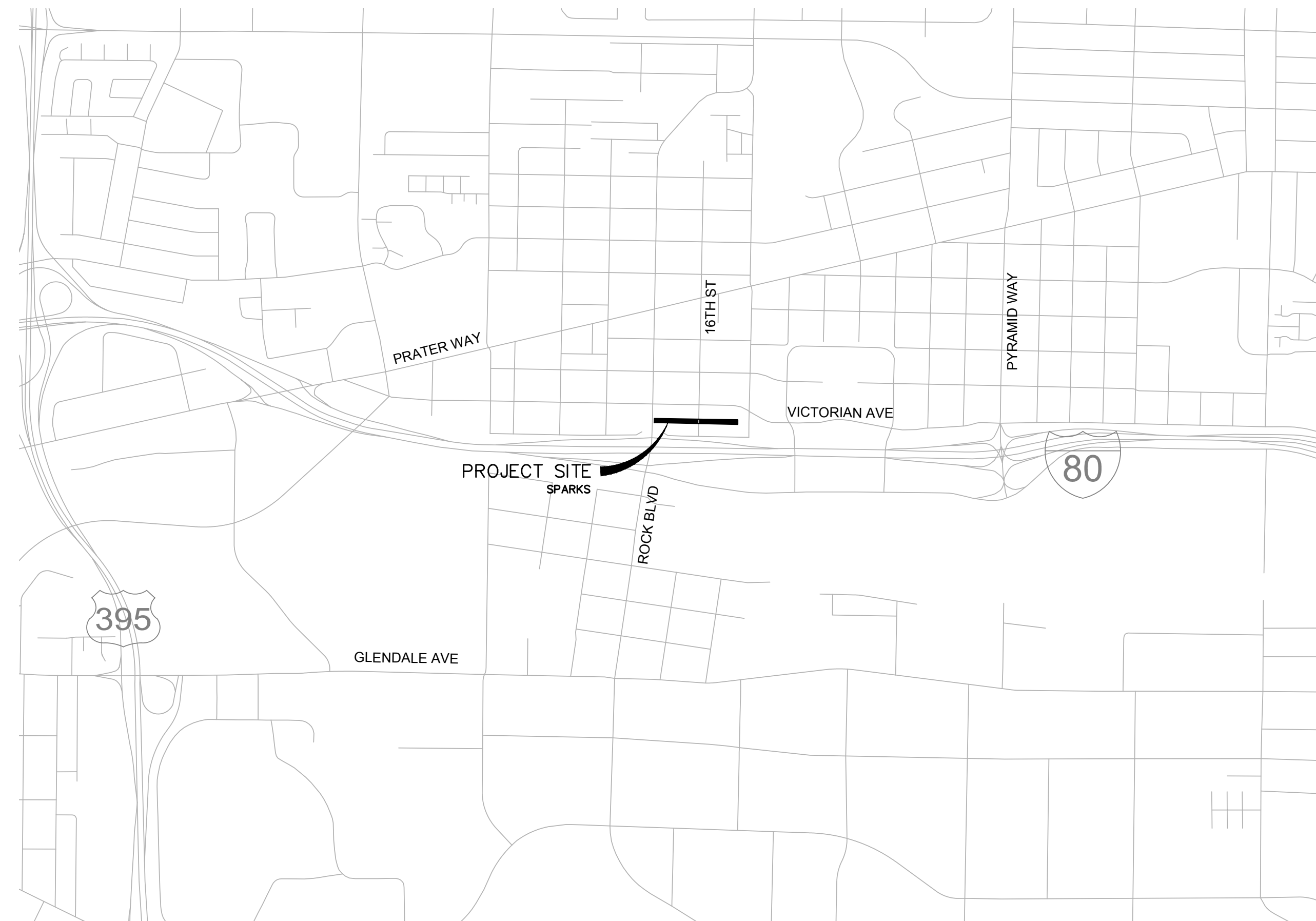


CITY OF SPARKS

SEWER REHABILITATION

A STREET ALLEY

BID #15/16-016
PWP #WA-2016-167
MAY 2016



VICINITY MAP

2 working days
Call before you Dig.
 1-800-227-2600
 AVOID CUTTING UNDERGROUND UTILITIES

ENGINEER



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FAX: (775) 827-6122

OWNER/DEVELOPER:



CITY OF SPARKS COMMUNITY SERVICES
ATTN: AMBER SOSA, P.E.
431 PRATER WAY
SPARKS, NV 89431
PH.: (775) 353-7863



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5-16-16

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BASIS OF BEARING:

THE BASIS OF BEARINGS FOR THIS SURVEY IS NEVADA STATE PLANE COORDINATE SYSTEM, WEST ZONE NADB3(94) BASED UPON REAL TIME KINEMATIC GPS OBSERVATIONS, OBSERVED APRIL 11, 2016 USING A TRIMBLE 5800 RECEIVER WITH CORRECTIONS FROM THE NORTHERN NEVADA COOPERATIVE REAL TIME NETWORK. MODIFIED BY A COMBINED FACTOR OF 1.000197939 AND CONVERTED TO U.S. SURVEY FEET. ALL DIMENSIONS ON THIS MAP ARE GROUND DISTANCES.

BASIS OF ELEVATION:

DATUM: NAVD 88
 PROJECT BENCHMARK = CITY OF SPARKS BENCH MARK CONTROL MONUMENT NO. 59 HAVING AN ELEVATION OF 4422.01'

CITY OF SPARKS
 SEWER REHABILITATION
 A STREET ALLEY
 TITLE SHEET

NEVADA
WASHOE
SPARKS

REV	DATE	DESCRIPTION

C0.1

DATE: MAY 2016
 DRAWN BY: AJG
 DESIGNED BY: BM, AJG
 CHECKED BY: BM
 JOB NO.: 9006.000

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ABBREVIATIONS

AC	ASPHALT CONCRETE	MUTC	MANUAL FOR TRAFFIC CONTROL DEVICES
ACP	ASBESTOS CEMENT PIPE	N	NORTH
AGG	AGGREGATE	NAP	NOT A PART
BC	BEGIN CURVE (HORIZONTAL)	NIP	NOT IN PROJECT
BOW	BACK OF WALK	NTS	NOT TO SCALE
BF, BOF	BOTTOM OF FOOTING	OC	ON CENTER
BV	BUTTERFLY VALVE	OD	OUTSIDE DIAMETER
BVC	BEGIN VERTICAL CURVE	OH	OVERHEAD
BW	BOTH WAYS	(P)	PROPOSED
CB	CATCH BASIN	PCC	PORTLAND CEMENT CONCRETE
cf	CUBIC FEET PER SECOND	PG	PAD GRADE
C&G	CURB AND GUTTER	PI	POINT OF INTERSECTION
CL	CLASS	PIVC	POINT OF INTERSECTION VERTICAL CURVE
CMP	CORRUGATED METAL PIPE	PL	PROPERTY LINE
COMP	COMPACTION	POCC	POINT OF COMPOUND CURVATURE
CONC	CONCRETE	POT	POINT OF TANGENCY
CONTR	CONTRACTOR	PP	POWER POLE
CP	CONCRETE PAD	PRC	POINT OF REVERSE CURVE
CTV	CABLE TELEVISION	PRVC	POINT IF REVERSE CURVE VERTICAL CURVE
DI	DROP INLET	PVC	POLYVINYL CHLORIDE
DIA	DIAMETER	PVMT	PAVEMENT
DWY	DRIVEWAY	Q 5	5 YEAR PEAK FLOW
E	EAST	Q 100	100 YEAR PEAK FLOW
EA	EACH	R	RADIUS
EC	END CURVE (HORIZONTAL)	RCP	REINFORCED CONCRETE PIPE
ELL	ELBOW	REF	REFERENCE
ELEC	ELECTRICAL	RET	CURB RETURN
ELEV	ELEVATION	RP	RADIUS POINT
EVC	END VERTICAL CURVE	RT	RIGHT
EX, (E)	EXISTING	R/W, ROW	RIGHT-OF-WAY
EXT	EXTERIOR	S	SLOPE
FCA	FLANGE COUPLING ADAPTER	S	SOUTH
FE	FINISH ELEVATION	SD	STORM DRAIN
FES	FLARED END SECTION	SDMH	STORM DRAIN MANHOLE
FF	FINISH FLOOR	SL	STREET LIGHT
FFC	FRONT FACE OF CURB	SS	SANITARY SEWER
FG	FINISH GRADE	SSCO	SANITARY SEWER CLEAN OUT
FH	FIRE HYDRANT	SSMH	SANITARY SEWER MANHOLE
FL	FLOW LINE	SSPWC	STANDARD SPEC. FOR PUBLIC WORKS CONSTRUCTION
FLG	FLANGE	STA	STATION
fps	FEET PER SECOND	SW	SIDEWALK
FTG	FOOTING	TELE	TELEPHONE
G	GAS	TBO	TEMPORARY BLOW OFF VALVE
GALV	GALVANIZED	TC	TOP OF CURB
GB	GRADE BREAK	TG	TO GRADE
GDW	GRAVEL DRIVEWAY	TOB	TOP OF BERM
GD	GROUND	TF, TOF	TOP OF FOOTING
GV	GATE VALVE	TW, TOW	TOP OF WALL
H	HANDICAPPED	TS	TRAFFIC SIGNAL
HGL	HYDRAULIC GRADE LINE	TSCB	TRAFFIC CONTROL SIGNAL BOX
HORIZ	HORIZONTAL	TR	TOP OF RAIL
HP	HIGH POINT	TRANS	TRANSITION
ID	INSIDE DIAMETER	MAX	MAXICAL
IE	INVERT ELEVATION	UG/P	UNDER GROUND POWER
INT	INTERSECTION	UNO	UNLESS NOTED OTHERWISE
IRR	IRRIGATION	Vs	VELOCITY AT 5 YEAR PEAK
LAT	LATERAL	VC	VERTICAL CURVE
LF	LINEAR FEET	VEL	VELOCITY
LP	LOW POINT	VERT	VERTICAL
LT	LEFT	VG	VALLEY GUTTER
MAX	MAXIMUM	W	WEST
MDD	MAXIMUM DRY DENSITY	W/G	WATER AND GAS
MH	MANHOLE	WL	WATER LINE
MIN	MINIMUM	WM	WATER METER
MJ	MECHANICAL JOINT	WS	WATER SURFACE
MMD	MAXIMUM MARSHALL DENSITY	WV	WATER VALVE
		WWF	WELDED WIRE FABRIC

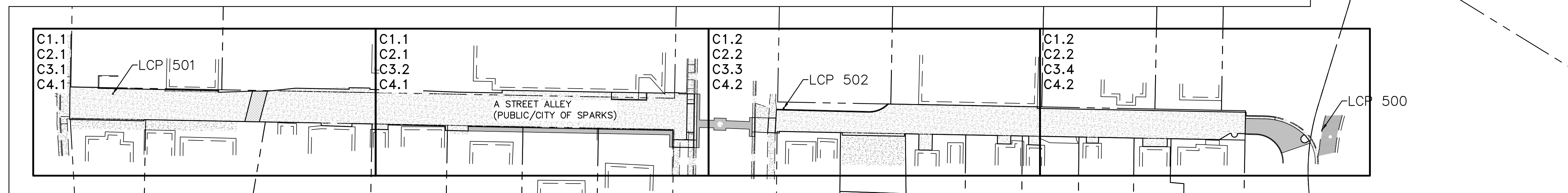
CONTROL

CONTROL POINT	NORTH	EAST	ELEVATION	DESCRIPTION
500	14870454.25	2292591.44	4423.48	SCRIBED "X"
501	14870478.09	2291790.19	4427.21	MAG NAIL & SHINER
502	14870468.38	2292234.55	4425.65	CAP
BM 59	14870675.89	2292732.22	4422.01	2" ALUM. WASHER

NOTES

- FIELD WORK WAS PERFORMED ON APRIL 11, 2016.
- EASEMENTS MAY EXIST THAT ARE NOT SHOWN HEREON

SHEET INDEX MAP



GENERAL NOTES:

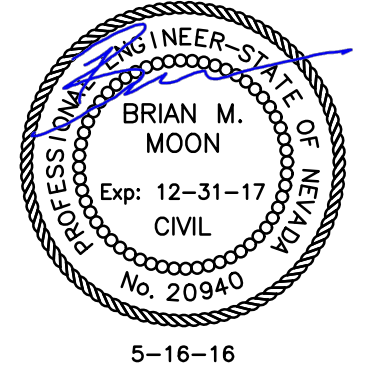
- THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE PROVISIONS OF OSHA AND CHAPTER 618 OF NRS, IN THE CONSTRUCTION PRACTICES FOR ALL EMPLOYEES DIRECTLY ENGAGED IN THE COMPLETION OF THIS PROJECT.
- THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS AT THE JOB SITE, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY DURING THE PERFORMANCE OF THE WORK ACCORDING TO GENERALLY ACCEPTED CONSTRUCTION PRACTICES.
- ALL WORK SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS AS USED BY THE CITY OF SPARKS.
- ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE CONTRACT DOCUMENTS.
- CONTRACTOR IS REQUIRED TO OBTAIN ALL NECESSARY PERMITS AND PAY ALL FEES PRIOR TO CONSTRUCTION.
- IT IS THE INTENT OF THESE PLANS AND SPECIFICATIONS THAT THE WORK PERFORMED UNDER THE CONTRACT SHALL RESULT IN COMPLETE OPERATING SYSTEMS IN SATISFACTORY WORKING CONDITION WITH RESPECT TO THE FUNCTIONAL PURPOSE OF THE INSTALLATIONS. IF THERE ARE ANY DISCREPANCIES REGARDING THE IMPLIED MEANING OF THESE PLANS, THE CONTRACTOR IS DIRECTED TO CONTACT THE ENGINEER IMMEDIATELY.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY AND PROPER PRECAUTIONS TO PROTECT ADJACENT PROPERTIES FROM ANY AND ALL DAMAGE THAT MAY OCCUR FROM STORM WATER RUNOFF AND/OR DEPOSITION OF DEBRIS RESULTING FROM ANY AND ALL WORK IN CONNECTION WITH PROJECT SCOPE.
- WORK IN PUBLIC STREETS, ONCE BEGUN, SHALL BE PROSECUTED TO COMPLETION WITHOUT DELAY SO AS TO PROVIDE MINIMUM INCONVENIENCE TO ADJACENT PROPERTY OWNERS AND TO THE TRAVELING PUBLIC. THE CONSTRUCTION OF THE STREET IMPROVEMENTS SHALL ALLOW FOR THE PERPETUATION OF ALL EXISTING LEGAL ACCESSES AND EXISTING DRIVEWAYS. LOCATION AND WIDTH OF ALL LEGAL ACCESSES AND DRIVEWAYS SHALL BE IN ACCORDANCE WITH THE STANDARD DETAILS FOR PUBLIC WORK CONSTRUCTION.
- THE CONTRACTOR IS CAUTIONED THAT THE LOCATION AND/OR ELEVATIONS OF THE EXISTING UTILITIES AND FEATURES AS SHOWN ON THESE DRAWINGS IS BASED UPON THE BEST INFORMATION AVAILABLE TO THE ENGINEER. THE CONTRACTOR SHALL BEAR FULL RESPONSIBILITY FOR THE PROTECTION OF ALL UTILITIES. THE ENGINEER BEARS NO RESPONSIBILITY FOR UTILITIES NOT SHOWN ON THE PLAN OR NOT IN THE LOCATION SHOWN ON THE PLAN. SHOULD THE CONTRACTOR FIND ANY DISCREPANCIES BETWEEN THE CONDITIONS EXISTING IN THE FIELD AND INFORMATION SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION. IF NECESSARY, SUFFICIENT TIME SHALL BE ALLOWED FOR THE UTILITY OWNER AGENCY TO EXECUTE THE PROPER REMOVAL, RELOCATION, OR ADJUSTMENT OF ITS UTILITIES.
- STOCKPILING OF EXCAVATED MATERIAL ON CITY STREETS, RIGHT-OF-WAY OR EASEMENTS SHALL NOT BE ALLOWED. EXCAVATED MATERIALS SHALL BE LOADED INTO A TRUCK AND REMOVED FROM JOB SITE IMMEDIATELY. PERMISSION LETTER AND A GRADING PERMIT WILL BE REQUIRED WHERE STOCKPILING AND/OR STAGING AREAS ARE PROPOSED PER CONTRACT DOCUMENTS.
- BEFORE ANY WORK IS STARTED IN THE STREET RIGHT-OF-WAY, THE CONTRACTOR SHALL INSTALL ADVANCED WARNING SIGNS FOR THE CONSTRUCTION ZONE. ALL CONSTRUCTION SIGNING, BARRICADING, AND TRAFFIC DELINEATION SHALL CONFORM TO THE "NEVADA TRAFFIC CONTROL MANUAL" - CURRENT EDITION AND TO THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" - CURRENT EDITION AND BE APPROVED BY THE APPROPRIATE AGENCY BEFORE CONSTRUCTION BEGINS. TRAFFIC CONTROL AND WORKER/PUBLIC SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AT ALL TIMES.
- THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND CITY OF RENO SAFETY REGULATIONS AND SHALL MAINTAIN THE WORK AREA IN A SAFE CONDITION 24 HOURS PER DAY UNTIL THE PROJECT IS COMPLETE. WORKER AND PUBLIC SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR, NOT THE CITY OF SPARKS.
- THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE CITY OF SPARKS FOR APPROVAL PRIOR TO PERFORMING ANY WORK IN THE STREET RIGHT-OF-WAY.
- PROTECTION AND REPLACEMENT OF ALL SURVEY MONUMENTS OR PROPERTY STAKES NOT DELINEATED ON THE CONTRACT DRAWINGS SHALL BE THE CONTRACTOR'S RESPONSIBILITY. DAMAGED OR REMOVED MONUMENTS AND/OR PROPERTY STAKES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE AND SHALL BE TO THE SATISFACTION TO THE CITY OF SPARKS' SURVEYOR.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PROTECT EXISTING IMPROVEMENTS FROM DAMAGE. ANY AND ALL SUCH IMPROVEMENTS DAMAGED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED OR RECONSTRUCTED TO THE ENGINEER'S SATISFACTION AND AT THE EXPENSE OF THE CONTRACTOR.
- EXISTING SHRUBBERY AND/OR TREES SHALL BE REMOVED ONLY AS DIRECTED BY THE ENGINEER AND REPLACED WITH LIKE OR BETTER SPECIMENS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMMEDIATE OFF-SITE DISPOSAL OF ALL EXCESS OR UNSUITABLE MATERIAL INCLUDING BUT NOT LIMITED TO BITUMINOUS PAVEMENT, CONCRETE AND REINFORCEMENT, AND SPOILS NOT NEEDED FOR BACK FILL. MATERIALS SHALL NOT BE CAST ONTO THE STREET AND/OR PROPERTY; ALL EXCAVATED MATERIALS SHALL BE LOADED DIRECTLY INTO A TRUCK AND REMOVED FROM THE SITE.
- THE CONTRACTOR IS REQUIRED TO OBTAIN A DUST CONTROL PERMIT AND MAINTAIN A DUST CONTROL PROGRAM INCLUDING WATERING OF OPEN AREAS 24 HOURS A DAY. THE CONTRACTOR SHALL ADHERE TO WASHOE COUNTY AIR POLLUTION REGULATIONS, SECTION 100.49.
- IN ACCORDANCE WITH THE NDEP GENERAL PERMIT FOR CONSTRUCTION ACTIVITIES; THE CONTRACTOR SHALL HAVE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) ON SITE AT ALL TIMES. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN THE BMP'S, CONDUCT SELF INSPECTIONS, AND UPDATE SWPPP. IN ADDITION CONTRACTOR SHALL ASSIGN A SWPPP SUPERVISOR FOR THE SUPERVISION AND COORDINATION OF THE SWPPP. THE SUPERVISOR SHALL EFFECTIVELY SUPERVISE, MONITOR, MAINTAIN AND DOCUMENT ALL ACTIVITIES REQUIRED. THE SUPERVISOR SHALL BE AVAILABLE TO RESPOND TO ALL CALLS FROM THE CITY AND ALL INSPECTION PERSONNEL 24 HOURS A DAY, 7 DAYS A WEEK FOR THE DURATION OF THE PROJECT.
- THE INTENDED DRAWING SCALE IS AS SHOWN ON EACH APPLICABLE PLAN SHEET. ANY PLANS THAT ARE REPRODUCED, THE CONTRACTOR SHALL ADJUST THE SCALE ACCORDINGLY.
- MAINTENANCE OF UTILITY SERVICE: CONTRACTOR SHALL WHENEVER POSSIBLE MINIMIZE UTILITY DISRUPTION TO EXISTING CUSTOMERS. IN THE EVENT SERVICE HAS TO BE INTERRUPTED THE CONTRACTOR SHALL COORDINATE WITH CITY OF SPARKS AND NOTIFY EACH CUSTOMER OF PLANNED OUTAGES 24 HOURS IN ADVANCE. SHOULD CONTRACTOR NOT BE ABLE TO DIRECTLY CONTACT CUSTOMERS, A DOOR HANGER SHALL BE LEFT AT THE RESIDENCE INFORMING EACH CUSTOMER OF THE TIME OF THE PLANNED UTILITY OUTAGE. IN NO EVENT SHALL THE CONTRACTOR LEAVE ANY CUSTOMER WITHOUT SERVICE FOR A PERIOD GREATER THAN 4 HOURS WITHIN THE WORKING DAY. IN THE EVENT OF EXTENDED SERVICE OUTAGE, CONTRACTOR SHALL PROVIDE TEMPORARY SERVICE BY APPROPRIATE MEANS TO EFFECTED CUSTOMERS. CUSTOMERS SERVICE SHALL ALWAYS BE RESTORED AT THE END OF EACH WORK DAY, IN NO EVENT SHALL THE CONTRACTOR LEAVE THE CONSTRUCTION SITE AT THE END OF EACH DAY UNTIL ALL SERVICES ARE RESTORED TO EACH CUSTOMER.



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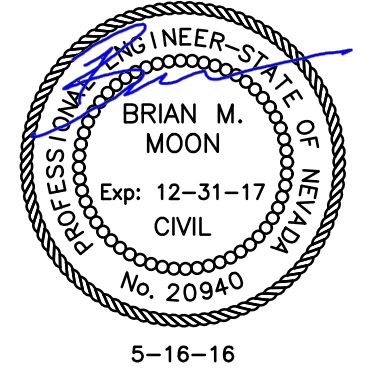


CITY OF SPARKS
SEWER REHABILITATION
A STREET ALLEY
NOTES, ABBREVIATIONS, AND CONTROL
SPARKS
WASHOE
NEVADA

REV	DATE	DESCRIPTION

C0.2

DATE: MAY 2016
DRAWN BY: AJG
DESIGNED BY: BM, AJG
CHECKED BY:
JOB NO.: 9006.000



**SEWER REHABILITATION
A STREET ALLEY
DEMOLITION PLAN**

CITY OF SPARKS
 WASHOE
 NEVADA
 SPARKS

- LEGEND:**
- PROPOSED SEWER MAIN
 - PROPOSED SEWER LATERAL
 - EXISTING CURB AND GUTTER
 - EXISTING EDGE OF PAVEMENT
 - EXISTING FENCE LINE
 - EXISTING UNDERGROUND GAS LINE
 - EXISTING OVERHEAD ELECTRIC LINE
 - EXISTING UNDERGROUND ELECTRIC LINE
 - EXISTING SEWER MAIN
 - EXISTING WATER MAIN
 - EXISTING SEWER LATERAL
 - EXISTING WATER SERVICE LATERAL
 - EXISTING CONCRETE
 - EXISTING BRICK PAVERS
 - EXISTING AC PAVING
 - DEMO BRICK PAVERS
 - DEMO AC PAVING
 - DEMO CONCRETE
 - PROPOSED SANITARY SEWER MANHOLE
 - PROPOSED SANITARY SEWER CLEANOUT
 - EXISTING FIRE HYDRANT
 - EXISTING WATER VALVE
 - EXISTING WATER METER / BOX
 - EXISTING MONITOR WELL
 - EXISTING ELECTRIC MANHOLE
 - EXISTING SANITARY SEWER MANHOLE
 - EXISTING SANITARY SEWER CLEANOUT
 - EXISTING STORM DRAIN CATCH BASIN
 - EXISTING TELEPHONE MANHOLE
 - EXISTING TELEPHONE BOX
 - EXISTING LIGHT POLE
 - EXISTING UTILITY POLE
 - EXISTING GUY WIRE
 - EXISTING GAS METER
 - EXISTING GAS VALVE
 - EXISTING ELECTRIC TRANSFORMER
 - EXISTING ELECTRIC BOX
 - EXISTING ELECTRIC METER
 - EXISTING/PROPOSED BOLLARD
 - LUMOS CONTROL POINT
 - EXISTING CONTOUR LINE
 - PROPOSED CONTOUR LINE

SHEET NOTES:

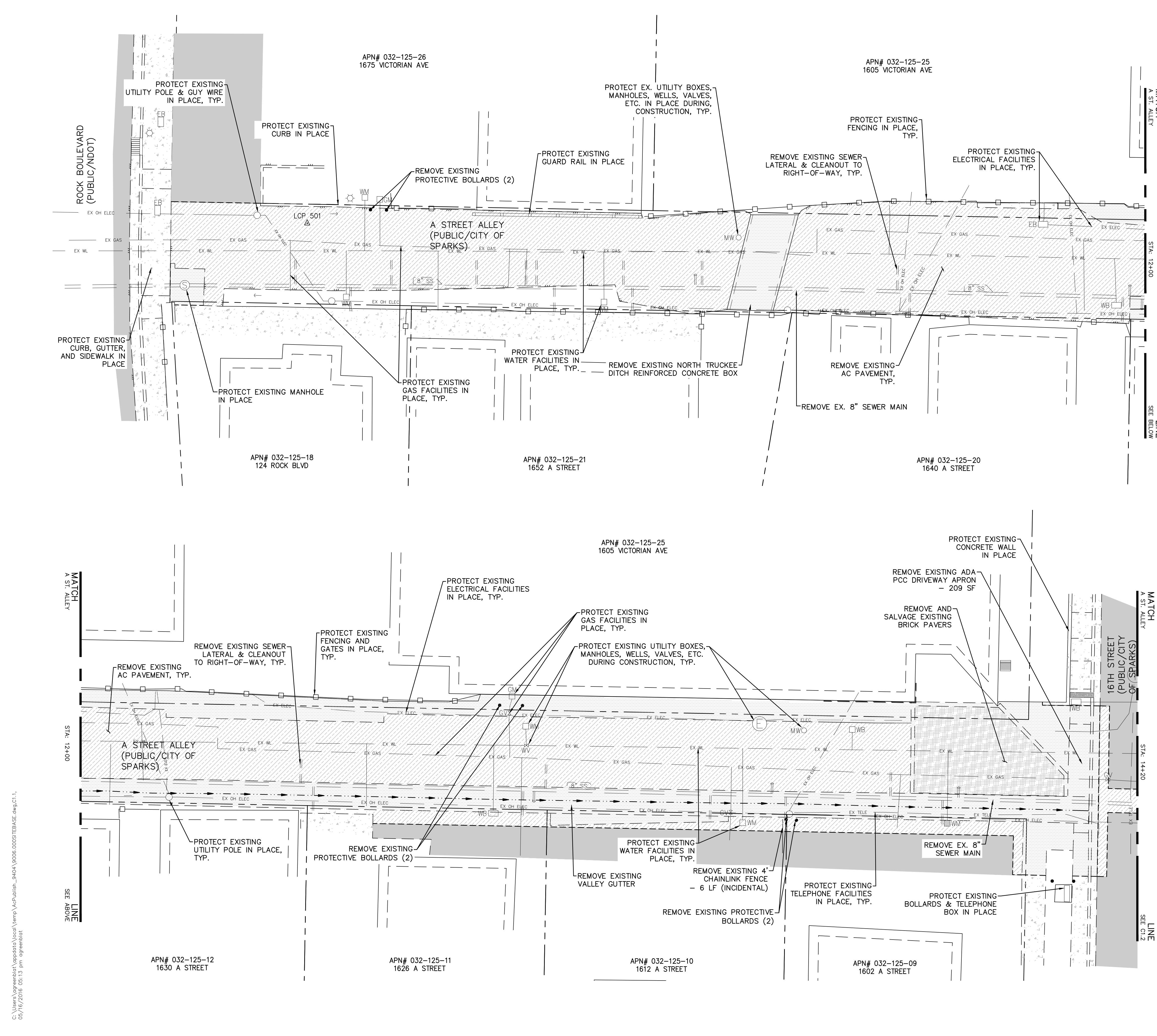
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- C.



