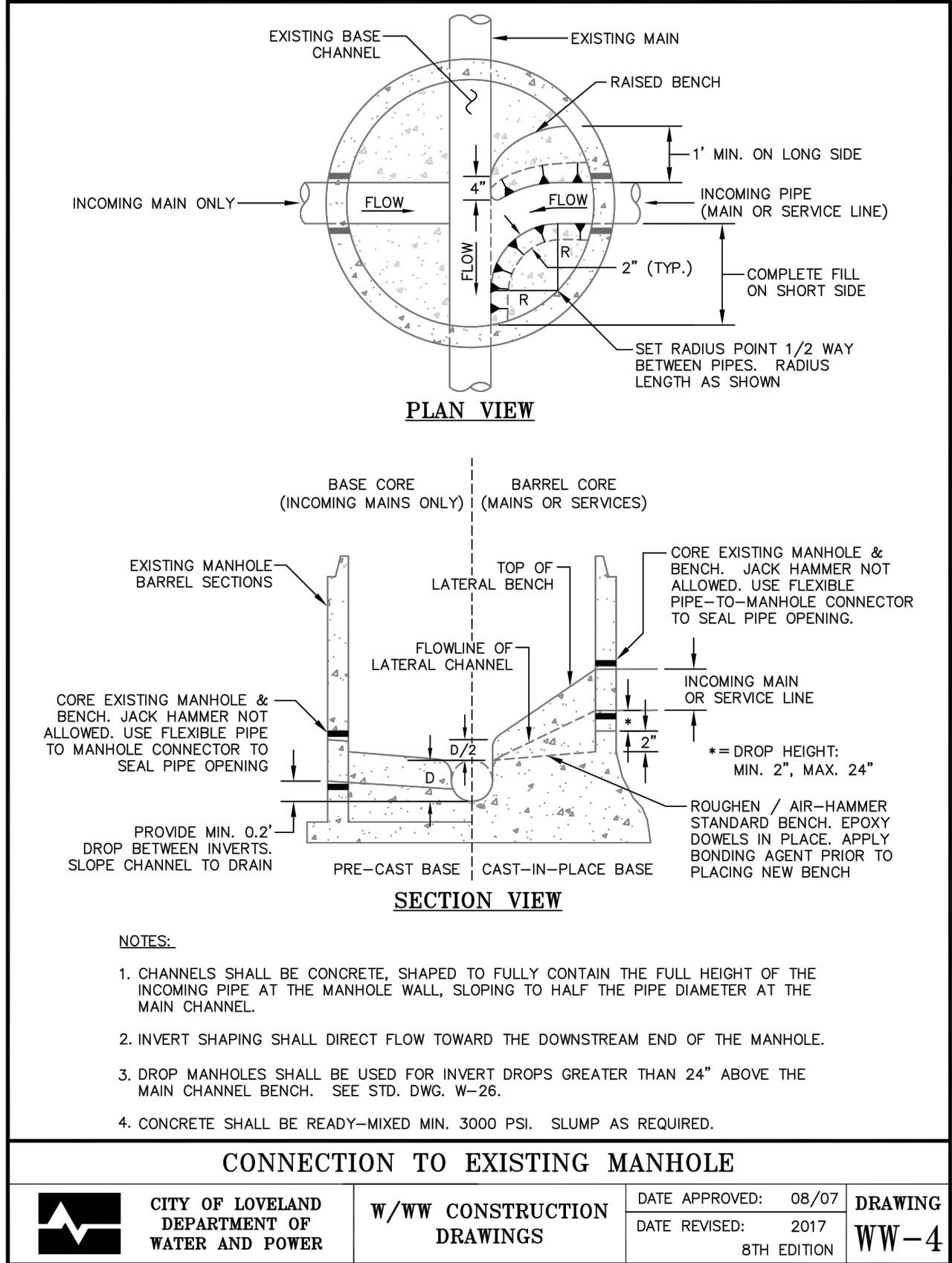
C2.0

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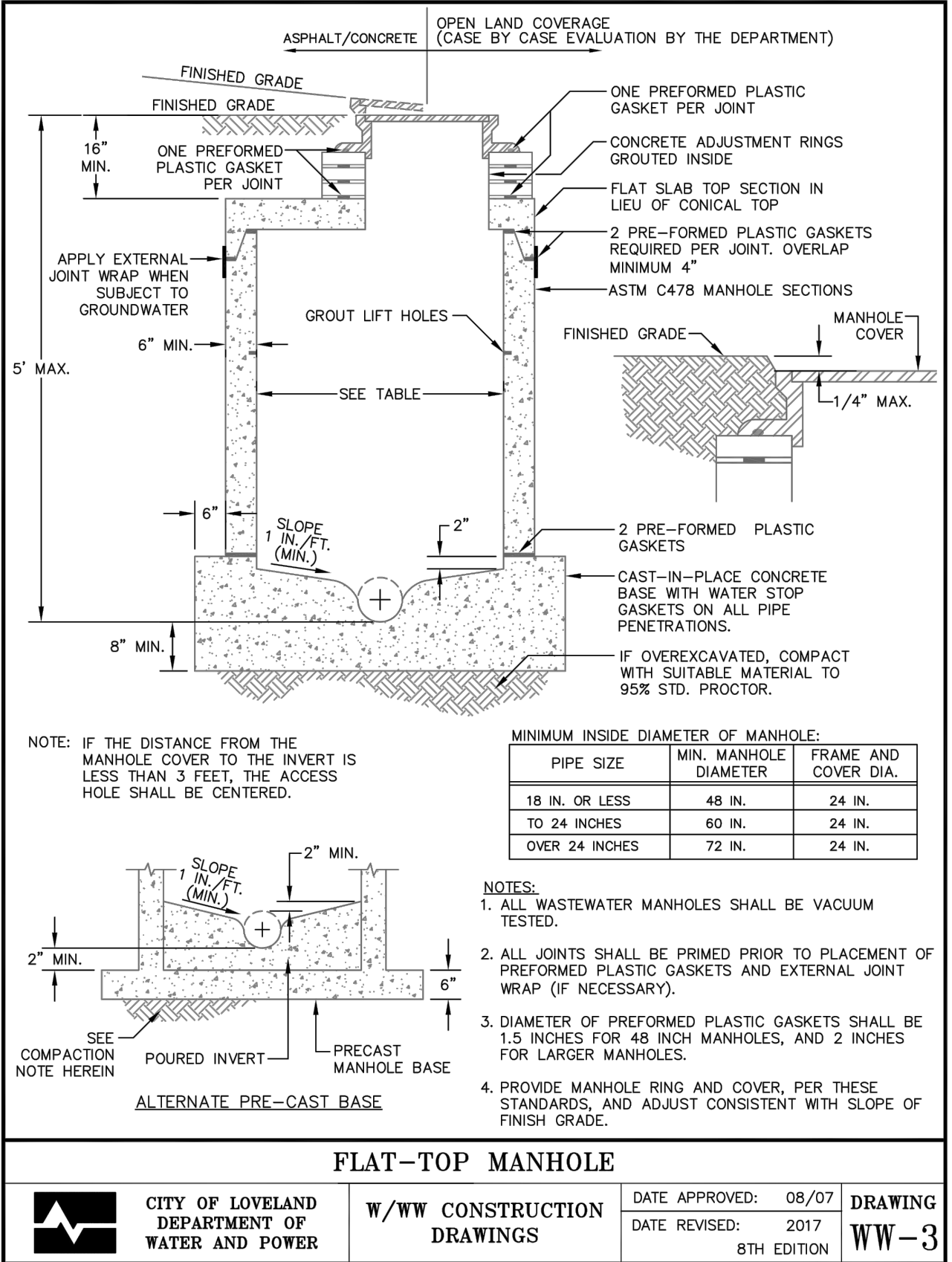
TYPICAL WASTEWATER BEDDING DETAIL
NTS