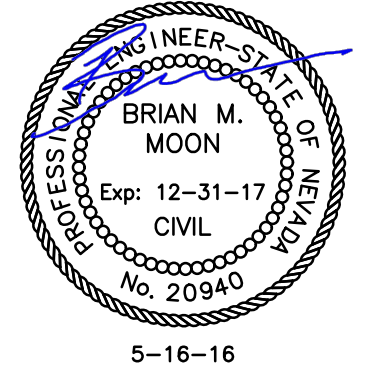
GRAPHIC SCALE
HORIZONTAL SCALE
FOR SHEET SIZE 22"x34"

C1.1

DATE: MAY 2016
DRAWN BY: AJG
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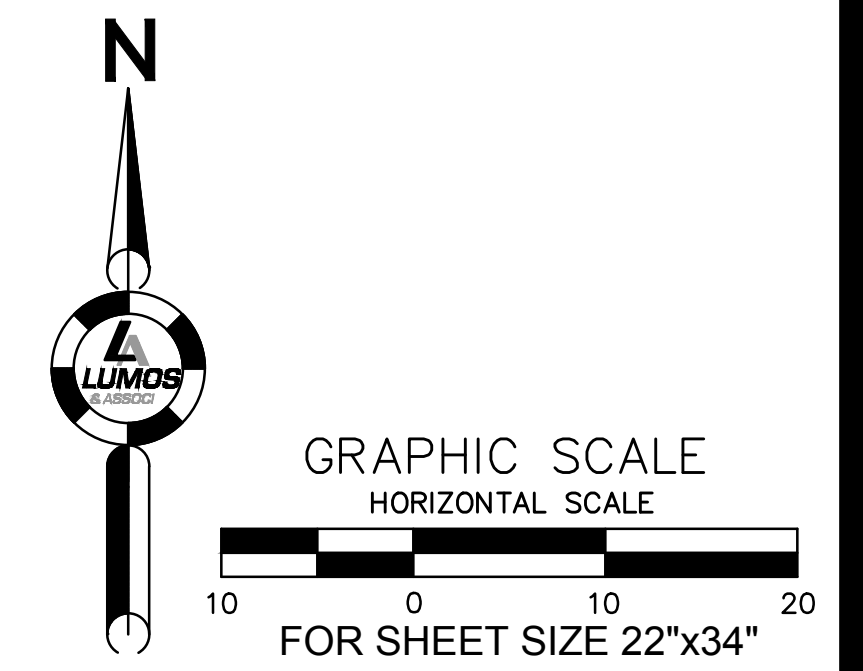
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CITY OF SPARKS
**SEWER REHABILITATION
A STREET ALLEY
DEMOLITION PLAN**
NEVADA
WASHOE
SPARKS

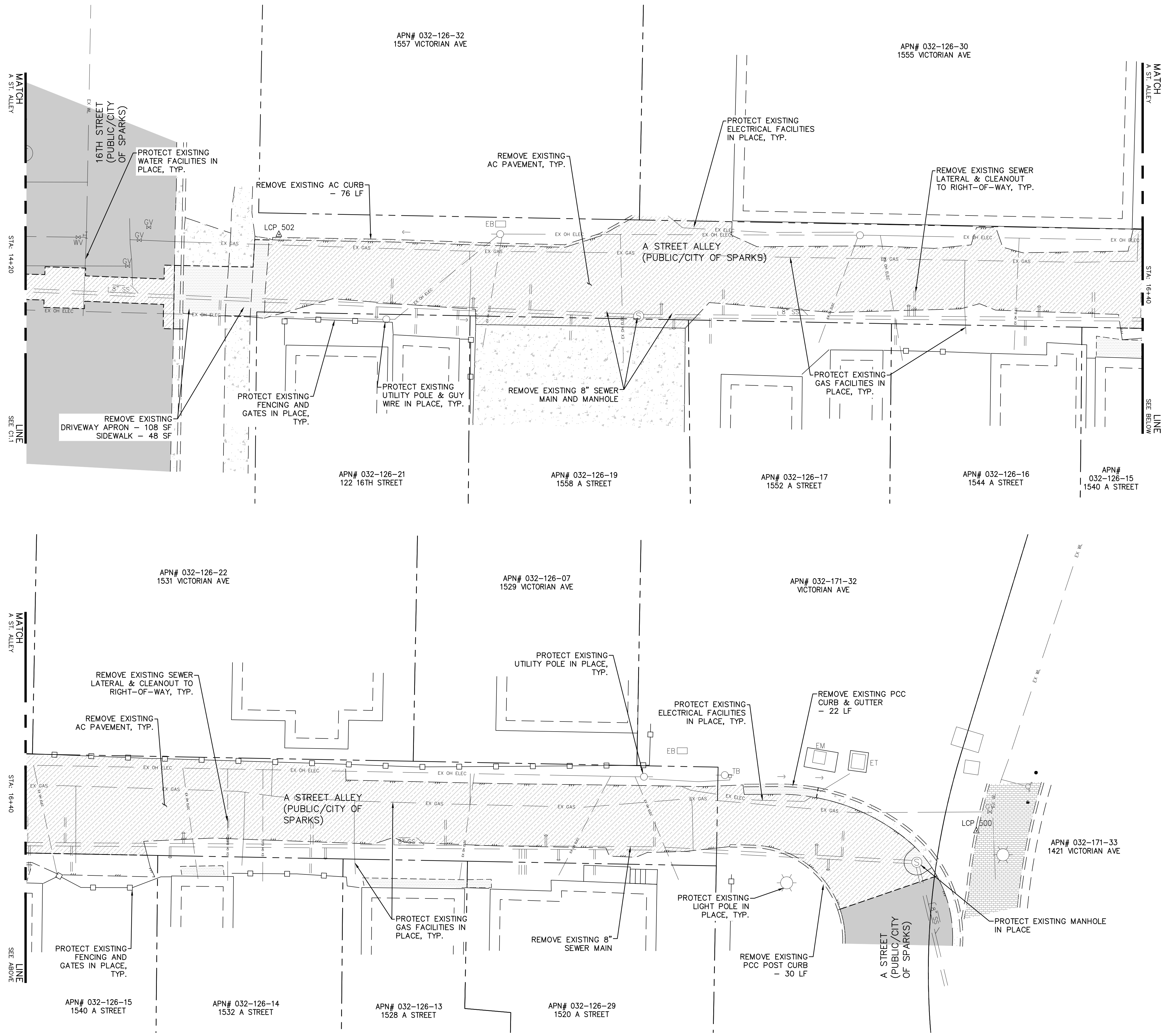
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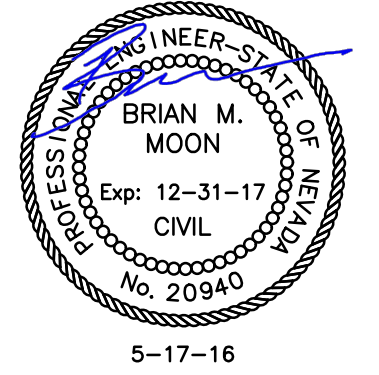


C1.2

DATE: MAY 2016
DRAWN BY: AJG
DESIGNED BY: BM, AJG
CHECKED BY: BM
JOB NO.: 9006.000



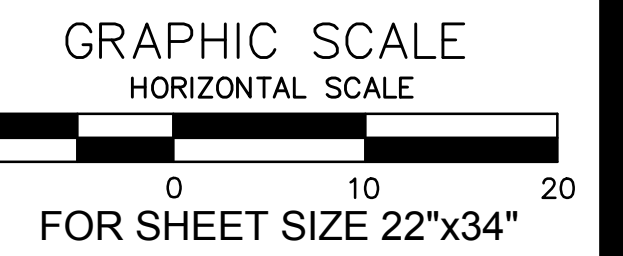
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CITY OF SPARKS
**SEWER REHABILITATION
 A STREET ALLEY
 SITE PLAN**
 WASHOE
 SPARKS
 NEVADA

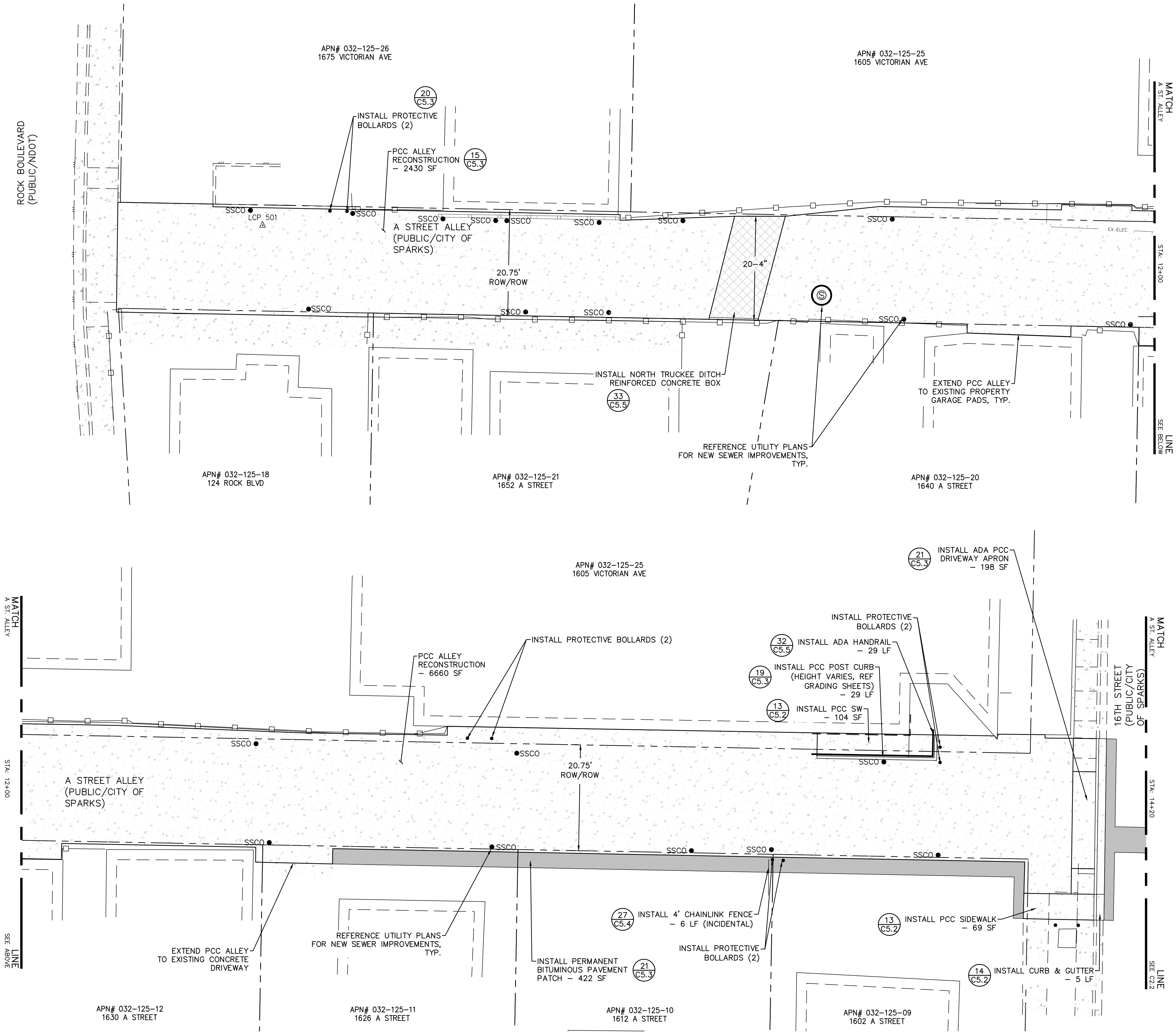
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 - EXISTING BRICK PAVERS
 - PROPOSED CONCRETE/PCC ALLEY
 - PROPOSED PERMANENT PATCH
 - PROPOSED REINFORCED CONCRETE BOX
 - PROPOSED/EXISTING SLOPE AND PROPOSED/EXISTING GRADE TAG
 - PROPOSED SANITARY SEWER MANHOLE
 - PROPOSED SANITARY SEWER CLEANOUT
 - EXISTING FIRE HYDRANT
 - EXISTING WATER VALVE
 - EXISTING WATER METER / BOX
 - EXISTING MONITOR WELL
 - EXISTING ELECTRIC MANHOLE
 - EXISTING SANITARY SEWER MANHOLE
 - EXISTING SANITARY SEWER CLEANOUT
 - EXISTING STORM DRAIN CATCH BASIN
 - EXISTING TELEPHONE MANHOLE
 - EXISTING TELEPHONE BOX
 - EXISTING LIGHT POLE
 - EXISTING UTILITY POLE
 - EXISTING GUY WIRE
 - EXISTING GAS METER
 - EXISTING GAS VALVE
 - EXISTING ELECTRIC TRANSFORMER
 - EXISTING ELECTRIC BOX
 - EXISTING ELECTRIC METER
 - EXISTING/PROPOSED BOLLARD
 - LUMOS CONTROL POINT
 - EXISTING CONTOUR LINE
 - PROPOSED CONTOUR LINE

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 - D. SEE DETAIL SHEET C5.7 FOR FIRE TRUCK AUTO-TURN TEMPLATE EXHIBIT.

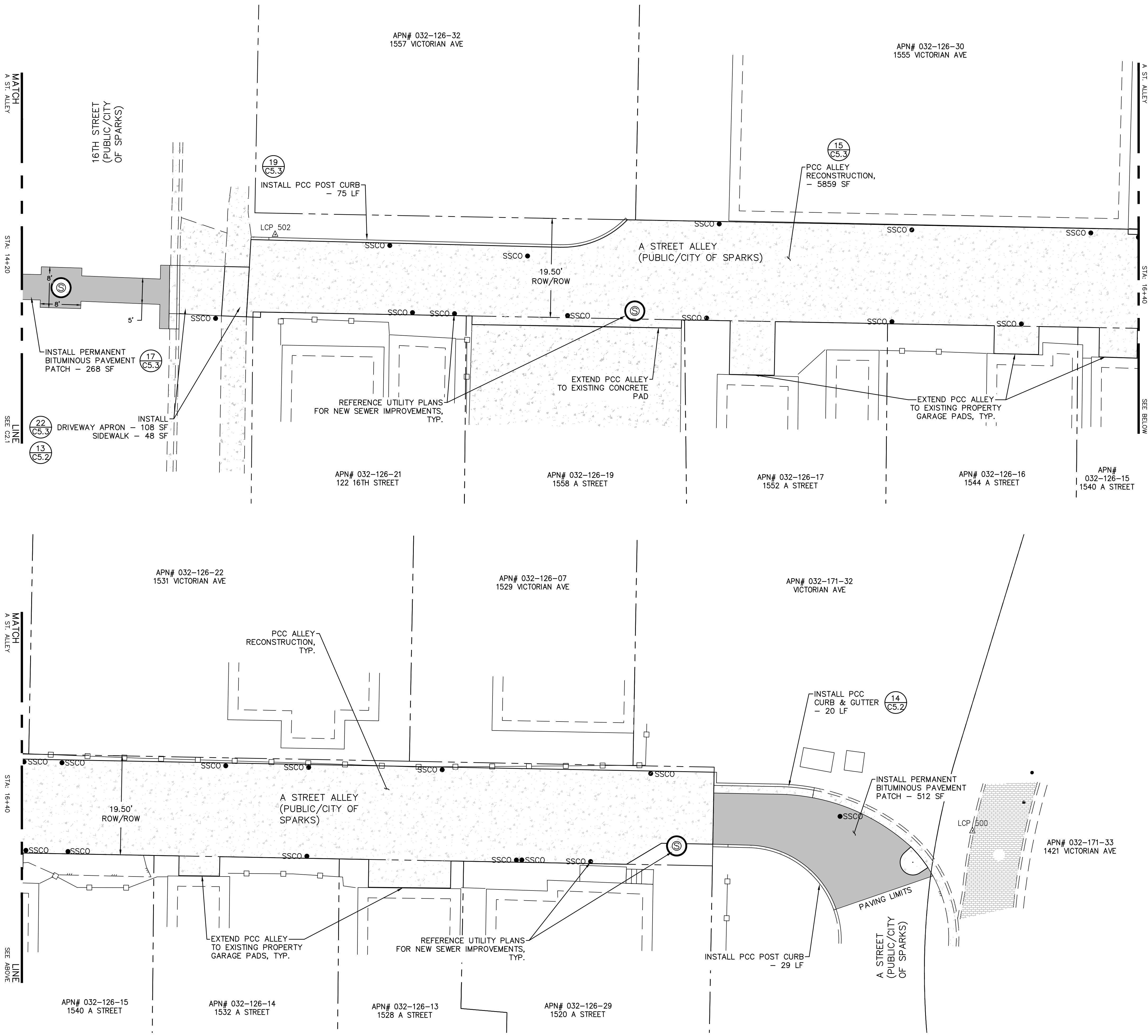


C2.1

DATE:	MAY 2016
DRAWN BY:	AJG
DESIGNED BY:	BM, AJG
CHECKED BY:	BM
JOB NO.:	9006.000



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LEGEND:

	PROPOSED SEWER MAIN
	PROPOSED SEWER LATERAL
	EXISTING CURB AND GUTTER
	EXISTING EDGE OF PAVEMENT
	EXISTING FENCE LINE
	EXISTING UNDERGROUND GAS LINE
	EXISTING OVERHEAD ELECTRIC LINE
	EXISTING UNDERGROUND ELECTRIC LINE
	EXISTING SEWER MAIN
	EXISTING WATER MAIN
	EXISTING SEWER LATERAL
	EXISTING WATER SERVICE LATERAL
	EXISTING CONCRETE
	EXISTING BRICK PAVERS
	PROPOSED CONCRETE/PCC ALLEY
	PROPOSED PERMANENT PATCH
	PROPOSED REINFORCED CONCRETE BOX
	PROPOSED/EXISTING SLOPE AND PROPOSED/EXISTING GRADE TAG
	PROPOSED SANITARY SEWER MANHOLE
	PROPOSED SANITARY SEWER CLEANOUT
	EXISTING FIRE HYDRANT
	EXISTING WATER VALVE
	EXISTING WATER METER / BOX
	EXISTING MONITOR WELL
	EXISTING ELECTRIC MANHOLE
	EXISTING SANITARY SEWER MANHOLE
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	EXISTING STORM DRAIN CATCH BASIN
	EXISTING TELEPHONE MANHOLE
	EXISTING TELEPHONE BOX
	EXISTING LIGHT POLE
	EXISTING UTILITY POLE
	EXISTING GUY WIRE
	EXISTING GAS METER
	EXISTING GAS VALVE
	EXISTING ELECTRIC TRANSFORMER
	EXISTING ELECTRIC BOX
	EXISTING ELECTRIC METER
	EXISTING/PROPOSED BOLLARD
	LUMOS CONTROL POINT
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	PROPOSED CONTOUR LINE

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GRAPHIC SCALE
HORIZONTAL SCALE
FOR SHEET SIZE 22"x34"

C2.2

REV	DATE	DESCRIPTION

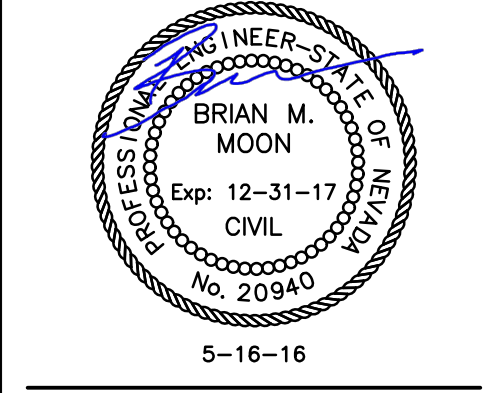
DATE: MAY 2016
DRAWN BY: AJG
DESIGNED BY: BM, AJG
CHECKED BY: BM
JOB NO.: 9006.000



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CITY OF SPARKS
SEWER REHABILITATION
A STREET ALLEY
SITE PLAN
SPARKS
NEVADA
WASHOE

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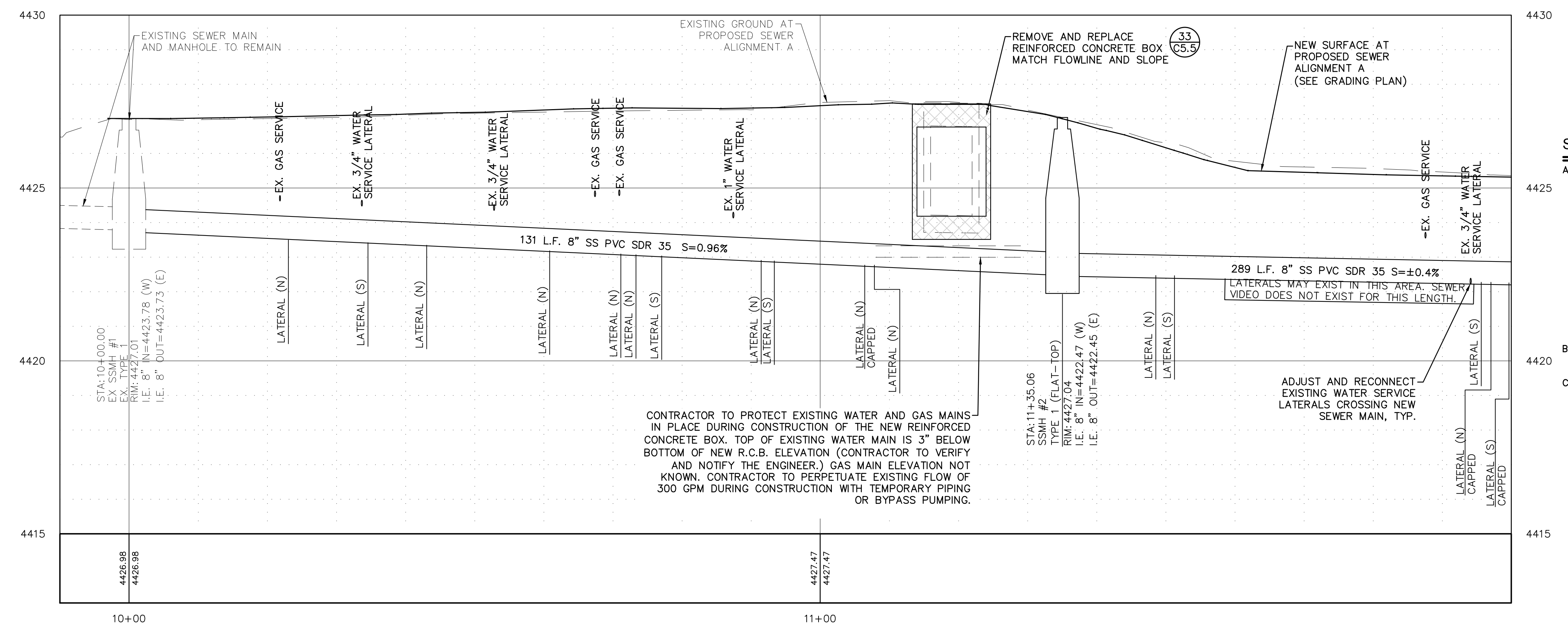
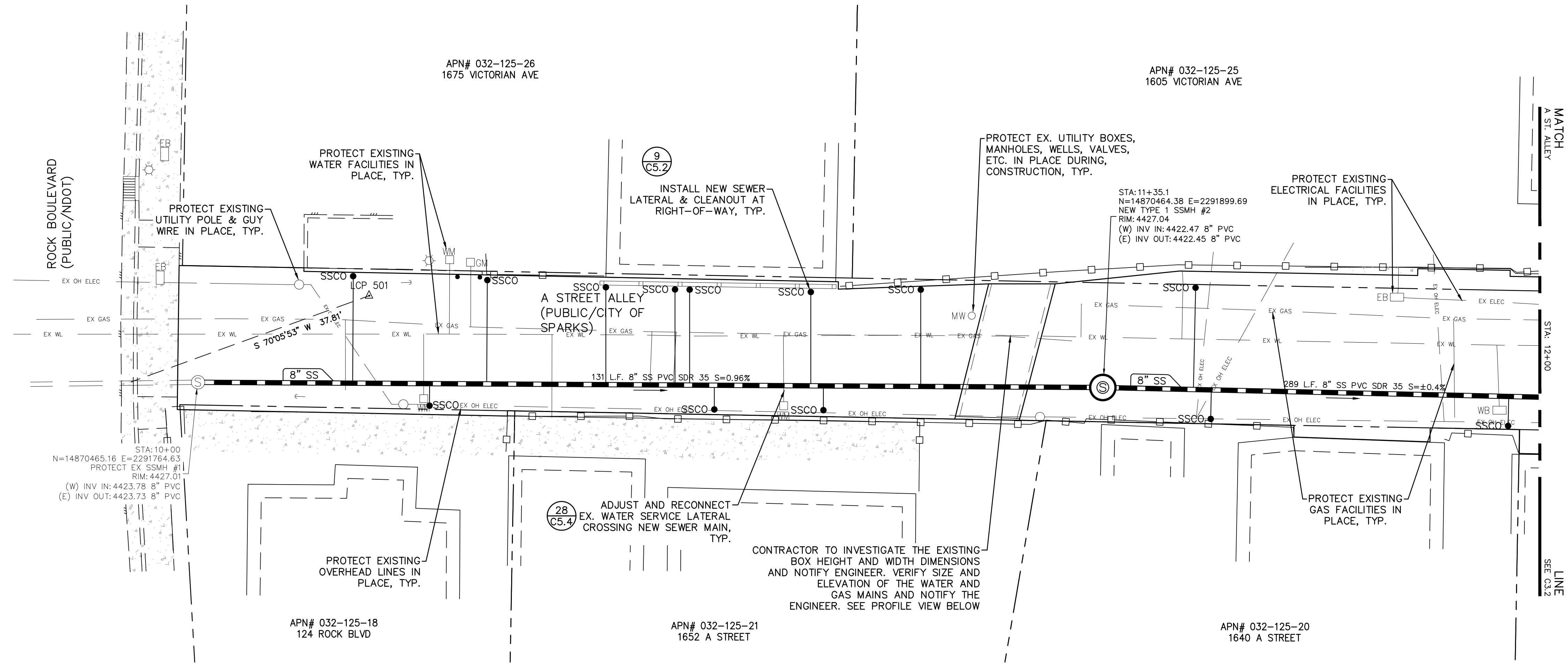
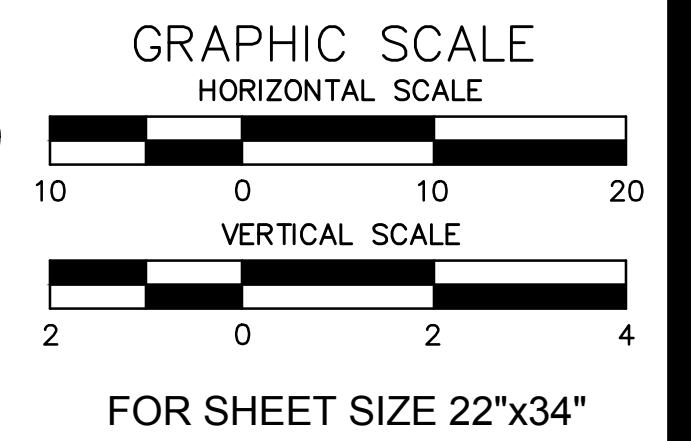
5-16-16

CITY OF SPARKS
**SEWER REHABILITATION
A STREET ALLEY
UTILITY PLAN & PROFILE**
WASHOE
NEVADA
SPARKS

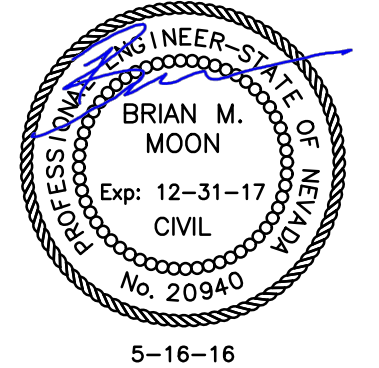
LEGEND:

- PROPOSED SEWER MAIN
- PROPOSED SEWER LATERAL
- EXISTING CURB AND GUTTER
- EXISTING EDGE OF PAVEMENT
- EXISTING FENCE LINE
- EXISTING UNDERGROUND GAS LINE
- EXISTING OVERHEAD ELECTRIC LINE
- EXISTING UNDERGROUND ELECTRIC LINE
- EXISTING SEWER MAIN
- EXISTING WATER MAIN
- EXISTING SEWER LATERAL
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- EXISTING CONCRETE
- EXISTING BRICK PAVERS
- PROPOSED CONCRETE/PCC ALLEY
- PROPOSED PERMANENT PATCH
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- PROPOSED/EXISTING SLOPE AND PROPOSED/EXISTING GRADE TAG
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5-16-16

CITY OF SPARKS
**SEWER REHABILITATION
A STREET ALLEY
UTILITY PLAN & PROFILE**
NEVADA
WASHOE
SPARKS

REV	DATE	DESCRIPTION

C3.2

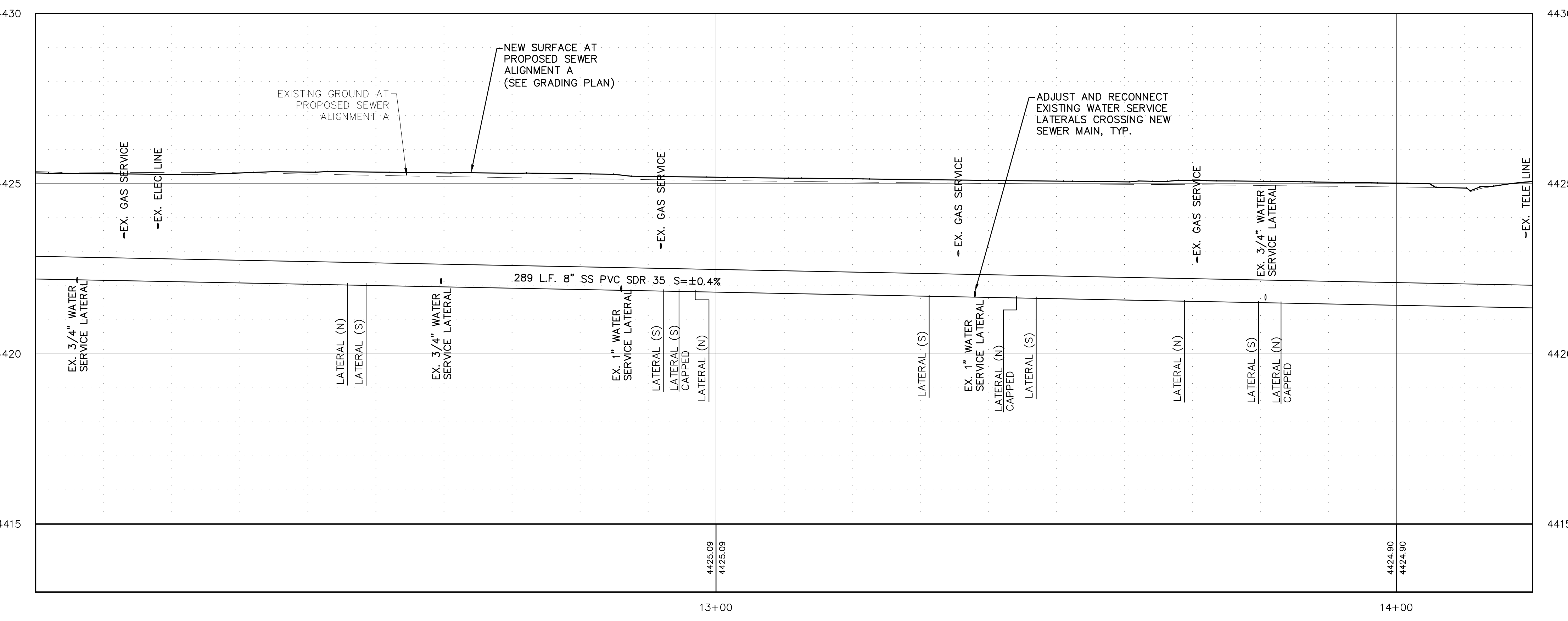
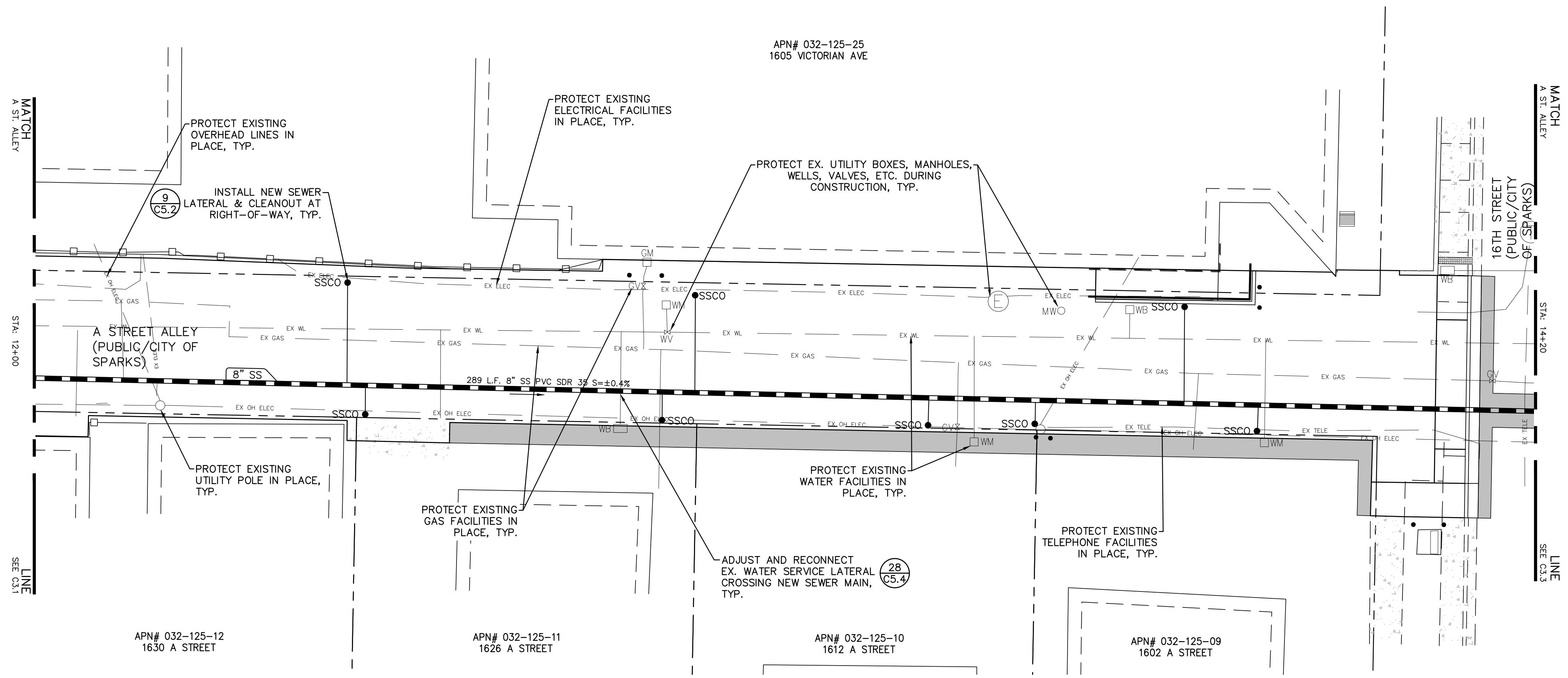
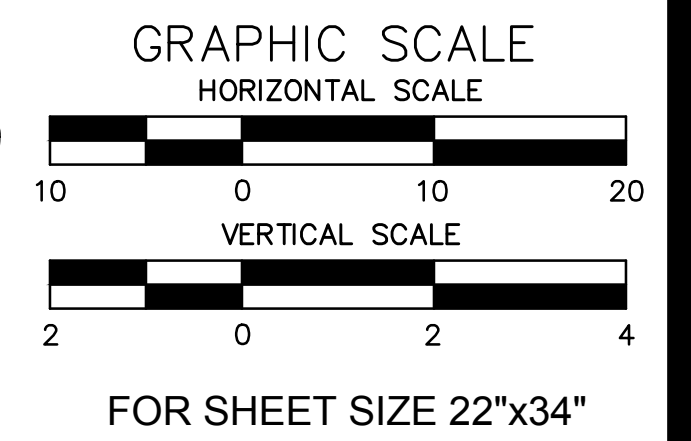
DATE: MAY 2016
DRAWN BY: AJG
DESIGNED BY: BM, AJG
CHECKED BY:
JOB NO.: 9006.000

LEGEND:

- PROPOSED SEWER MAIN
- PROPOSED SEWER LATERAL
- EXISTING CURB AND GUTTER
- EXISTING EDGE OF PAVEMENT
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- EXISTING UNDERGROUND GAS LINE
- EXISTING OVERHEAD ELECTRIC LINE
- EXISTING UNDERGROUND ELECTRIC LINE
- EXISTING SEWER MAIN
- EXISTING WATER MAIN
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- LEGEND:**
- PROPOSED SEWER MAIN
 - PROPOSED SEWER LATERAL
 - EXISTING CURB AND GUTTER
 - EXISTING EDGE OF PAVEMENT
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 - EXISTING UNDERGROUND GAS LINE
 - EXISTING OVERHEAD ELECTRIC LINE
 - EXISTING UNDERGROUND ELECTRIC LINE
 - EXISTING SEWER MAIN
 - EXISTING WATER MAIN
 - EXISTING SEWER LATERAL
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 - EXISTING ELECTRIC METER
 - EXISTING/PROPOSED BOLLARD
 - LUMOS CONTROL POINT
 - EXISTING CONTOUR LINE
 - PROPOSED CONTOUR LINE

CITY OF SPARKS

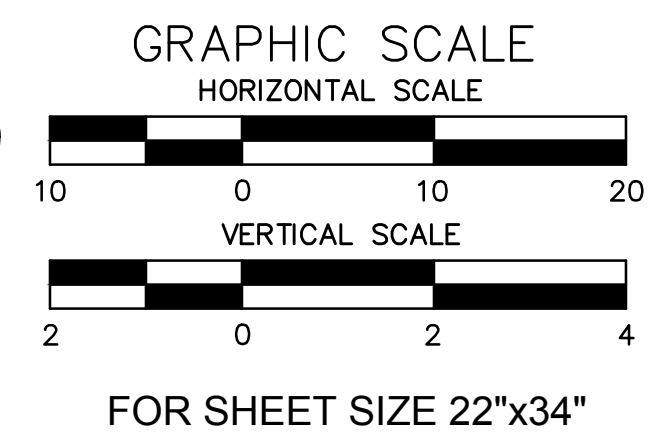
**SEWER REHABILITATION
A STREET ALLEY
UTILITY PLAN & PROFILE**

WASHOE

NEVADA

SPARKS

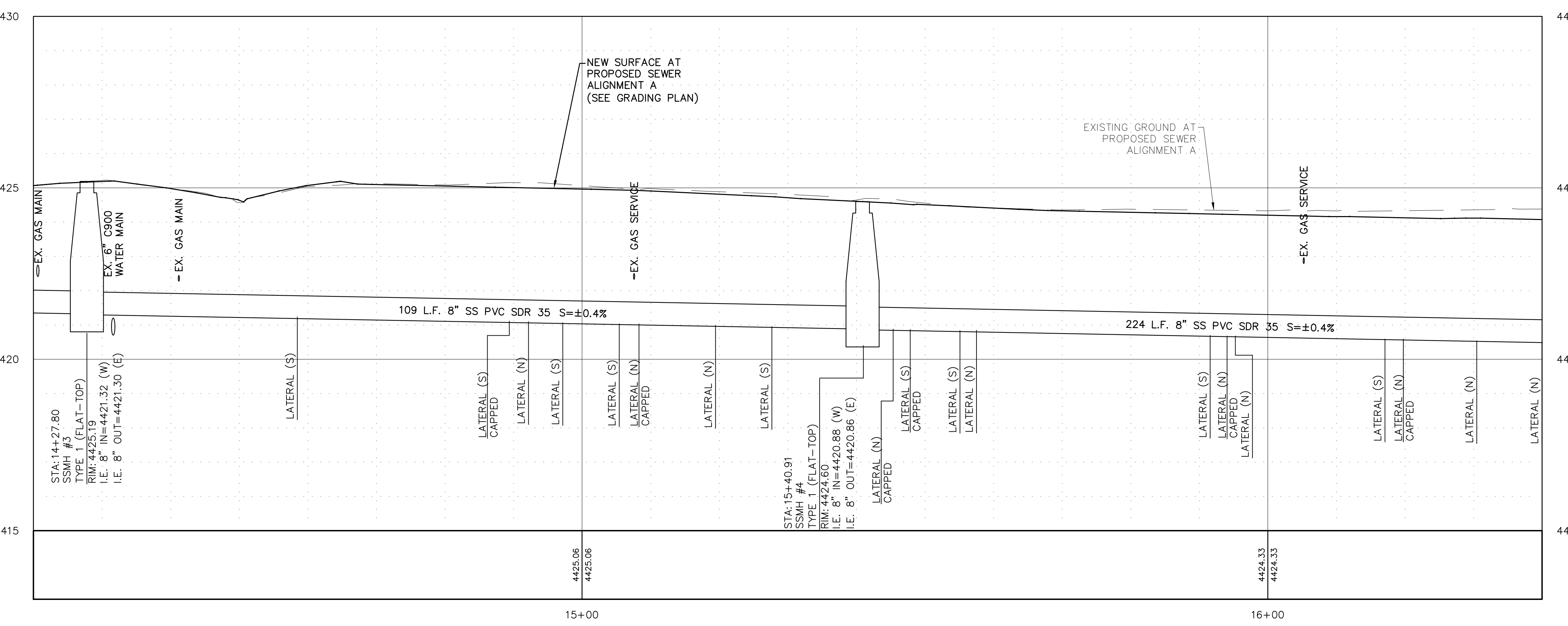
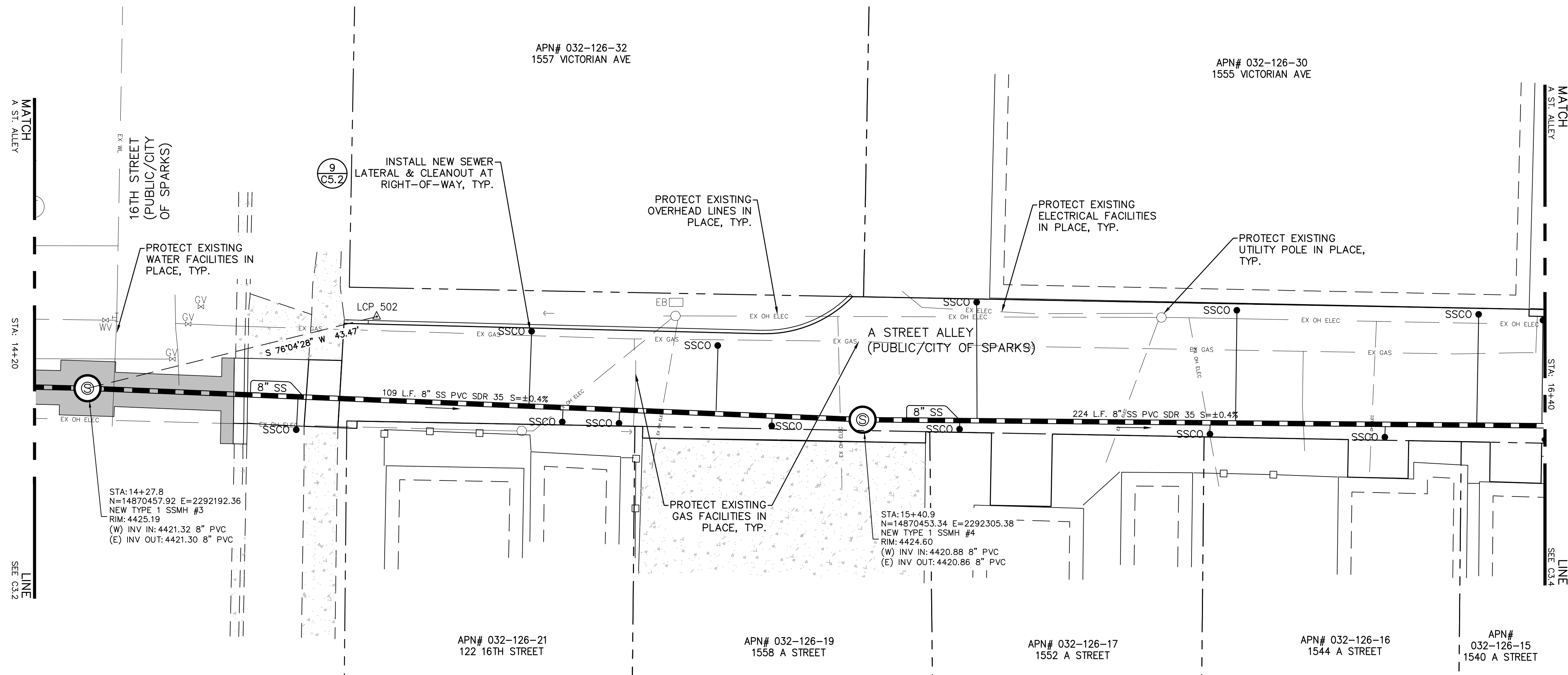
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 -



REV	DATE	DESCRIPTION

C3.3

DATE: MAY 2016
DRAWN BY: AJG
DESIGNED BY: BM, AJG
CHECKED BY:
JOB NO.: 9006.000

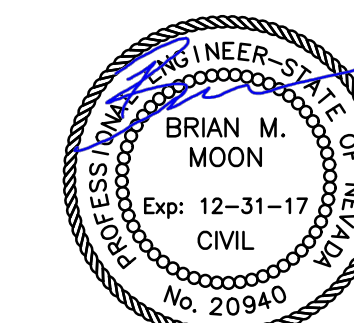




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CITY OF SPARKS
SEWER REHABILITATION
A STREET ALLEY
UTILITY PLAN & PROFILE