1
C2.0



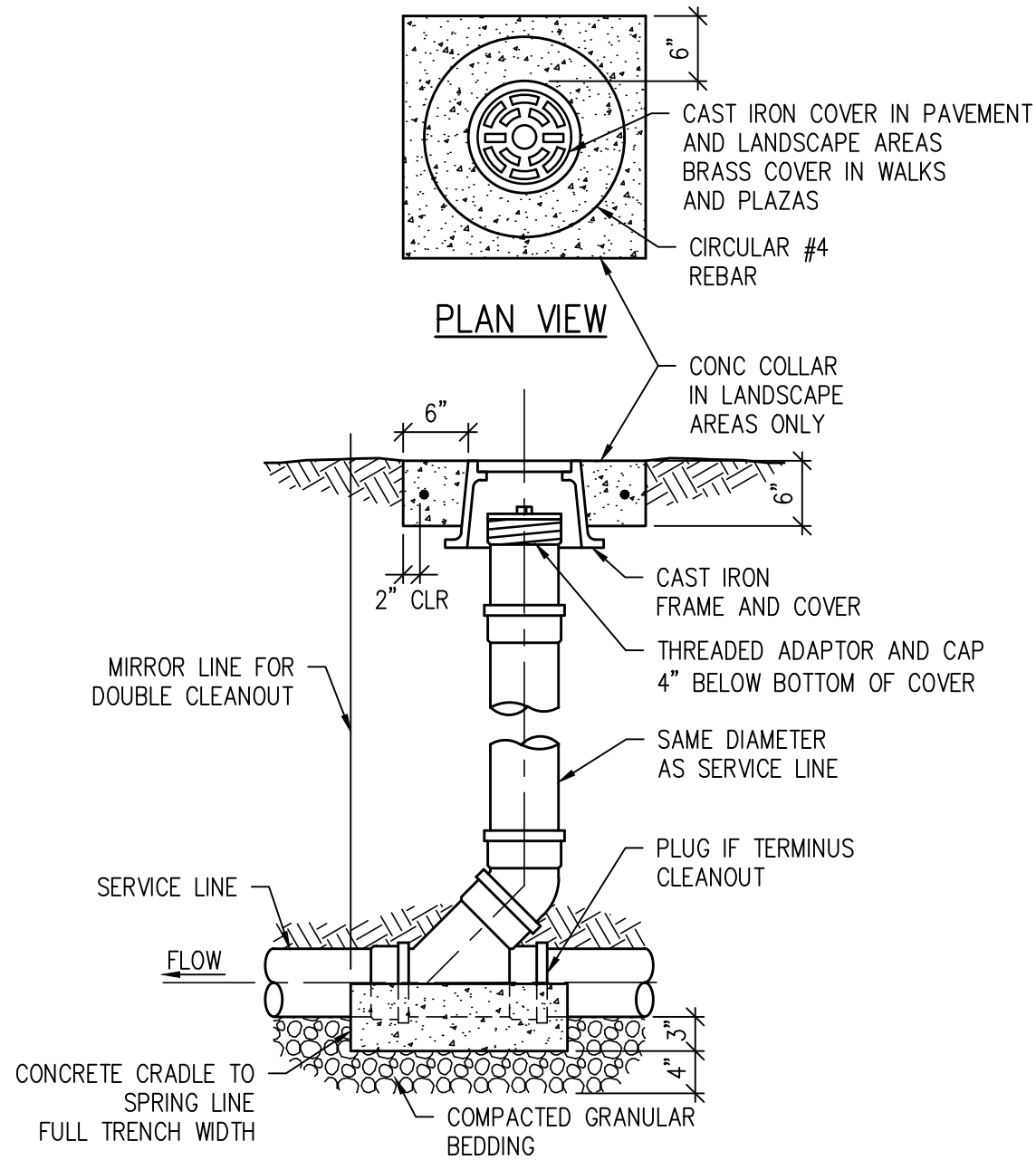
MANHOLE CONNECTION DETAIL
NTS

2
C2.0



SANITARY SEWER MANHOLE DETAIL
NTS

3
C2.0



SANITARY CLEANOUT DETAIL
NTS

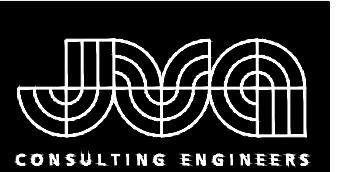
4
C2.0



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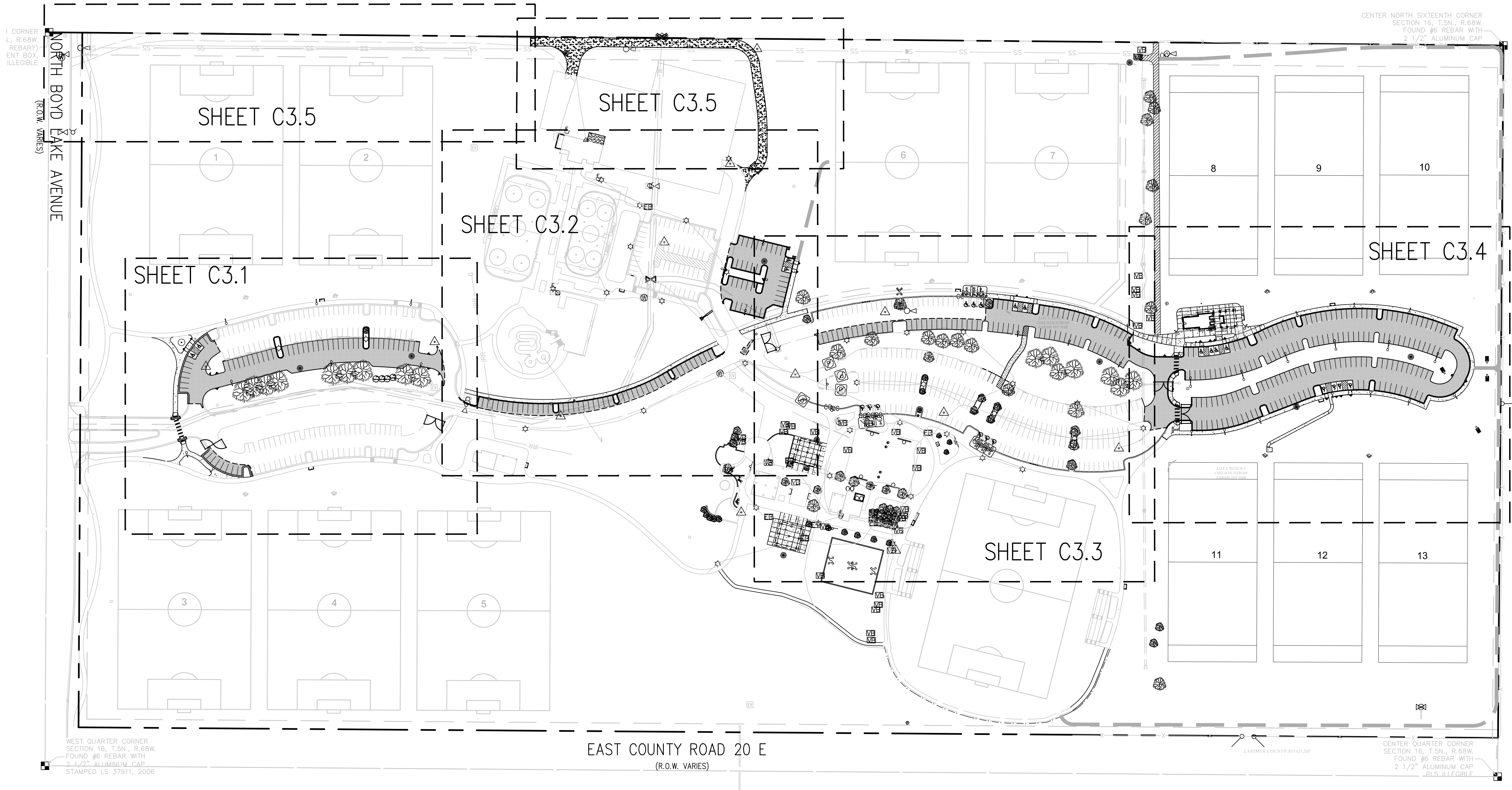
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UTILITY
DETAILS

CD2.1

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HORIZONTAL CONTROL NOTES:

1. ALL DIMENSIONS AND RADII ARE TO FACE OF CURB, FACE OF BUILDING AND EDGE OF WALK UNLESS OTHERWISE NOTED.
2. CONTRACTOR TO REPAIR/REPLACE ALL DAMAGE TO EXISTING FLATWORK OR SITE FEATURES NOT INTENDED FOR DEMOLITION.
3. REFER TO GRADING AND DRAINAGE PLAN FOR FURTHER INFORMATION PERTAINING TO CURB & GUTTER, CHASES, AND DRAINAGE PANS.

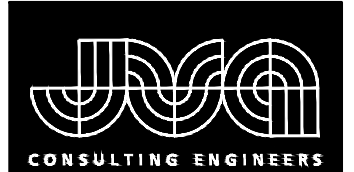
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SCALE IN FEET



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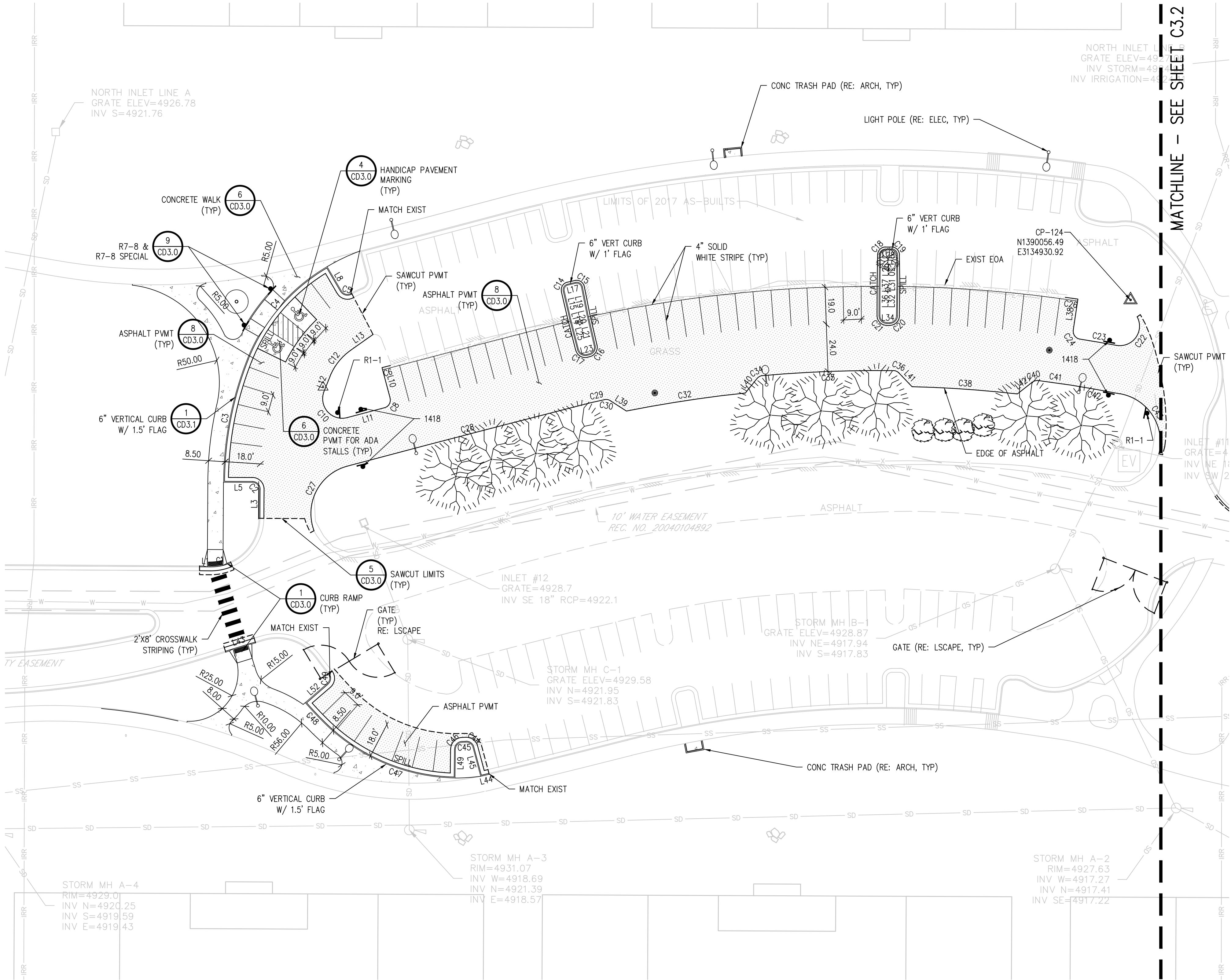
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OVERALL
HORIZONTAL
CONTROL PLAN

C3.0

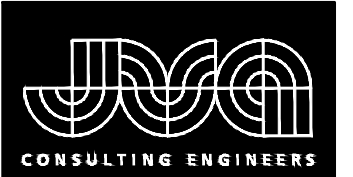
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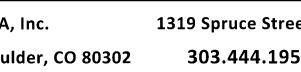
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**DETAILED
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C3.1



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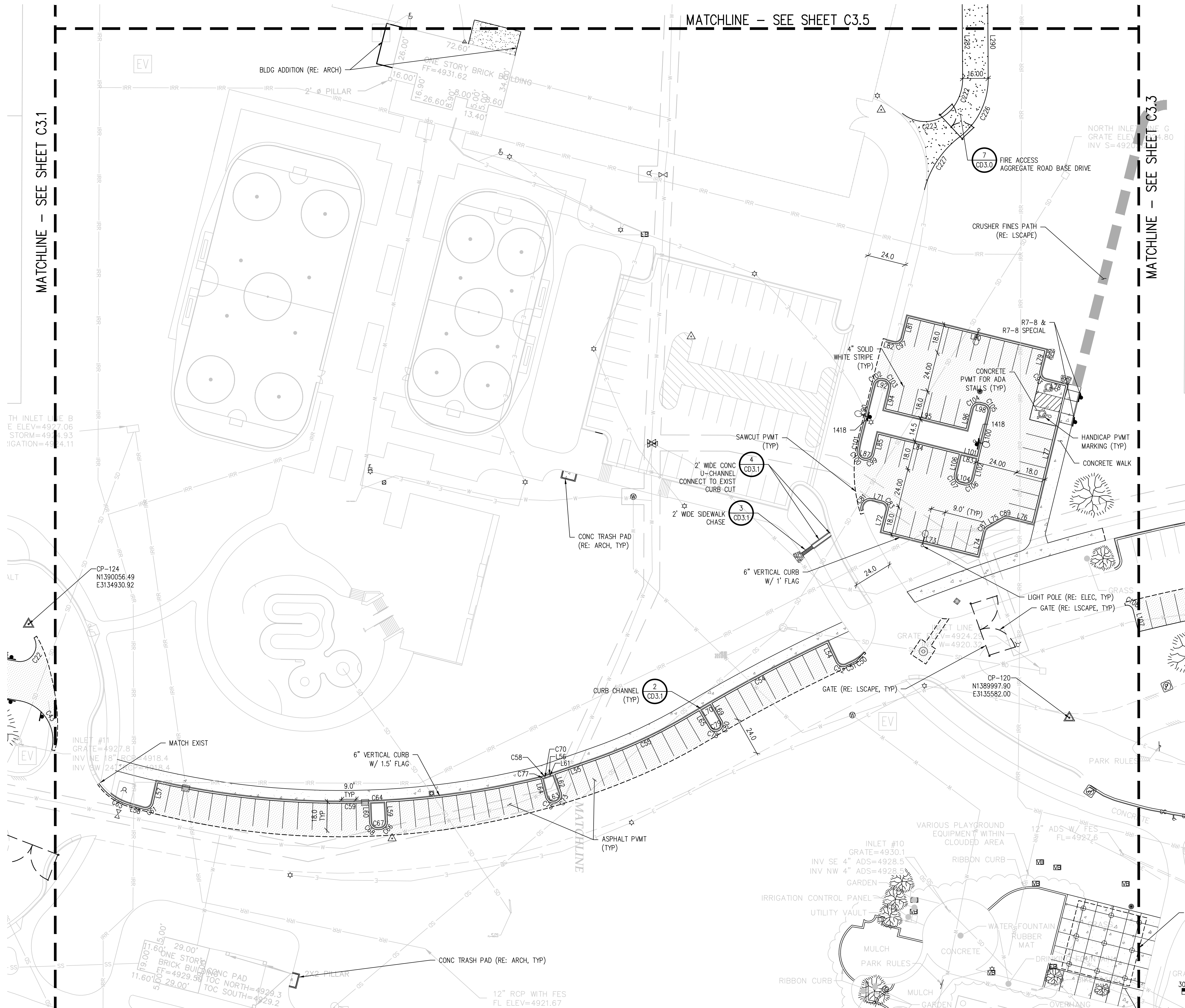
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DETAILED HORIZONTAL CONTROL PLAN

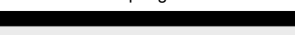
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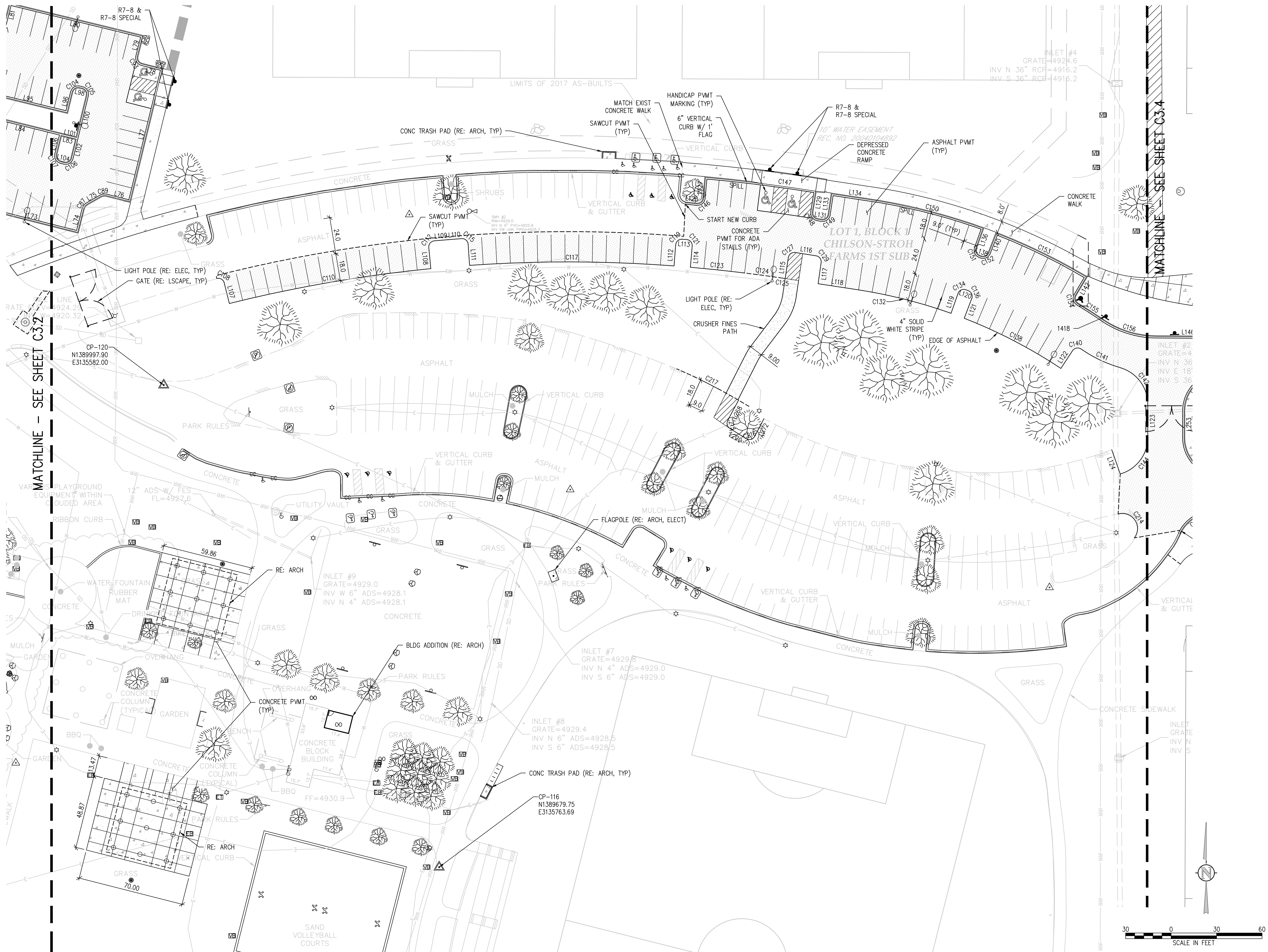
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DETAILED HORIZONTAL CONTROL PLAN