NEVADA

WASHOE

SPARKS

REV	DATE	DESCRIPTION

C3.4

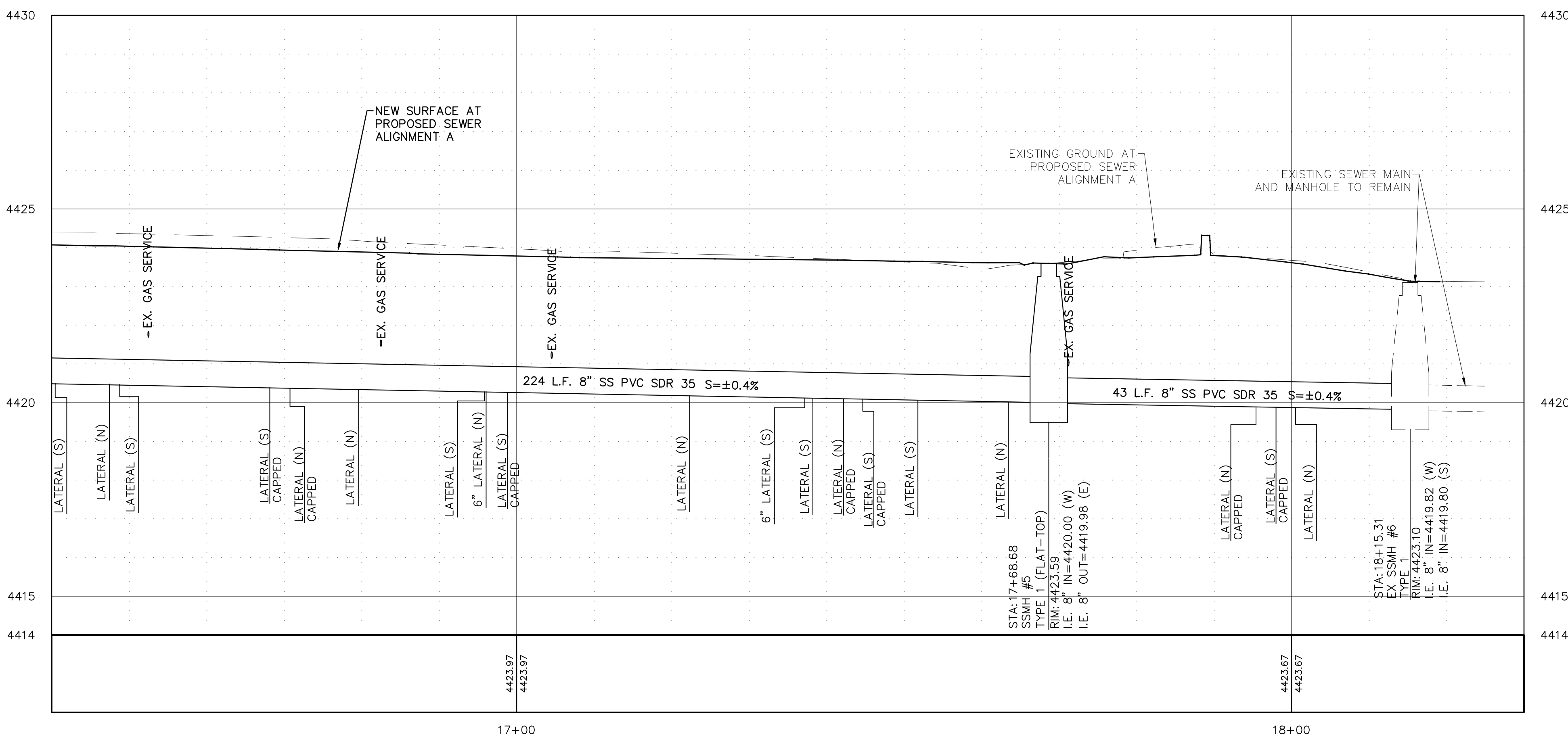
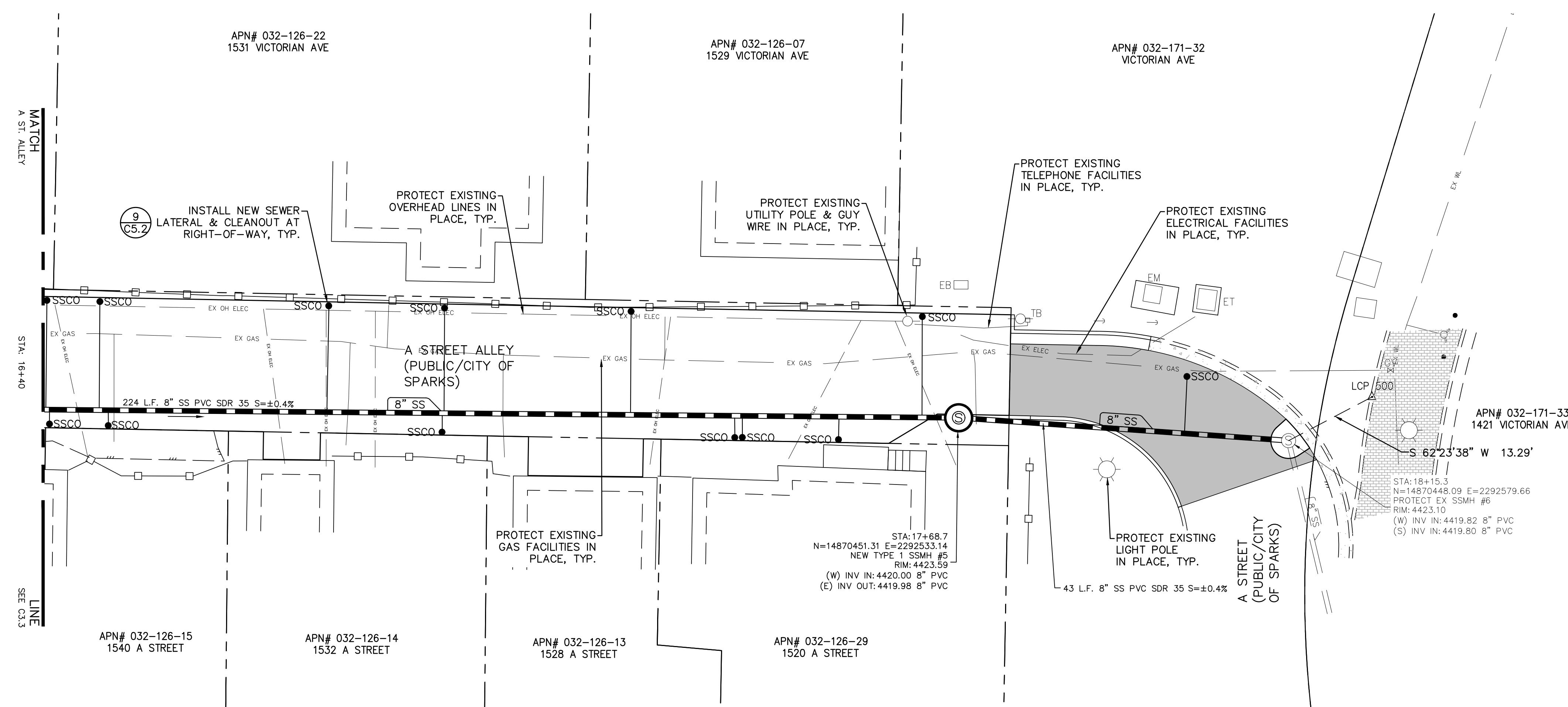
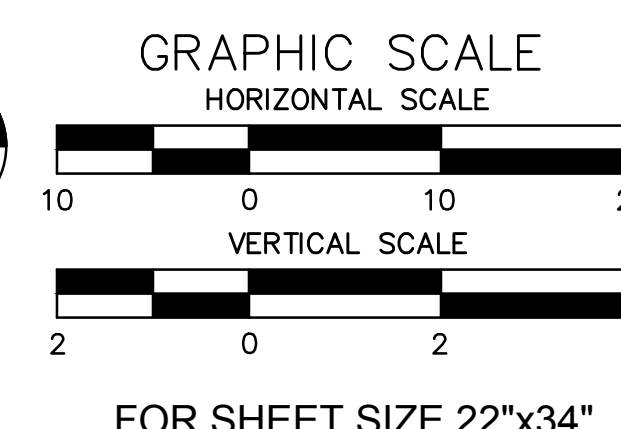
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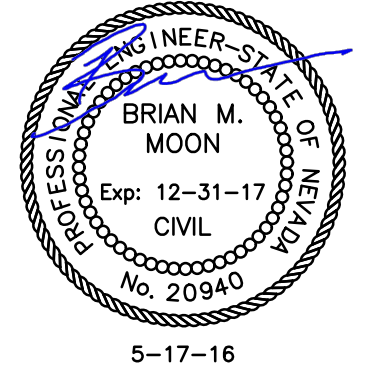
LEGEND:

- PROPOSED SEWER MAIN
- PROPOSED SEWER LATERAL
- EXISTING CURB AND GUTTER
- - - EXISTING EDGE OF PAVEMENT
- - - EXISTING FENCE LINE
- - - EX. GAS
- - - EX. OH ELEC
- - - EX. UNDERGROUND ELECTRIC LINE
- - - EX. SEWER MAIN
- - - EX. WATER MAIN
- - - EXISTING SEWER LATERAL
- - - EXISTING WATER SERVICE LATERAL
- █ EXISTING CONCRETE
- █ EXISTING BRICK PAVERS
- █ PROPOSED CONCRETE/PCC ALLEY
- █ PROPOSED PERMANENT PATCH
- █ PROPOSED REINFORCED CONCRETE BOX
- 9.51%
10.1% TBC=88.23
TBC=87.50
- PROPOSED/EXISTING SLOPE AND PROPOSED/EXISTING GRADE TAG
- SSSCO ● PROPOSED SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER CLEANOUT
- ⊙ EXISTING FIRE HYDRANT
- ⊕ EXISTING WATER VALVE
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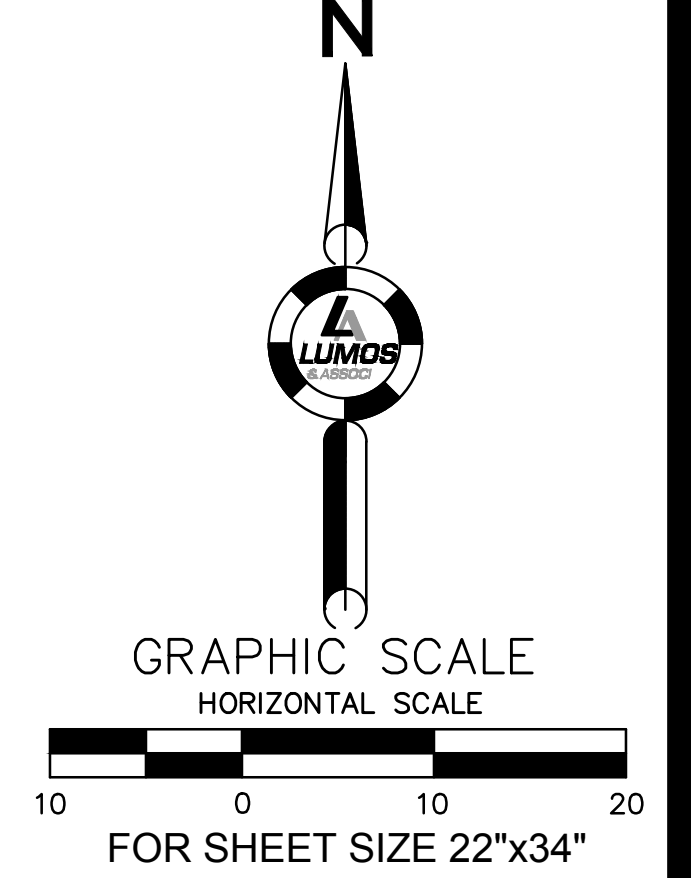




CITY OF SPARKS
**SEWER REHABILITATION
A STREET ALLEY
GRADING PLAN**
WASHOE
SPARKS

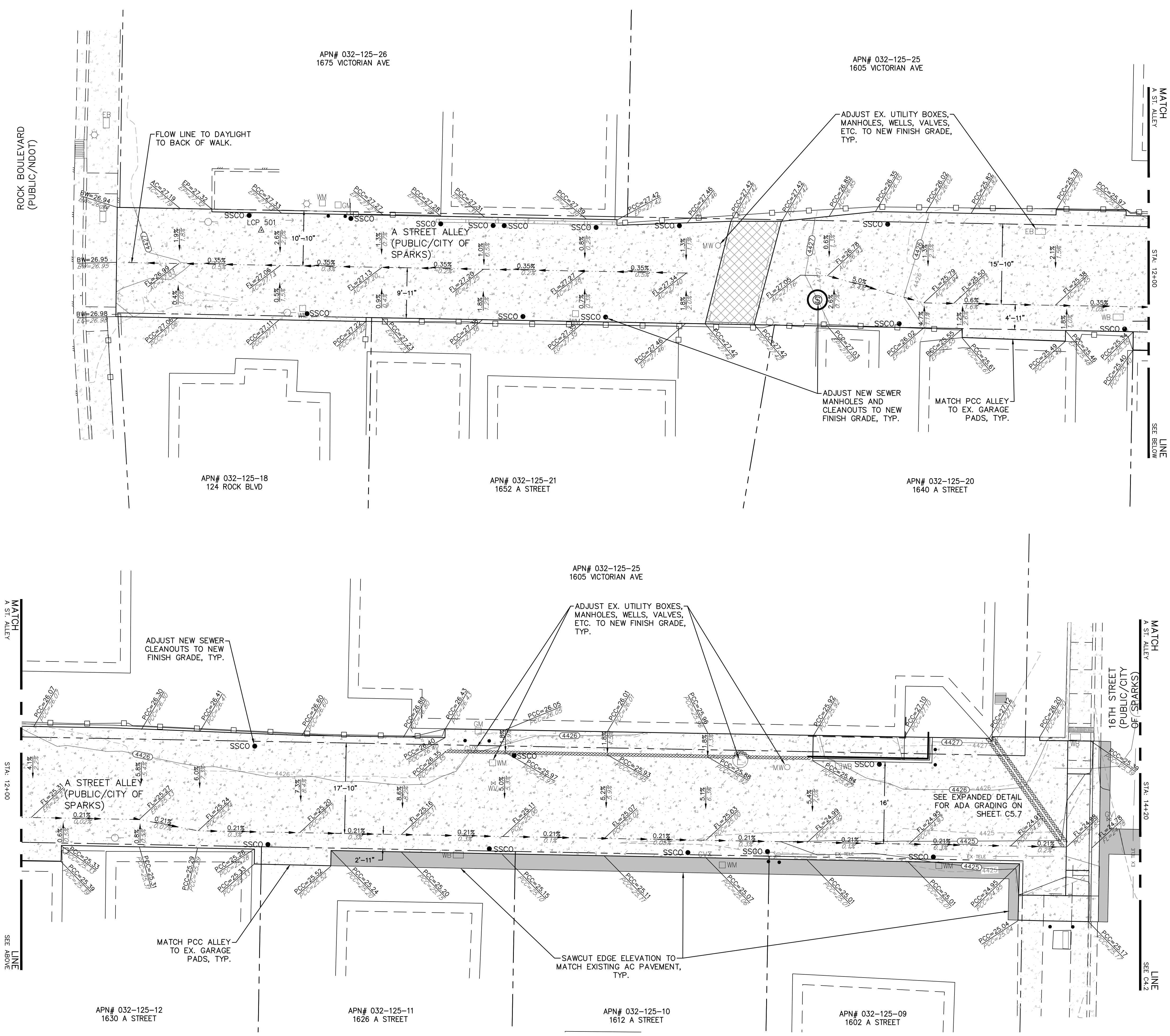
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 - PROPOSED SEWER LATERAL
 - EXISTING CURB AND GUTTER
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 - EXISTING UNDERGROUND ELECTRIC LINE
 - EXISTING SEWER MAIN
 - EXISTING WATER MAIN
 - EXISTING SEWER LATERAL
 - EXISTING WATER SERVICE LATERAL
 - EXISTING CONCRETE
 - EXISTING BRICK PAVERS
 - PROPOSED CONCRETE/PCC ALLEY
 - PROPOSED PERMANENT PATCH
 - PROPOSED REINFORCED CONCRETE BOX
 - PROPOSED/EXISTING SLOPE AND PROPOSED/EXISTING GRADE TAG
 - PROPOSED SANITARY SEWER MANHOLE
 - PROPOSED SANITARY SEWER CLEANOUT
 - EXISTING FIRE HYDRANT
 - EXISTING WATER VALVE
 - EXISTING WATER METER / BOX
 - EXISTING MONITOR WELL
 - EXISTING ELECTRIC MANHOLE
 - EXISTING SANITARY SEWER MANHOLE
 - EXISTING SANITARY SEWER CLEANOUT
 - EXISTING STORM DRAIN CATCH BASIN
 - EXISTING TELEPHONE MANHOLE
 - EXISTING TELEPHONE BOX
 - EXISTING LIGHT POLE
 - EXISTING UTILITY POLE
 - EXISTING GUY WIRE
 - EXISTING GAS METER
 - EXISTING GAS VALVE
 - EXISTING ELECTRIC TRANSFORMER
 - EXISTING ELECTRIC BOX
 - EXISTING ELECTRIC METER
 - EXISTING/PROPOSED BOLLARD
 - LUMOS CONTROL POINT
 - EXISTING CONTOUR LINE
 - PROPOSED CONTOUR LINE

- SHEET NOTES:**
- A. PROTECTION OF ALL UTILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR. NOTE THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND FEATURES SHOWN ON THESE DRAWINGS IS APPROXIMATE AND NOT TO BE RELIED ON AS EXACT OR COMPLETE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO POTHOLE AND VERIFY THE LOCATIONS AND/OR ELEVATIONS PRIOR TO CONSTRUCTION. DISCREPANCIES BETWEEN THE EXISTING CONDITIONS IN THE FIELD AND THE INFORMATION SHOWN ON THESE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION. IN THE EVENT THAT SUFFICIENT CLEARANCE DOES NOT EXIST BETWEEN NEW CONSTRUCTION AND EXISTING UTILITIES TO PROVIDE ADEQUATE PROTECTION CONTRACTOR MAY ABANDON EXISTING UTILITY BY REMOVAL ONLY AFTER TEMPORARY SERVICE IS ESTABLISHED TO CUSTOMERS.
 - B. CONTRACTOR SHALL USE DEBRIS CONTAINMENT DEVICES WHEN WORKING IN AND/OR AROUND ALL SANITARY SEWER MANHOLES, STORM DRAIN MANHOLES AND DROP INLETS.
 - C. ADD 4400 TO ALL ELEVATION TAGS.

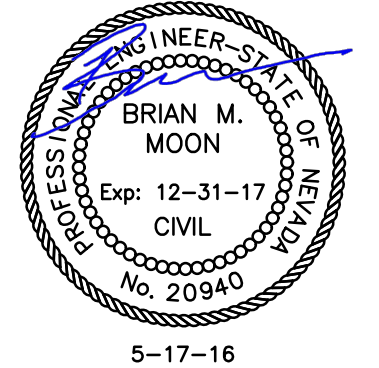


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DATE: MAY 2016
DRAWN BY: AJG
DESIGNED BY: BM, AJG
CHECKED BY:
JOB NO.: 9006.000



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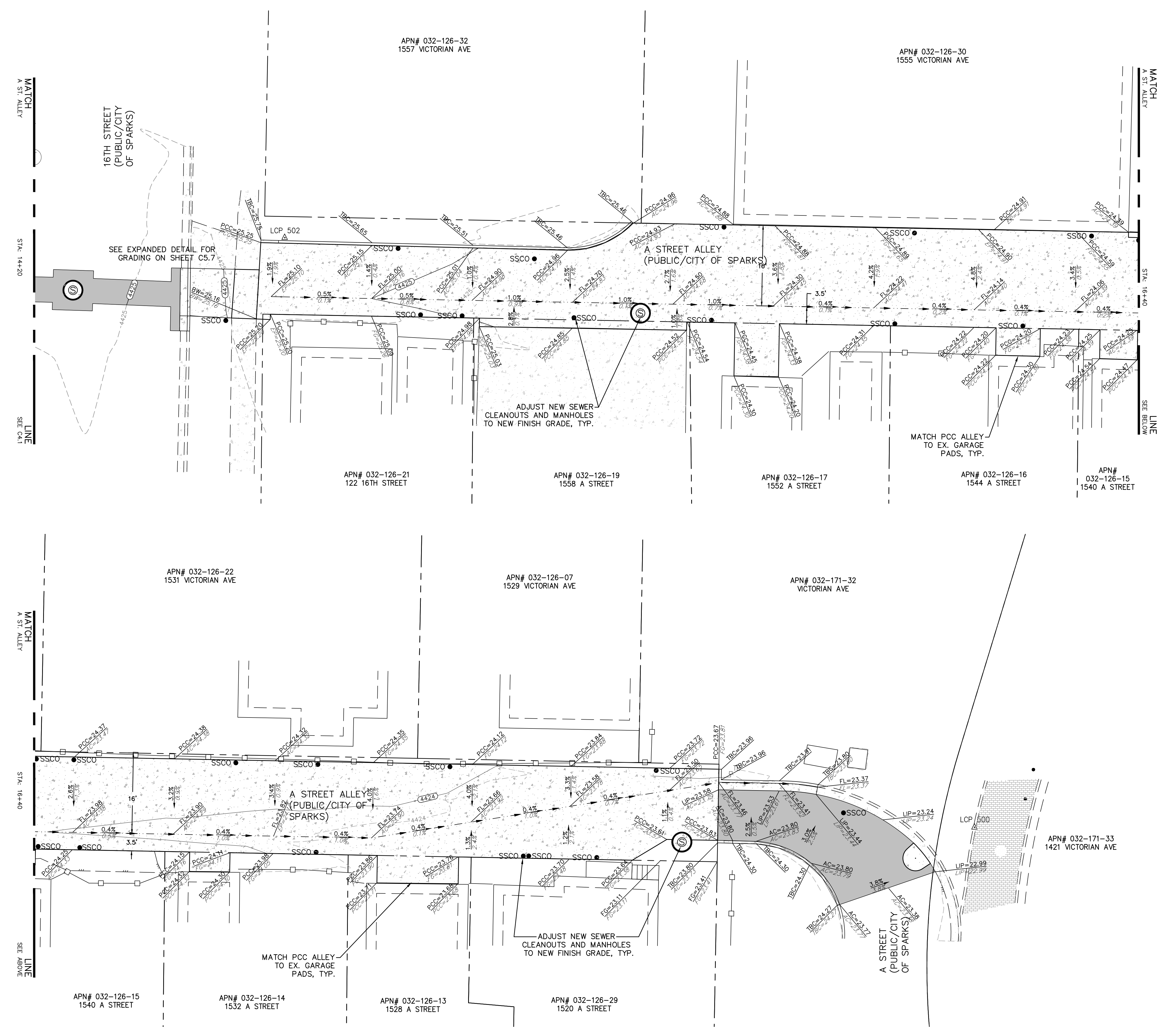


CITY OF SPARKS
SEWER REHABILITATION
A STREET ALLEY
GRADING PLAN
NEVADA
WASHOE
SPARKS

REV	DATE	DESCRIPTION

C4.2

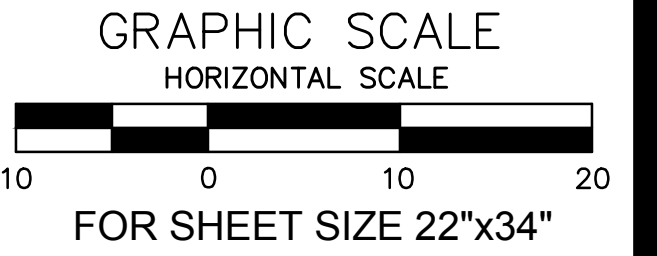
DATE: MAY 2016
DRAWN BY: AJG
DESIGNED BY: BM, AJG
CHECKED BY:
JOB NO.: 9006.000



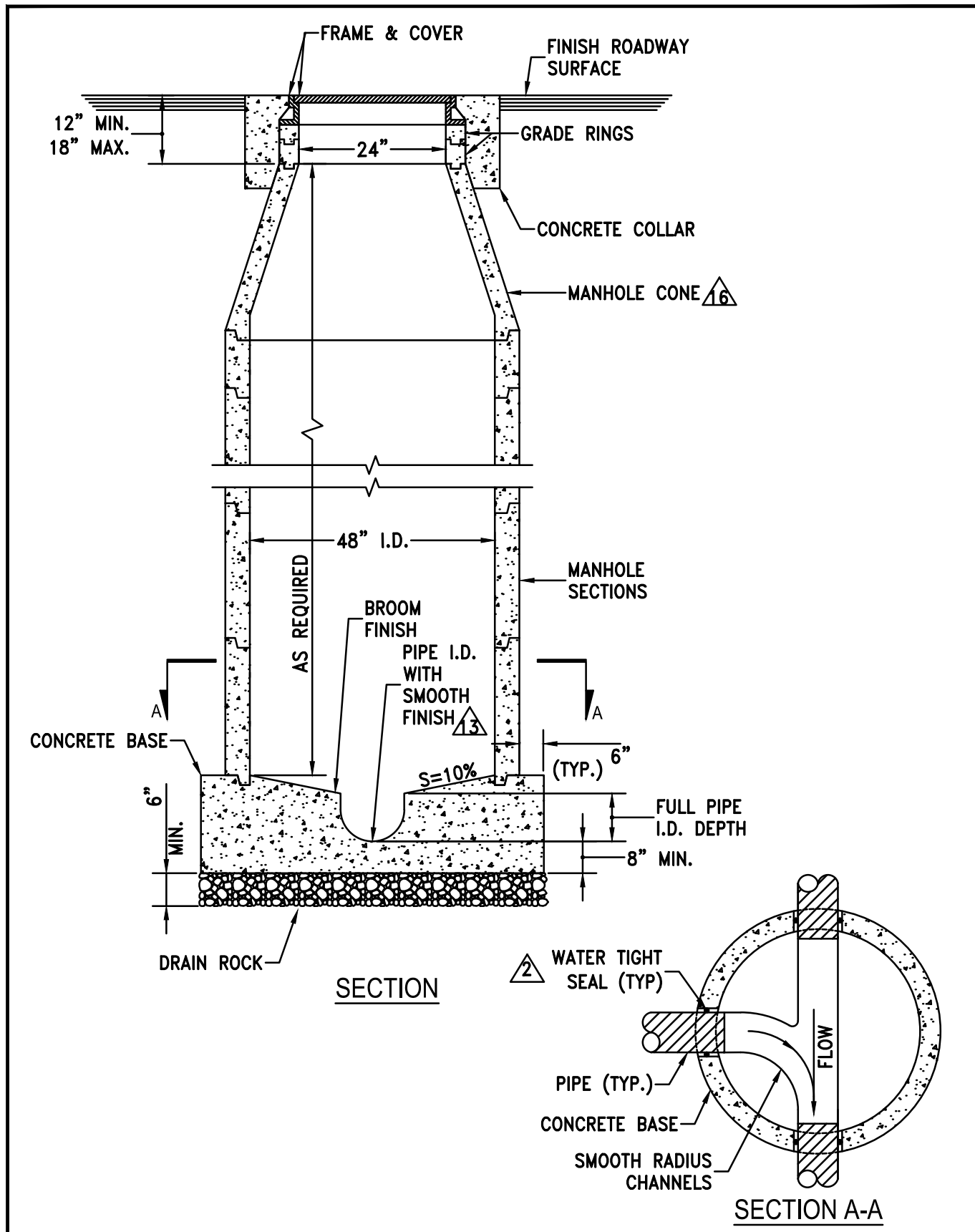
- LEGEND:**
- PROPOSED SEWER MAIN
 - PROPOSED SEWER LATERAL
 - EXISTING CURB AND GUTTER
 - EXISTING EDGE OF PAVEMENT
 - EXISTING FENCE LINE
 - EXISTING UNDERGROUND GAS LINE
 - EXISTING OVERHEAD ELECTRIC LINE
 - EXISTING UNDERGROUND ELECTRIC LINE
 - EXISTING SEWER MAIN
 - EXISTING WATER MAIN
 - EXISTING SEWER LATERAL
 - EXISTING WATER SERVICE LATERAL
 - EXISTING CONCRETE
 - EXISTING BRICK PAVERS
 - PROPOSED CONCRETE/PCC ALLEY
 - PROPOSED PERMANENT PATCH
 - PROPOSED REINFORCED CONCRETE BOX
 - PROPOSED/EXISTING SLOPE AND PROPOSED/EXISTING GRADE TAG
 - PROPOSED SANITARY SEWER MANHOLE
 - PROPOSED SANITARY SEWER CLEANOUT
 - EXISTING FIRE HYDRANT
 - EXISTING WATER VALVE
 - EXISTING WATER METER / BOX
 - EXISTING MONITOR WELL
 - EXISTING ELECTRIC MANHOLE
 - EXISTING SANITARY SEWER MANHOLE
 - EXISTING SANITARY SEWER CLEANOUT
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 - EXISTING GAS VALVE
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- C. ADD 4400 TO ALL ELEVATION TAGS.