C3.3



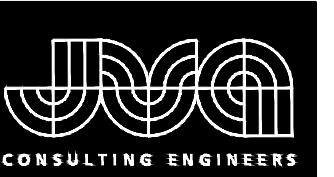
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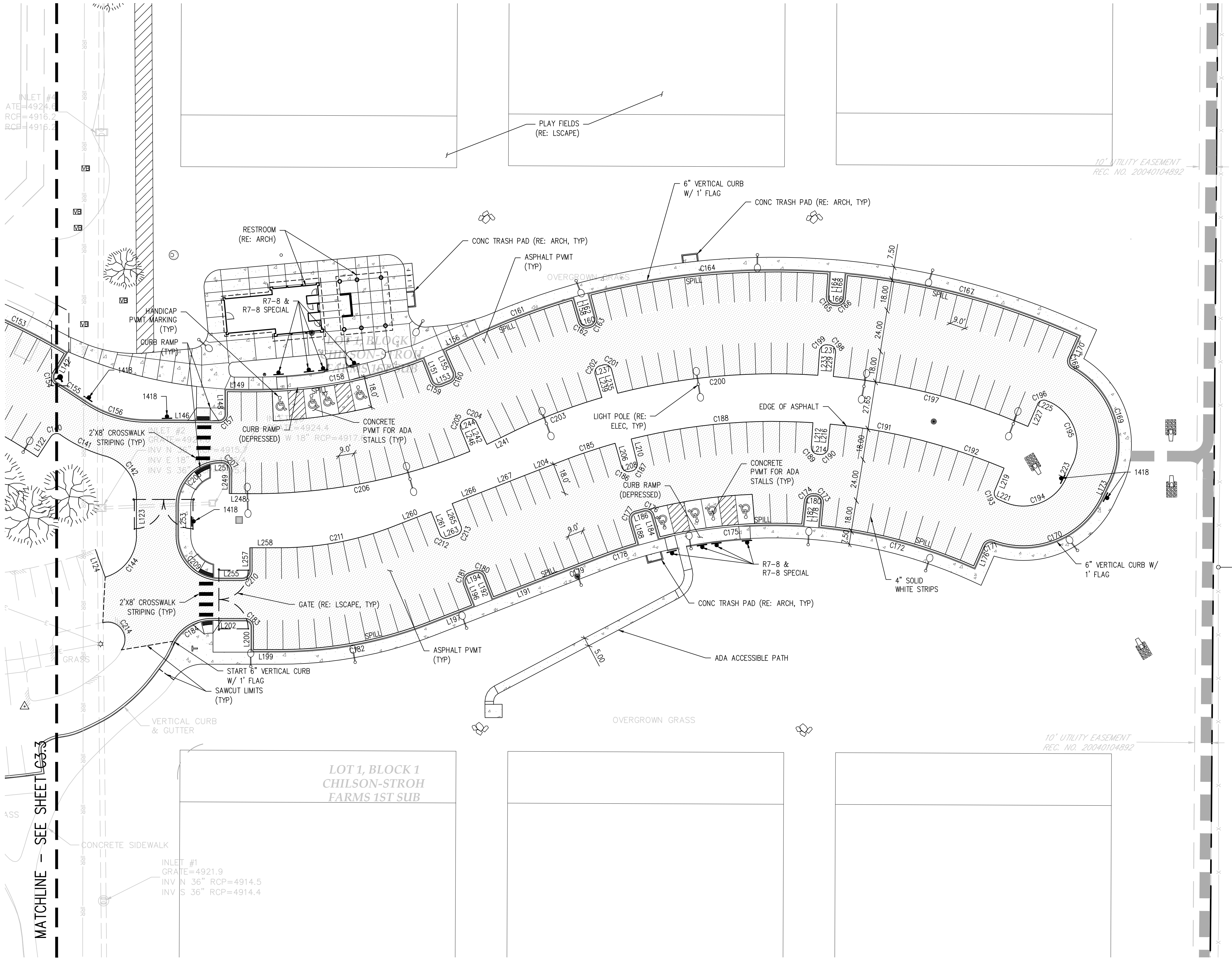
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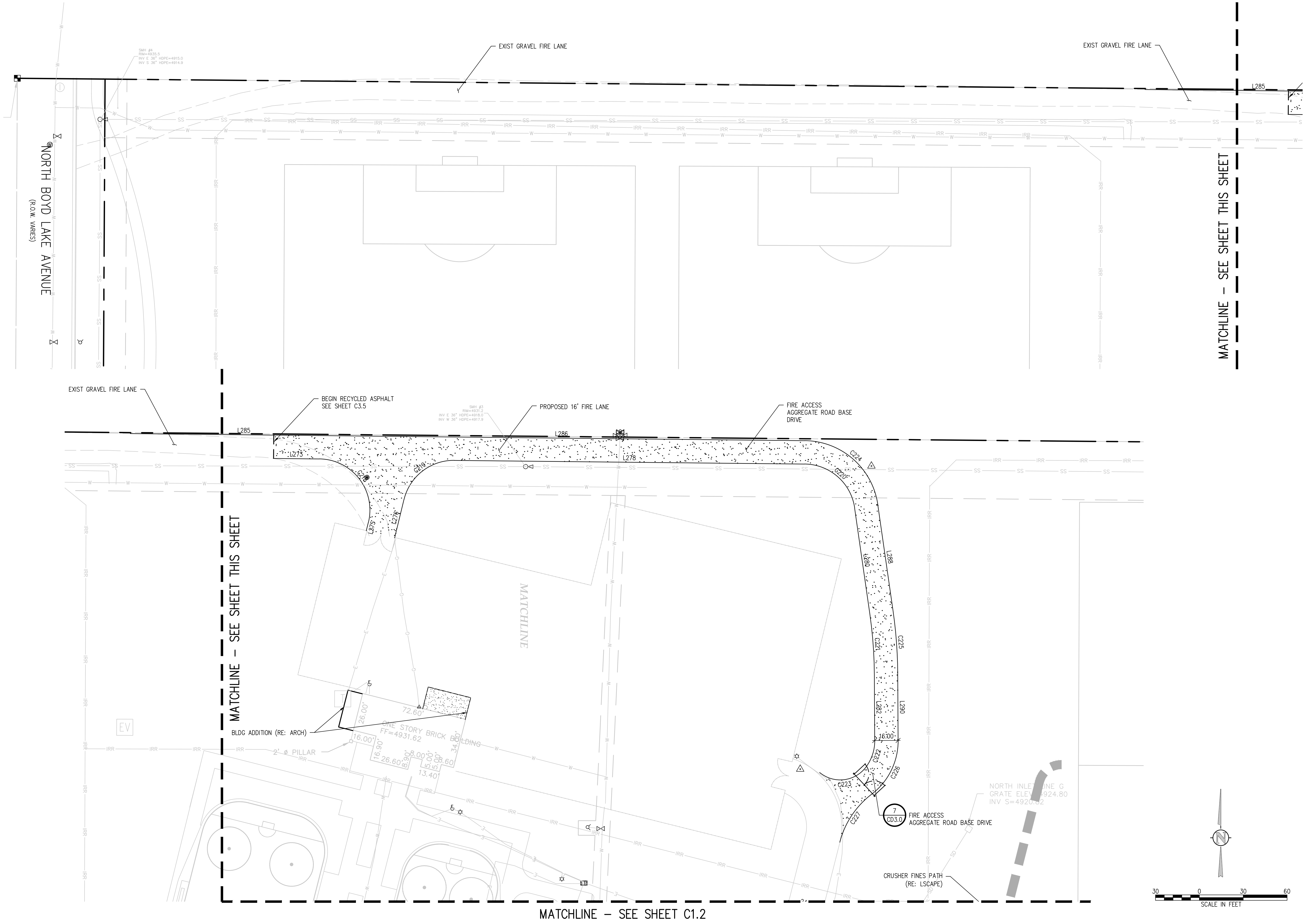
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DETAILED
HORIZONTAL
CONTROL PLAN

C3.4



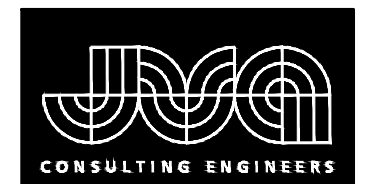
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**DETAILED
HORIZONTAL
CONTROL PLAN**

C3.5

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LINE TABLE			
LINE	LENGTH	DIRECTION	START (N, E)
L1	5.50	S89° 39' 22"E	(1389920.03, 3134454.95)
L3	14.74	N0° 21' 14"E	(1389944.84, 3134485.85)
L5	14.26	N89° 39' 22"W	(1389963.68, 3134481.97)
L8	13.91	S30° 24' 21"E	(1390072.81, 3134520.02)
L10	16.13	S14° 46' 32"E	(1390021.87, 3134548.25)
L11	19.77	S75° 08' 52"W	(1390001.39, 3134549.52)
L12	8.41	N21° 52' 10"E	(1390009.64, 3134518.53)
L13	13.94	N54° 53' 26"E	(1390030.81, 3134532.25)
L14	1.12	N14° 18' 20"W	(1390045.68, 3134644.50)
L15	14.58	N13° 04' 36"W	(1390046.76, 3134644.22)
L17	4.25	N77° 00' 29"E	(1390064.56, 3134643.12)
L19	14.67	S11° 16' 17"E	(1390063.23, 3134650.67)
L20	1.00	S13° 04' 50"E	(1390048.85, 3134653.54)
L21	15.02	S13° 06' 04"E	(1390047.87, 3134653.76)
L23	1.20	S76° 40' 54"W	(1390028.45, 3134654.19)
L25	15.07	N14° 18' 22"W	(1390031.08, 3134648.22)
L26	15.18	N0° 49' 41"E	(1390064.42, 3134802.41)
L28	3.10	N89° 58' 53"E	(1390082.55, 3134805.63)
L30	15.04	S0° 48' 11"E	(1390079.46, 3134811.75)
L31	1.00	S0° 46' 38"W	(1390064.42, 3134811.96)
L32	15.06	S0° 46' 38"W	(1390063.42, 3134811.95)
L34	1.43	S89° 58' 19"W	(1390044.42, 3134807.75)
L36	14.97	N0° 20' 14"E	(1390048.45, 3134802.32)
L37	1.00	N0° 20' 14"E	(1390063.42, 3134802.40)
L38	16.08	N8° 32' 11"E	(1390041.02, 3134901.64)

LINE TABLE			
LINE	LENGTH	DIRECTION	START (N, E)
L39	9.81	S57° 23' 00"E	(1390004.98, 3134664.93)
L40	9.55	N39° 03' 08"E	(1390008.91, 3134733.97)
L41	9.69	S44° 00' 26"E	(1390019.14, 3134812.52)
L42	9.67	N51° 46' 49"E	(1390008.47, 3134873.11)
L43	16.00	N72° 46' 17"E	(1389876.89, 3134468.17)
L44	4.00	S76° 45' 20"W	(1389814.44, 3134602.93)
L45	14.86	N14° 58' 48"W	(1389813.53, 3134599.03)
L49	14.27	S0° 40' 04"W	(1389826.82, 3134585.28)
L52	14.47	N48° 59' 37"E	(1389850.53, 3134509.66)
L54	14.01	N25° 08' 58"W	(1390033.33, 3135436.97)
L55	28.43	S70° 45' 41"W	(1389972.50, 3135285.70)
L56	4.64	S70° 45' 41"W	(1389963.14, 3135258.85)
L57	14.00	S12° 48' 59"W	(1389958.34, 3135010.99)
L58	8.92	N74° 06' 15"W	(1389941.73, 3135002.89)
L59	11.98	S3° 03' 00"E	(1389945.15, 3135153.79)
L60	11.98	N2° 03' 30"W	(1389932.77, 3135145.23)
L61	4.64	N70° 45' 41"E	(1389960.66, 3135254.80)
L62	12.00	S19° 14' 19"E	(1389962.19, 3135259.18)
L63	0.12	S70° 45' 41"W	(1389945.77, 3135260.68)
L64	11.81	N13° 57' 30"W	(1389948.54, 3135255.37)
L65	12.51	S30° 29' 35"E	(1390002.88, 3135351.33)
L69	12.51	N29° 57' 31"W	(1389995.65, 3135363.76)
L70	7.16	S59° 46' 27"W	(1390006.49, 3135357.51)
L71	6.06	S75° 50' 01"E	(1390134.06, 3135458.83)
L72	14.01	S14° 02' 29"W	(1390127.73, 3135467.60)

LINE TABLE			
LINE	LENGTH	DIRECTION	START (N, E)
L73	63.00	S75° 50' 01"E	(1390114.14, 3135464.20)
L74	15.87	N14° 02' 29"E	(1390098.72, 3135525.28)
L75	10.38	N60° 15' 40"E	(1390117.24, 3135531.50)
L76	15.98	S75° 50' 01"E	(1390122.89, 3135544.22)
L77	90.00	N13° 42' 41"E	(1390118.98, 3135559.72)
L78	14.00	N75° 50' 01"W	(1390206.42, 3135581.05)
L79	14.00	N14° 09' 59"E	(1390214.70, 3135564.58)
L80	90.00	N76° 17' 20"W	(1390228.27, 3135568.00)
L81	14.03	S14° 09' 59"W	(1390249.61, 3135480.57)
L82	5.03	N76° 16' 53"W	(1390233.09, 3135472.31)
L83	10.36	N76° 17' 44"W	(1390161.24, 3135524.54)
L84	54.00	N76° 09' 01"W	(1390163.69, 3135514.47)
L85	13.94	S13° 50' 59"W	(1390176.62, 3135462.04)
L87	0.54	N75° 21' 04"W	(1390160.17, 3135453.81)
L90	33.81	N14° 09' 59"E	(1390173.55, 3135452.09)
L92	1.04	S75° 50' 01"E	(1390209.23, 3135465.22)
L94	14.03	S13° 42' 16"W	(1390204.15, 3135469.13)
L95	54.00	S76° 17' 44"E	(1390190.52, 3135465.81)
L96	14.00	N13° 42' 16"E	(1390177.72, 3135518.27)
L98	2.00	S76° 17' 44"E	(1390194.26, 3135526.42)
L100	28.53	S13° 42' 16"W	(1390188.96, 3135531.30)
L101	10.36	S76° 17' 44"E	(1390162.72, 3135514.23)
L102	13.02	S13° 42' 16"W	(1390160.27, 3135524.30)
L104	2.40	N76° 09' 01"W	(1390144.68, 3135516.38)
L106	13.00	N13° 50' 59"E	(1390150.10, 3135511.12)

LINE TABLE			
LINE	LENGTH	DIRECTION	START (N, E)
L107	13.99	S14° 00' 38"E	(1390065.31, 3135621.92)
L108	14.05	N5° 37' 50"W	(1390074.74, 3135758.21)
L109	9.14	N85° 24' 40"E	(1390093.10, 3135760.49)
L110	8.90	N85° 24' 40"E	(1390093.83, 3135769.60)
L111	13.96	S4° 01' 31"E	(1390090.84, 3135782.78)
L112	13.97	N4° 20' 13"E	(1390076.54, 3135918.64)
L113	2.95	S85° 16' 14"E	(1390094.16, 3135924.02)
L114	13.98	S5° 01' 43"W	(1390089.58, 3135930.61)
L115	13.96	N8° 30' 53"E	(1390068.23, 3135991.93)
L116	13.94	S80° 58' 37"E	(1390085.40, 3135998.58)
L117	14.06	S8° 12' 37"W	(1390078.69, 3136015.68)
L118	24.91	S81° 27' 25"E	(1390064.78, 3136013.67)
L119	13.92	N19° 20' 32"E	(1390045.24, 3136101.33)
L120	1.67	S69° 32' 52"E	(1390060.79, 3136111.11)
L121	13.97	S20° 55' 52"W	(1390055.03, 3136115.02)
L122	13.96	N33° 14' 44"E	(1390008.90, 3136173.82)
L123	22.07	S0° 00' 00"E	(1389985.32, 3136231.09)
L124	16.98	N19° 20' 46"W	(1389939.21, 3136212.97)
L125	7.44	S83° 47' 45"E	(1390118.31, 3135926.32)
L127	13.94	N5° 18' 39"E	(1390121.11, 3135938.13)
L129	14.02	S9° 02' 41"W	(1390125.84, 3136012.01)
L131	2.97	S80° 43' 39"E	(1390107.43, 3136013.11)
L133	13.95	N8° 37' 40"E	(1390110.30, 3136020.64)
L134	30.57	S81° 22' 20"E	(1390124.09, 3136022.73)
L136	14.02	S19° 49' 16"W	(1390101.39, 3136122.48)

LINE TABLE			
LINE	LENGTH	DIRECTION	START (N, E)
L138	1.48	S69° 37' 00"E	(1390083.16, 3136119.94)
L140	14.02	N21° 11' 20"E	(1390085.02, 3136126.24)
L142	14.02	S30° 45' 49"W	(1390069.21, 3136190.58)
L146	42.35	S89° 36' 21"E	(1390030.00, 3136236.47)
L148	13.95	N0° 20' 12"W	(1390033.73, 3136282.84)
L149	13.46	S89° 36' 21"E	(1390047.68, 3136282.76)
L151	13.91	S21° 11' 42"E	(1390065.99, 3136397.48)
L153	5.24	N67° 28' 41"E	(1390050.77, 3136407.77)
L155	13.91	N23° 50' 57"W	(1390058.09, 3136414.74)
L156	14.74	N64° 44' 17"E	(1390070.81, 3136409.11)
L158	14.05	S16° 09' 22"E	(1390100.91, 3136484.19)
L160	1.10	N74° 32' 47"E	(1390084.67, 3136493.01)
L162	14.06	N14° 45' 04"W	(1390089.84, 3136496.87)
L164	14.06	S4° 01' 23"W	(1390115.85, 3136633.00)
L166	1.09	S85° 03' 04"E	(1390097.56, 3136635.66)
L168	14.02	N5° 16' 28"E	(1390101.08, 3136641.07)
L170	14.14	S24° 02' 55"W	(1390078.86, 3136777.88)
L173	9.63	S25° 21' 38"W	(1389994.25, 3136795.41)
L176	14.11	S23° 47' 03"W	(1389957.36, 3136722.63)
L178	13.94	N5° 24' 24"E	(1389968.23, 3136626.95)
L180	1.08	N85° 27' 32"W	(1389986.47, 3136624.59)
L182	14.16	S6° 30' 20"W	(1389983.02, 3136619.23)
L184	14.09	N16° 09' 22"W	(1389961.44, 3136533.97)
L186	4.66	S74° 52' 39"W	(1389977.71, 3136525.16)
L188	13.91	S16° 20' 26"E	(1389971.51, 3136517.87)

LINE TABLE			
LINE	LENGTH	DIRECTION	START (N, E)
L191	36.00	S68° 49' 07"W	(1389939.59, 3136471.10)
L192	14.00	N21° 10' 53"W	(1389926.58, 3136437.53)
L194	3.59	S68° 49' 07"W	(1389941.92, 3136427.30)
L196	14.00	S21° 10' 53"E	(1389935.45, 3136421.67)
L197	27.50	S68° 49' 07"W	(1389922.40, 3136426.72)
L199	16.43	N90° 00' 00"W	(1389896.25, 3136314.37)
L200	14.00	N0° 00' 00"E	(1389896.25, 3136297.94)
L202	19.02	N90° 00' 00"W	(1389914.25, 3136293.94)
L204	23.19	N68° 49' 07"E	(1389998.12, 3136456.09)
L206	14.06	S15° 41' 59"E	(1390016.79, 3136508.56)
L208	1.26	N75° 06' 50"E	(1390000.47, 3136517.24)
L210	14.06	N14° 04' 20"W	(1390005.63, 3136521.31)
L212	14.06	S3° 49' 37"W	(1390028.71, 3136623.26)
L214	1.63	S85° 19' 35"E	(1390010.43, 3136625.98)
L216	14.06	N5° 31' 13"E	(1390013.90, 3136631.92)
L219	14.04	S22° 34' 42"W	(1390002.38, 3136734.06)
L221	3.81	S66° 47' 03"E	(1389984.20, 3136730.79)
L223	9.63	N25° 21' 38"E	(1389995.83, 3136769.60)
L225	1.44	N66° 33' 07"W	(1390040.86, 3136760.07)
L227	14.00	S23° 26' 53"W	(1390039.36, 3136753.49)
L229	13.95	N5° 19' 49"E	(1390055.47, 3136635.06)
L231	1.34	N85° 21' 59"W	(1390073.72, 3136632.69)
L233	13.95	S3° 56' 12"W	(1390070.11, 3136627.04)
L235	13.94	N14° 28' 58"W	(1390045.79, 3136510.04)
L237	1.90	S74° 40' 50"W	(1390062.14, 3136501.62)

LINE TABLE			
LINE	LENGTH	DIRECTION	START (N, E)
L239	13.94	S16° 09' 22"E	(1390056.67, 3136497.01)
L241	16.07	S63° 59' 02"W	(1390023.18, 3136448.77)
L242	14.28	N26° 00' 58"W	(1390016.13, 3136434.32)
L244	1.81	S68° 07' 51"W	(1390030.92, 3136422.98)
L246	13.96	S22° 13' 07"E	(1390025.02, 3136419.08)
L248	10.17	N89° 36' 21"W	(1389987.59, 3136295.44)
L249	13.00	N0° 23' 39"E	(1389987.66, 3136285.27)
L251	0.14	N89° 36' 21"W	(1390005.70, 3136280.40)
L253	17.45	S0° 00' 00"E	(1389980.70, 3136255.09)
L255	12.04	N90° 00' 00"E	(1389938.25, 3136280.09)
L257	13.00	N0° 00' 00"E	(1389943.25, 3136297.13)
L258	17.24	N90° 00' 00"E	(1389956.25, 3136297.13)
L260	24.21	N68° 49' 07"E	(1389968.41, 3136379.41)
L261	14.00	S21° 10' 53"E	(1389977.16, 3136401.99)
L263	5.02	N68° 49' 07"E	(1389961.82, 3136412.22)
L265	14.00	N21° 10' 53"W	(1389968.81, 3136419.19)
L266	22.98	N68° 49' 07"E	(1389981.86, 3136414.13)
L267	22.02	N68° 49' 07"E	(1389990.16, 3136435.55)
L268	15.18	S28° 14' 24"W	(1389987.94, 3135961.20)
L270	12.54	S58° 03' 58"E	(1389969.24, 3135955.49)
L272	13.16	N27° 42' 38"E	(1389964.11, 3135971.85)
L273	31.21	S89° 23' 38"E	(1390591.00, 3135104.12)
L275	6.03	S13° 40' 47"W	(1390547.39, 3135168.97)
L276	27.13	N13° 40' 47"E	(1390536.61, 3135186.93)
L278	239.54	S89° 23' 38"E	(1390589.69, 3135227.73)

LINE TABLE			
LINE	LENGTH	DIRECTION	START (N, E)
L280	73.40	S8° 10' 54"E	(1390557.14, 3135501.53)
L282	45.34	S0° 18' 06"E	(1390443.37, 3135515.02)
L285	128.59	S89° 23' 38"E	(1390608.03, 3135006.11)
L286	332.76	S89° 23' 38"E	(1390606.67, 3135134.69)
L288	73.40	S8° 10' 54"E	(1390559.41, 3135517.37)
L290	45.34	S0° 18' 06"E	(1390443.46, 3135531.02)

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CURVE TABLE						
CURVE	LENGTH	RADIUS	DELTA	CHORD	CHORD LEN	START (N, E)
C1	10.84	25.01	24°50'35"	N78°30'44"E	10.76	(1389920.00, 3134460.44)
C2	6.35	4.00	90°54'29"	N44°11'49"W	5.70	(1389959.59, 3134485.94)
C3	63.84	171.00	21°23'26"	N11°02'21"E	63.47	(1389963.76, 3134467.71)
C4	62.77	95.00	37°51'35"	N40°39'52"E	61.64	(1390026.06, 3134479.86)
C5	6.09	4.00	87°18'10"	S74°03'26"E	5.52	(1390060.81, 3134527.06)
C6	4.46	11307.11	0°01'21"	S75°13'10"W	4.46	(1390023.01, 3134552.56)
C8	6.28	4.00	89°55'24"	S30°11'10"W	5.65	(1390006.28, 3134552.36)
C10	22.05	10.00	126°19'51"	N41°44'49"W	17.85	(1389996.32, 3134530.42)
C12	17.29	30.00	33°01'16"	N38°22'48"E	17.05	(1390017.44, 3134521.66)
C14	4.67	3.00	89°08'18"	N31°29'33"E	4.21	(1390060.97, 3134640.92)
C15	4.51	3.00	86°15'06"	S56°08'05"E	4.10	(1390065.52, 3134647.27)
C16	6.27	4.00	89°46'57"	S31°47'25"W	5.65	(1390033.25, 3134657.17)
C17	6.21	4.00	89°00'45"	N58°48'44"W	5.61	(1390028.17, 3134653.02)
C18	4.67	3.00	89°08'18"	N45°24'44"E	4.21	(1390079.59, 3134802.63)
C19	4.82	3.00	92°01'11"	S44°23'02"E	4.32	(1390082.55, 3134808.73)
C20	6.23	4.00	89°11'41"	S45°22'28"W	5.62	(1390048.37, 3134811.74)
C21	6.31	4.00	90°21'55"	N44°50'44"W	5.67	(1390044.42, 3134806.32)
C22	22.34	10.00	128°01'15"	S35°41'00"W	17.98	(1390047.86, 3134934.30)
C23	19.12	681.23	1°36'28"	N80°18'23"W	19.12	(1390033.25, 3134923.82)
C24	6.26	4.00	89°38'57"	N36°17'17"W	5.64	(1390036.47, 3134904.97)
C26	6.53	682.58	0°32'55"	N81°44'16"W	6.53	(1390056.92, 3134904.02)
C27	41.77	25.00	95°44'05"	N27°11'15"E	37.08	(1389938.49, 3134513.43)
C28	128.92	11262.99	0°39'21"	N75°22'58"E	128.92	(1389971.47, 3134530.37)

CURVE TABLE						
CURVE	LENGTH	RADIUS	DELTA	CHORD	CHORD LEN	START (N, E)
C141	28.77	87.00	18°56'42"	S64°33'36"E	28.64	(1390021.66, 3136187.11)
C142	32.30	25.00	74°01'57"	S37°00'59"E	30.10	(1390009.36, 3136212.97)
C144	32.30	25.00	74°02'08"	S37°01'04"W	30.10	(1389963.25, 3136231.09)
C146	6.35	4.00	90°53'36"	N50°45'27"E	5.70	(1390117.50, 3135933.71)
C147	73.17	1121.00	3°44'24"	S82°49'20"E	73.16	(1390134.99, 3135939.42)
C148	6.27	4.00	89°46'21"	S35°50'29"E	5.65	(1390112.00, 3136009.80)
C149	6.33	4.00	90°38'40"	N53°57'00"E	5.69	(1390106.95, 3136016.04)
C150	71.95	395.00	10°26'11"	S75°23'50"E	71.85	(1390119.51, 3136052.95)
C151	6.07	4.00	86°59'27"	S23°40'27"E	5.51	(1390088.20, 3136117.73)
C152	6.01	4.00	86°03'47"	N64°13'13"E	5.46	(1390082.64, 3136121.33)
C153	66.01	395.00	9°34'29"	S64°01'26"E	65.93	(1390098.09, 3136131.31)
C154	6.24	4.00	89°23'54"	S13°56'09"E	5.63	(1390057.16, 3136183.41)
C155	19.73	377.00	2°59'56"	S57°08'08"E	19.73	(1390051.70, 3136184.77)
C156	37.35	63.00	33°58'11"	S72°37'15"E	36.81	(1390041.00, 3136201.34)
C157	6.33	4.00	90°43'51"	N45°01'43"E	5.69	(1390029.71, 3136278.81)
C158	103.54	272.50	21°46'14"	N79°42'13"E	102.92	(1390047.59, 3136296.22)
C159	6.38	4.00	91°19'38"	S66°51'30"E	5.72	(1390053.02, 3136402.51)
C160	6.38	4.00	91°19'38"	N21°48'52"E	5.72	(1390052.78, 3136412.61)
C161	66.25	385.00	9°51'36"	N68°54'50"E	66.17	(1390077.10, 3136422.45)
C162	6.23	4.00	89°17'51"	S60°48'17"E	5.62	(1390087.42, 3136488.10)
C163	6.23	4.00	89°17'51"	N29°53'52"E	5.62	(1390084.97, 3136494.07)
C164	140.90	429.99	18°46'28"	N84°55'25"E	140.27	(1390103.44, 3136493.29)
C165	6.22	4.00	89°04'26"	S40°30'51"E	5.61	(1390101.82, 3136632.02)

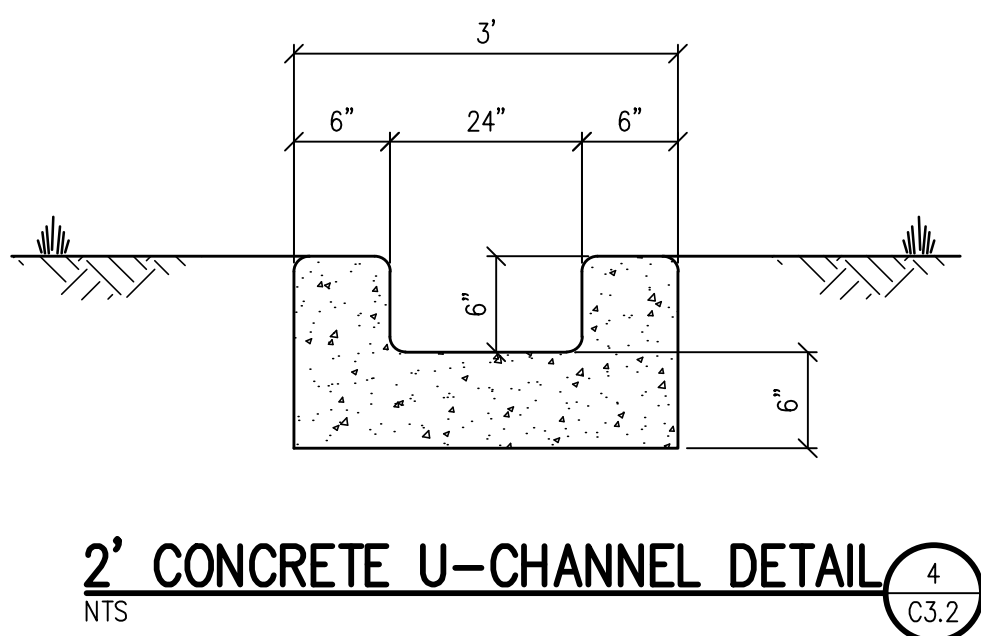
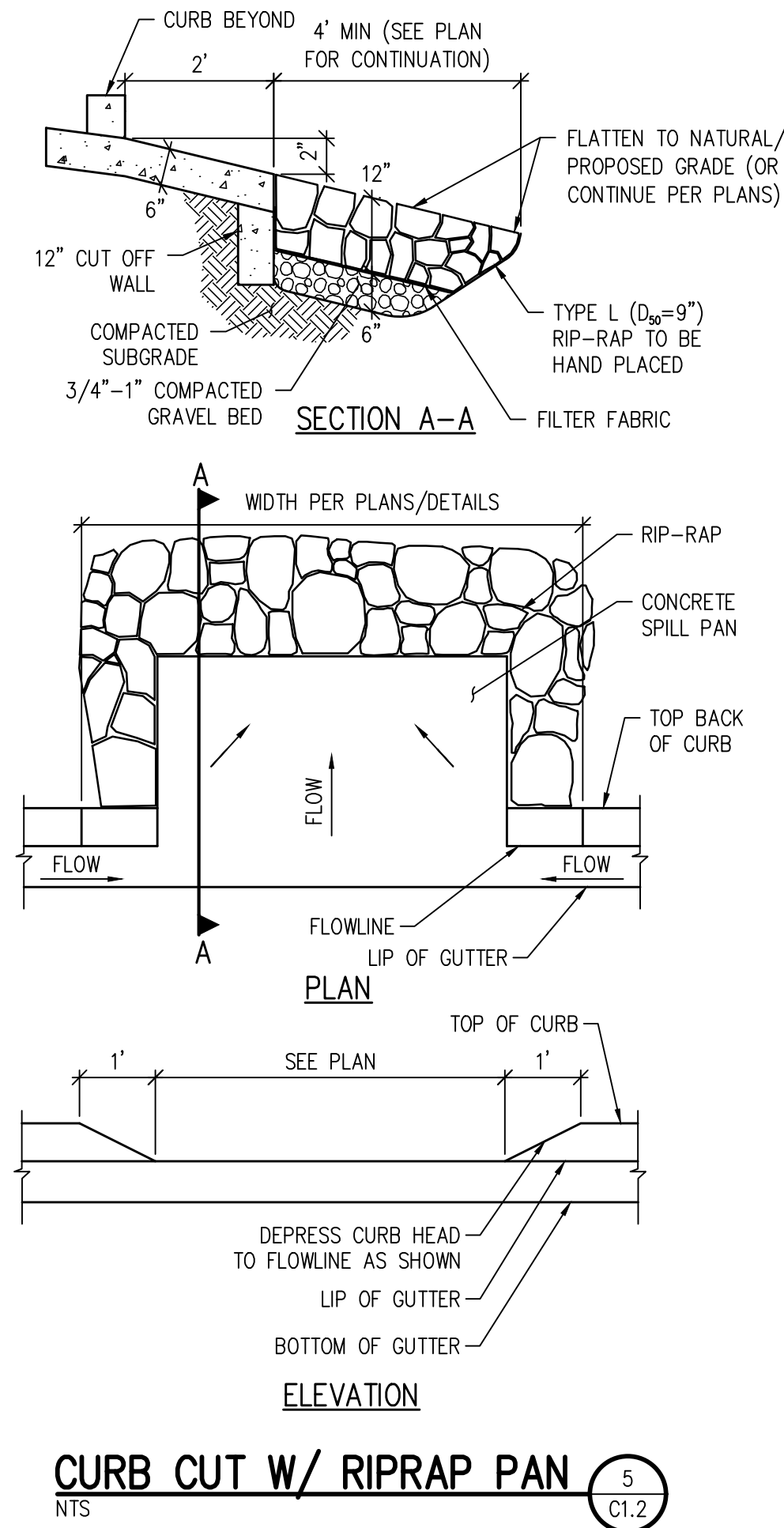
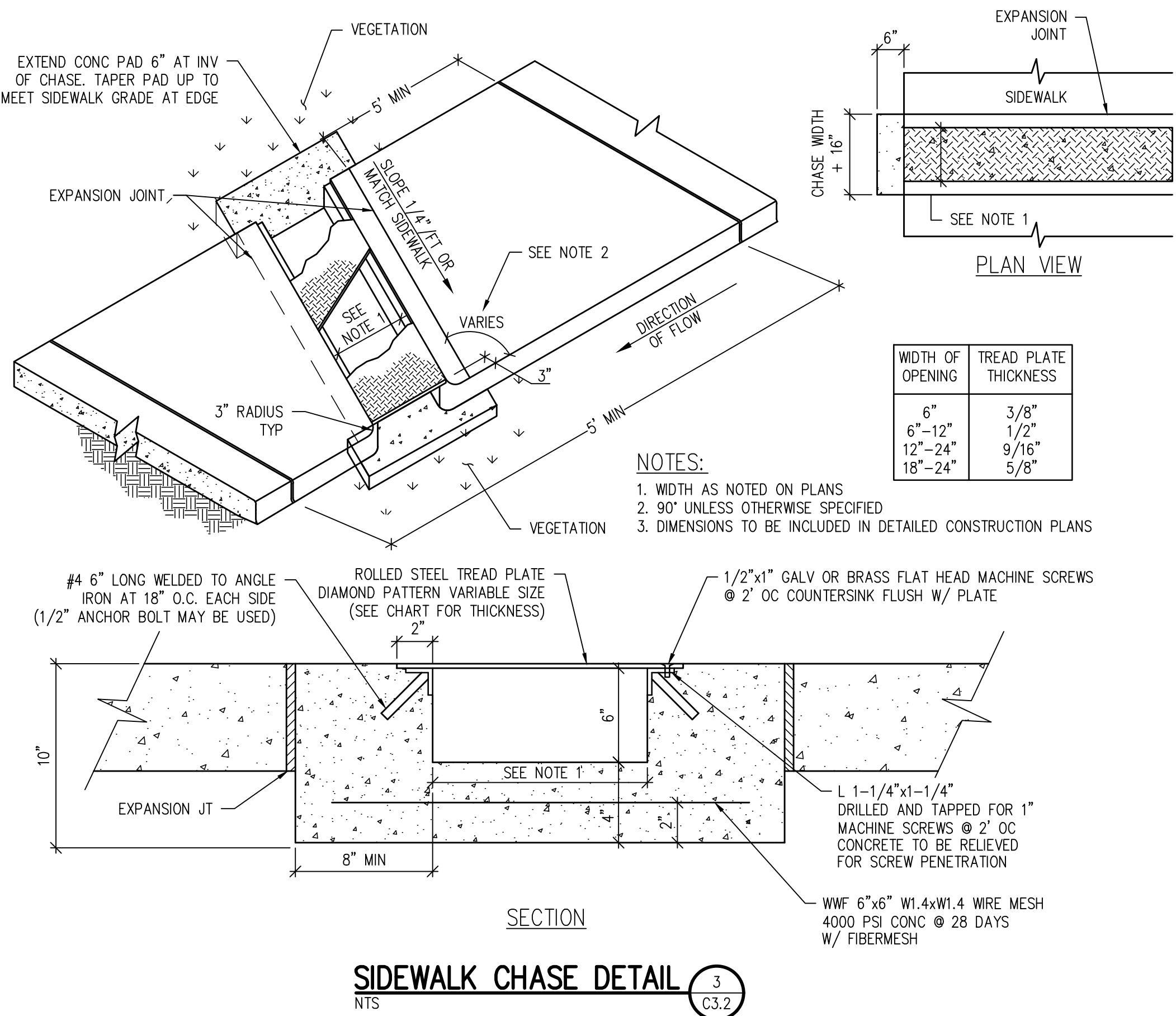
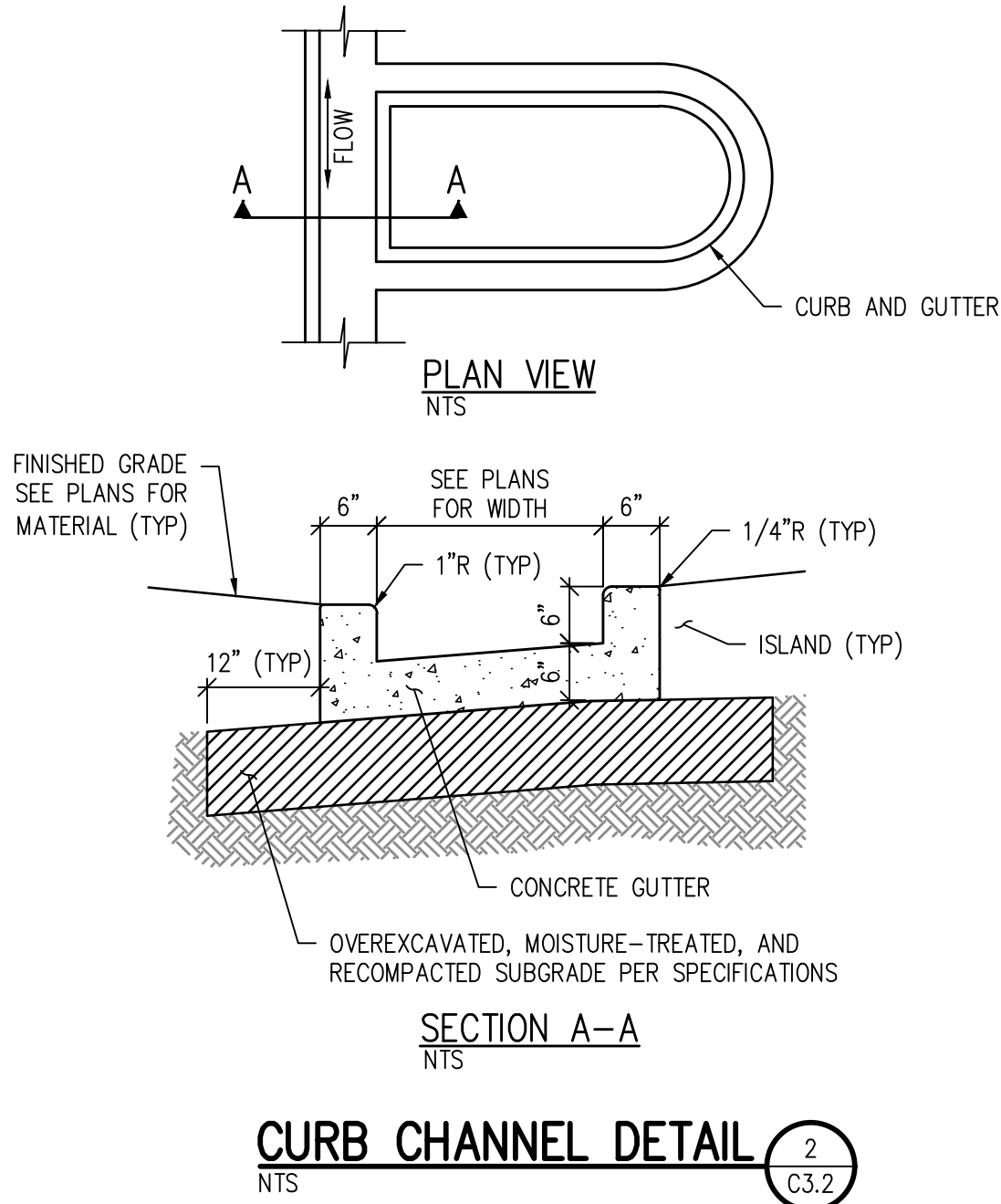
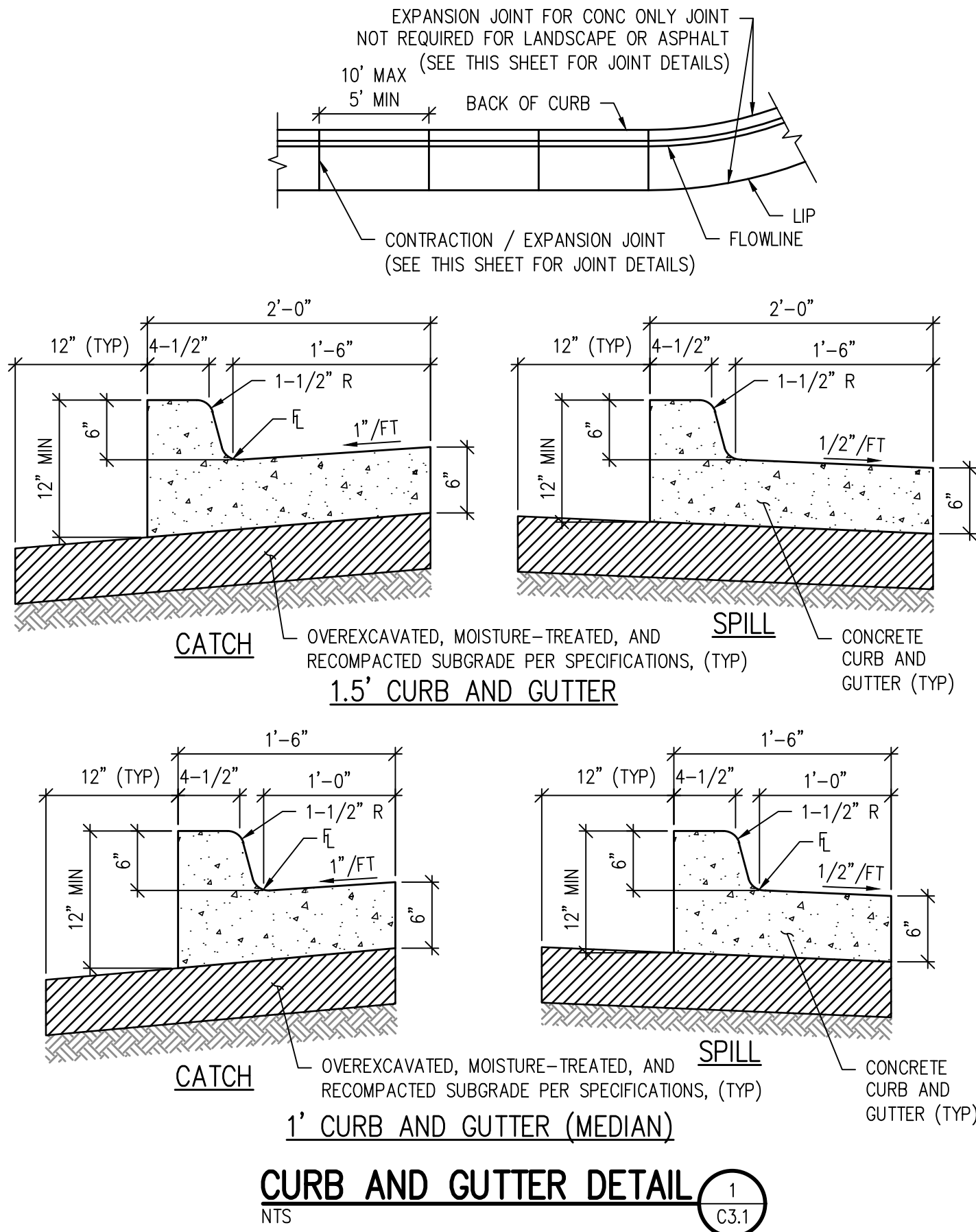
CURVE TABLE						
CURVE	LENGTH	RADIUS	DELTA	CHORD	CHORD LEN	START (N, E)
C29	6.98	661.34	0°36'16"	N77°30'56"E	6.98	(1390004.01, 3134655.11)
C30	3.13	4.00	44°47'56"	S79°46'58"E	3.05	(1390005.52, 3134661.93)
C32	61.50	653.34	5°23'36"	N81°22'19"E	61.48	(1389999.69, 3134673.19)
C34	3.20	4.00	45°51'06"	N61°58'41"E	3.12	(1390016.33, 3134739.99)
C35	67.03	661.34	5°48'26"	N87°48'28"E	67.00	(1390017.79, 3134742.74)
C36	3.16	4.00	45°16'53"	S66°38'53"E	3.08	(1390020.36, 3134809.69)
C38	54.00	653.34	4°44'08"	S86°04'25"E	53.98	(1390012.17, 3134819.25)
C40	3.17	4.00	45°21'34"	N74°27'36"E	3.08	(1390014.45, 3134880.71)
C41	16.67	661.34	1°26'41"	S82°08'16"E	16.67	(1390015.28, 3134883.68)
C42	25.71	758.66	1°56'31"	S79°53'37"E	25.71	(1390013.00, 3134900.20)
C43	40.99	25.00	93°55'44"	S32°55'40"E	36.55	(1390008.49, 3134925.51)
C44	5.43	4.00	77°49'16"	N53°53'27"W	5.02	(1389827.88, 3134595.19)
C45	1.96	79.00	1°25'07"	S87°54'29"W	1.96	(1389830.84, 3134591.13)
C46	6.14	4.00	87°56'58"	S44°38'33"W	5.55	(1389830.77, 3134589.18)
C47	71.32	97.00	42°07'46"	N67°39'33"W	69.73	(1389812.55, 3134585.11)
C48	15.87	171.00	5°19'07"	N43°39'57"W	15.87	(1389839.06, 3134520.62)
C49	6.18	4.00	88°32'41"	N4°43'16"E	5.58	(1389860.03, 3134520.58)
C50	10.11	25.00	23°09'54"	S53°44'18"W	10.04	(1390038.99, 3134543.94)
C51	3.93	965.00	0°14'01"	S65°12'14"W	3.93	(1390033.05, 3135445.84)
C52	6.27	4.00	89°45'49"	N70°01'52"W	5.65	(1390031.40, 3135442.27)
C54	98.10	983.00	5°43'05"	S61°59'30"W	98.06	(1390046.01, 3135431.01)
C55	64.95	320.00	11°37'44"	S64°56'50"W	64.84	(1389999.96, 3135344.44)
C58	1.79	19.09	5°21'44"	S73°26'53"W	1.79	(1389961.61, 3135254.47)

CURVE TABLE						
CURVE	LENGTH	RADIUS	DELTA	CHORD	CHORD LEN	START (N, E)
C166	6.26	4.00	89°40'28"	N50°06'42"E	5.64	(1390097.46, 3136636.75)
C167	140.90	429.99	18°46'28"	S75°03'03"E	140.27	(1390115.04, 3136642.36)
C168	5.96	4.00	85°18'34"	S18°36'22"E	5.42	(1390065.95, 3136772.12)
C169	77.10	51.00	86°37'18"	S17°57'00"E	69.97	(1390060.81, 3136773.85)
C170	75.44	51.00	84°45'00"	S67°44'16"W	68.75	(1389985.55, 3136791.29)
C171	6.03	4.00	86°19'43"	S66°56'55"W	5.47	(1389959.50, 3136727.66)
C172	93.48	291.53	18°22'20"	N75°11'56"W	93.08	(1389944.45, 3136716.94)
C173	6.34	4.00	90°51'56"	N40°01'34"W	5.70	(1389982.10, 3136628.26)
C174	6.15	4.00	88°02'07"	S50°31'24"W	5.56	(1389986.55, 3136623.52)
C175	84.31	280.00	17°15'10"	S84°52'01"W	84.00	(1389968.95, 3136617.62)
C176	6.21	4.00	88°57'59"	N60°38'21"W	5.61	(1389974.97, 3136530.05)
C177	6.37	4.00	91°13'05"	S29°16'06"W	5.72	(1389976.50, 3136520.67)
C178	23.66	280.00	4°50'27"	S71°14'20"W	23.65	(1389958.16, 3136521.79)
C179	30.34	270740.98	0°00'23"	S68°49'07"W	30.34	(1389950.56, 3136499.39)
C180	6.28	4.00	90°00'00"	N66°10'53"W	5.66	(1389939.64, 3136432.47)
C181	6.28	4.00	90°00'00"	S23°49'07"W	5.66	(1389940.63, 3136423.95)
C182	88.72	240.00	21°10'53"	S79°24'34"W	88.22	(1389912.46, 3136401.09)
C183	6.28	4.00	90°00'00"	N45°00'00"W	5.66	(1389910.25, 3136297.94)
C184	28.51	25.00	65°20'13"	S57°19'53"W	26.99	(1389914.25, 3136274.92)
C185	32.53	340.00	5°28'54"	N71°33'34"E	32.52	(1390006.50, 3136477.71)
C186	6.23	4.00	89°11'11"	S60°17'34"E	5.62	(1390003.26, 3136512.36)
C187	6.23	4.00	89°11'11"	N30°31'15"E	5.62	(1390000.80, 3136518.46)
C188	106.22	340.00	17°53'58"	N84°52'39"E	105.79	(1390019.27, 3136517.89)

CURVE TABLE						
CURVE	LENGTH	RADIUS	DELTA	CHORD	CHORD LEN	START (N, E)
C59	244.03	519.00	26°56'25"	S89°20'47"W	241.79	(1389961.10, 3135252.76)
C61	6.50	4.00	93°04'45"	S59°21'22"W	5.81	(1389944.69, 3135007.88)
C63	13.64	34.14	22°53'03"	N62°39'44"W	13.55	(1389944.17, 3134994.31)
C64	9.00	520.00	0°59'30"	N87°26'45"E	9.00	(1389944.74, 3135144.80)
C66	6.31	4.00	90°25'51"	S42°09'55"W	5.68	(1389933.18, 3135154.42)
C67	1.22	536.00	0°07'48"	S87°26'45"W	1.22	(1389928.97, 3135150.61)
C68	6.31	4.00	90°25'51"	N47°16'26"W	5.68	(1389928.91, 3135149.40)
C70	1.88	20.09	5°21'44"	N73°26'53"E	1.88	(1389960.13, 3135253.00)
C73	6.28	4.00	90°00'00"	S25°45'41"W	5.66	(1389950.86, 3135263.14)
C75	6.65	4.00	95°16'49"	N61°35'54"W	5.91	(1389945.73, 3135260.57)
C77	0.50	520.00	0°03'17"	N75°54'15"E	0.50	(1389960.01, 3135252.52)
C78	5.48	3.50	89°44'03"	S75°21'36"E	4.94	(1389992.10, 3135357.68)
C79	0.00	965.70	360°00'00"	S56°47'09"E	0.00	(1389990.85, 3135362.46)
C80	5.48	3.50	89°44'03"	N14°54'30"E	4.94	(1389990.87, 3135362.49)
C81	10.48	5.00	120°06'33"	N44°06'43"E	8.67	(1390127.84, 3135452.79)
C83	6.27	4.00	89°52'29"	S30°53'46"E	5.65	(1390132.58, 3135464.70)
C87	4.03	5.00	46°13'12"	N37°09'04"E	3.92	(1390114.11, 3135529.13)
C89	3.83	5.00	43°54'19"	N82°12'50"E	3.74	(1390122.39, 3135540.51)
C93	6.28	4.00	90°00'00"	N30°50'01"W	5.66	(1390209.84, 3135567.48)
C97	6.25	4.00	89°33'08"	S58°56'33"W	5.63	(1390236.00, 3135477.13)
C99	6.34	4.00	90°47'57"	S59°14'58"W	5.70	(1390163.08, 3135458.70)
C100	5.84	4.00	83°40'45"	N33°30'41"W	5.34	(1390160.31, 3135453.28)
C101	8.97	88.00	5°50'18"	N11°14'50"E	8.96	(1390164.75, 3135450.34)

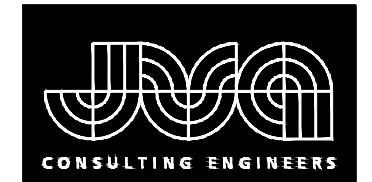
CURVE TABLE						
CURVE	LENGTH	RADIUS	DELTA	CHORD	CHORD LEN	START (N, E)
C189	6.22	4.00	89°09'12"	S40°44'59"E	5.61	(1390014.69, 3136622.32)
C190	6.22	4.00	89°09'12"	N50°05'49"E	5.61	(1390010.30, 3136627.61)
C191	61.67	340.00	10°23'33"	S79°17'01"E	61.59	(1390027.89, 3136633.27)
C192	42.69	341.10	7°10'17"	S70°45'16"E	42.67	(1390016.44, 3136693.78)
C193	6.24	4.00	89°21'45"	S22°06'10"E	5.63	(1389989.41, 3136728.67)
C194	41.70	27.00	88°29'34"	N69°36'25"E	37.68	(1389982.70, 3136734.29)
C195	43.31	27.00	91°54'46"	N20°35'44"W	38.82	(1390004.53, 3136773.73)
C196	6.28	4.00	90°00'00"	S68°26'53"W	5.66	(1390041.44, 3136758.75)
C197	117.00	370.00	18°07'04"	N75°36'39"W	116.51	(1390026.51, 3136747.91)
C198	6.33	4.00	90°41'49"	N40°01'05"W	5.69	(1390069.36, 3136636.35)
C199	6.33	4.00	90°41'49"	S49°17'06"W	5.69	(1390073.83, 3136631.36)
C200	117.00	370.00	18°07'04"	S84°52'40"W	116.51	(1390056.20, 3136626.09)
C201	6.34	4.00	90°50'12"	N59°54'04"W	5.70	(1390059.29, 3136506.55)
C202	6.34	4.00	90°50'12"	S29°15'44"W	5.70	(1390061.64, 3136499.79)
C203	55.93	325.00	9°51'36"	S68°54'50"W	55.86	(1390043.28, 3136500.89)
C204	5.99	4.00	85°51'11"	N68°56'33"W	5.45	(1390028.97, 3136428.06)
C205	6.31	4.00	90°20'58"	S22°57'22"W	5.67	(1390030.25, 3136421.29)
C206	132.11	329.00	23°00'24"	S79°14'19"W	131.22	(1390012.10, 3136424.36)
C207	7.85	5.00	90°00'00"	N44°36'21"W	7.07	(1390000.66, 3136285.36)
C208	39.44	25.00	90°23'39"	S45°11'50"W	35.48	(1390005.70, 3136280.26)
C209	39.27	25.00	90°00'00"	S45°00'00"E	35.36	(1389963.25, 3136255.09)
C210	7.85	5.00	90°00'00"	N45°00'00"E	7.07	(1389938.25, 3136292.13)
C211	66.54	180.00	21°10'53"	N79°24'34"E	66.16	(1389956.25, 3136314.37)

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Project No.: 21739.00

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BID SET 04.05.18

Drafted By: AMF
Checked By: NGD

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SITE DETAILS

CD3.1