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MANHOLE TYPE I (MODIFIED)

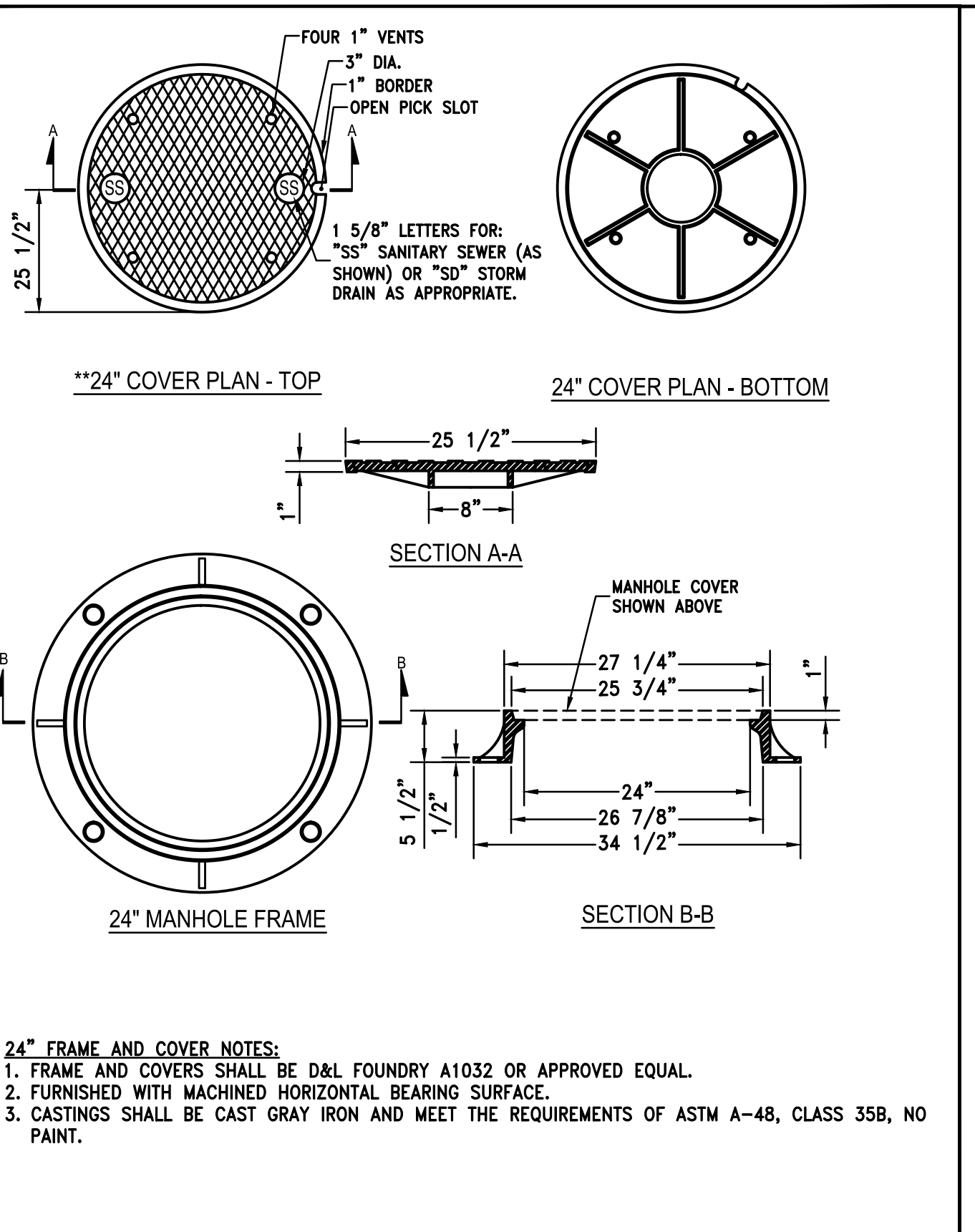
1
CS.1

GENERAL MANHOLE NOTES

- ALL PRECAST MANHOLE COMPONENTS SHALL CONFORM TO ASTM C-478.
- PIPES SHALL NOT PROTRUDE MORE THAN 3" INSIDE MANHOLE SECTION AS MEASURED AT THE OUTSIDE EDGES OF THE PIPE, VERTICALLY ALIGNED WITH THE SPRINGLINE. PIPE CONNECTION TO MANHOLE SHALL BE WATERTIGHT PER STANDARD DETAILS.
- MANHOLE BASE SHALL BE PORTLAND CEMENT CONCRETE (P.C.C.) AND SHALL HAVE THE FOLLOWING CHARACTERISTICS: 3000 PSI MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS, MINIMUM 6 SACKS OF CEMENT PER CUBIC YARD WITH SLUMP AT 1 TO 4 INCHES. ALL MATERIAL SHALL CONFORM TO STANDARD SPECIFICATIONS OF PUBLIC WORKS CONSTRUCTION (SSPWC). PRECAST CONCRETE BASE MAY BE USED IN LIEU OF CAST-IN-PLACE BASE.
- TYPE I MANHOLE TO BE UTILIZED FOR PIPE DIAMETERS OF 12" OR SMALLER AND DEPTHS NOT EXCEEDING 18 FEET.
- TYPE V MANHOLE TO BE UTILIZED FOR PIPE DIAMETERS OF 15" THROUGH 27" OR DEPTHS EXCEEDING 18 FEET.
- MANHOLE MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF SECTION 204 "MANHOLES AND CATCH BASINS" OF THE STANDARD SPECIFICATIONS.
- PRECAST MANHOLE SECTIONS, OTHER THAN GRADE RINGS, SHALL BE JOINED WITH FLEXIBLE GASKET MATERIAL SUCH AS "RAM-NEK" OR EQUAL AS PER MANUFACTURER'S RECOMMENDATIONS.
- EXCAVATION AND BACKFILL SHALL BE AS SPECIFIED FOR "TRENCH EXCAVATION AND BACKFILL" IN SECTION 305 OF THE STANDARD SPECIFICATIONS.
- EXCAVATION SHALL BE AS NEARLY VERTICAL AS POSSIBLE (SHEET AND SHORE IF SOIL CONDITIONS REQUIRE) IN EXISTING STREET SECTIONS, ALLEY SECTIONS, AND CONFINED AREAS, SUCH AS LIMITED EASEMENTS OR ADJACENT STRUCTURES.
- MANHOLE PRECAST SECTION LENGTH SHALL BE ARRANGED TO FIT THE REQUIRED DEPTH.
- NO LATERALS OR PIPES LESS THAN 8" IN DIAMETER SHALL BE CONNECTED TO THE MANHOLE.
- PRECAST CONCRETE BASE MAY BE USED IN LIEU OF CAST-IN-PLACE BASE.
- MATCH PIPE INVERTS TO MANHOLE INVERTS WHERE PIPES CONNECT TO MANHOLE BASE.
- ALL MANHOLES SHALL BE WATERTIGHT.
- SEE DETAIL FOR OUTSIDE DROP MANHOLE FOR SANITARY SEWERS WITH MORE THAN 2 FEET VERTICAL DROP AT THE MANHOLE. THE USE OF "INSIDE DROP" MANHOLES IS NOT PERMITTED.
- THE USE OF FLAT TOP MANHOLE CONES REQUIRES PRIOR APPROVAL FROM THE CITY ENGINEER.
- PRIOR TO BACKFILLING, ALL MANHOLES SHALL BE VACUUM TESTED PER ASTM C-1244.
- NO STEPS, LADDERS, OR OTHER CLIMBING DEVICES SHALL BE INSTALLED IN THE MANHOLE.
- REINFORCING STEEL SHALL BE AS SHOWN, WIRED TIGHTLY AT ALL INTERSECTIONS AND EMBEDDED AT LEAST 1 1/2" CLEAR, UNLESS OTHERWISE NOTED.
- WHEN PIPE CONNECTIONS TO EXISTING MANHOLES ARE ALLOWED, THEY SHALL BE MADE BY CORE DRILLING THE MANHOLE AND CONNECTING THE PIPE PENETRATION PER CONNECTION DETAIL.

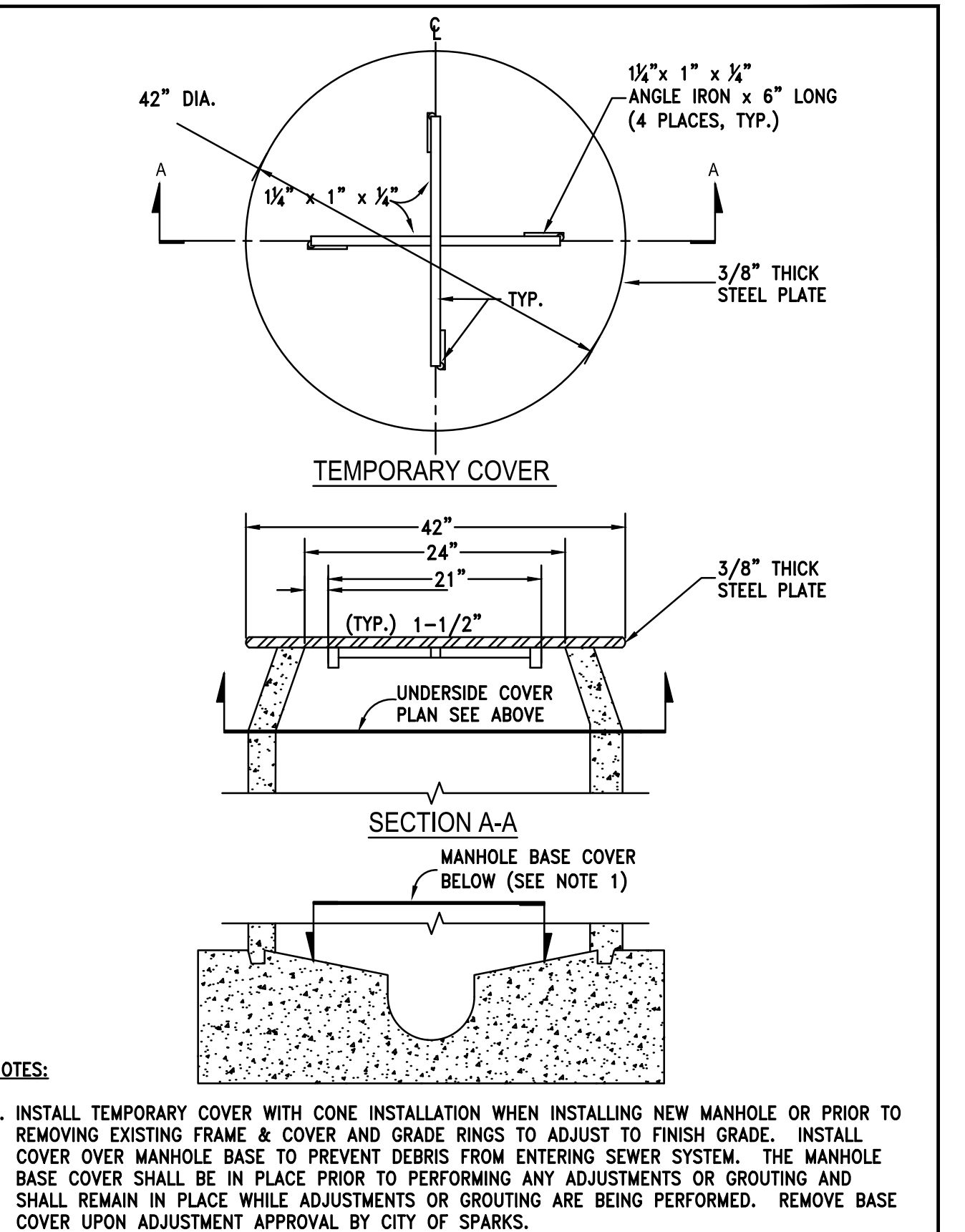
NOTES - MANHOLE TYPE I & TYPE V (MODIFIED)

2
CS.1



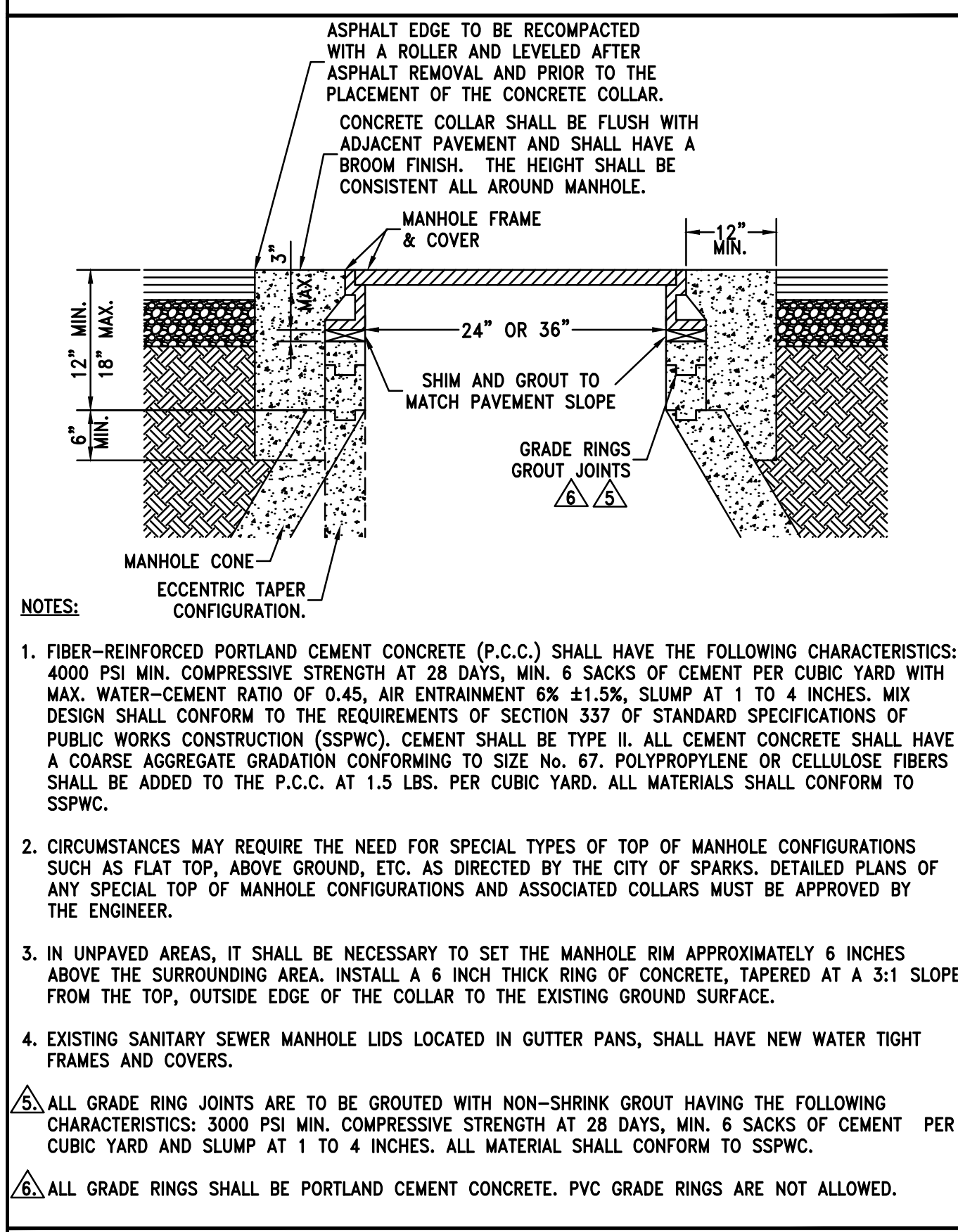
24" MANHOLE FRAME & COVER (MODIFIED)

3
CS.1



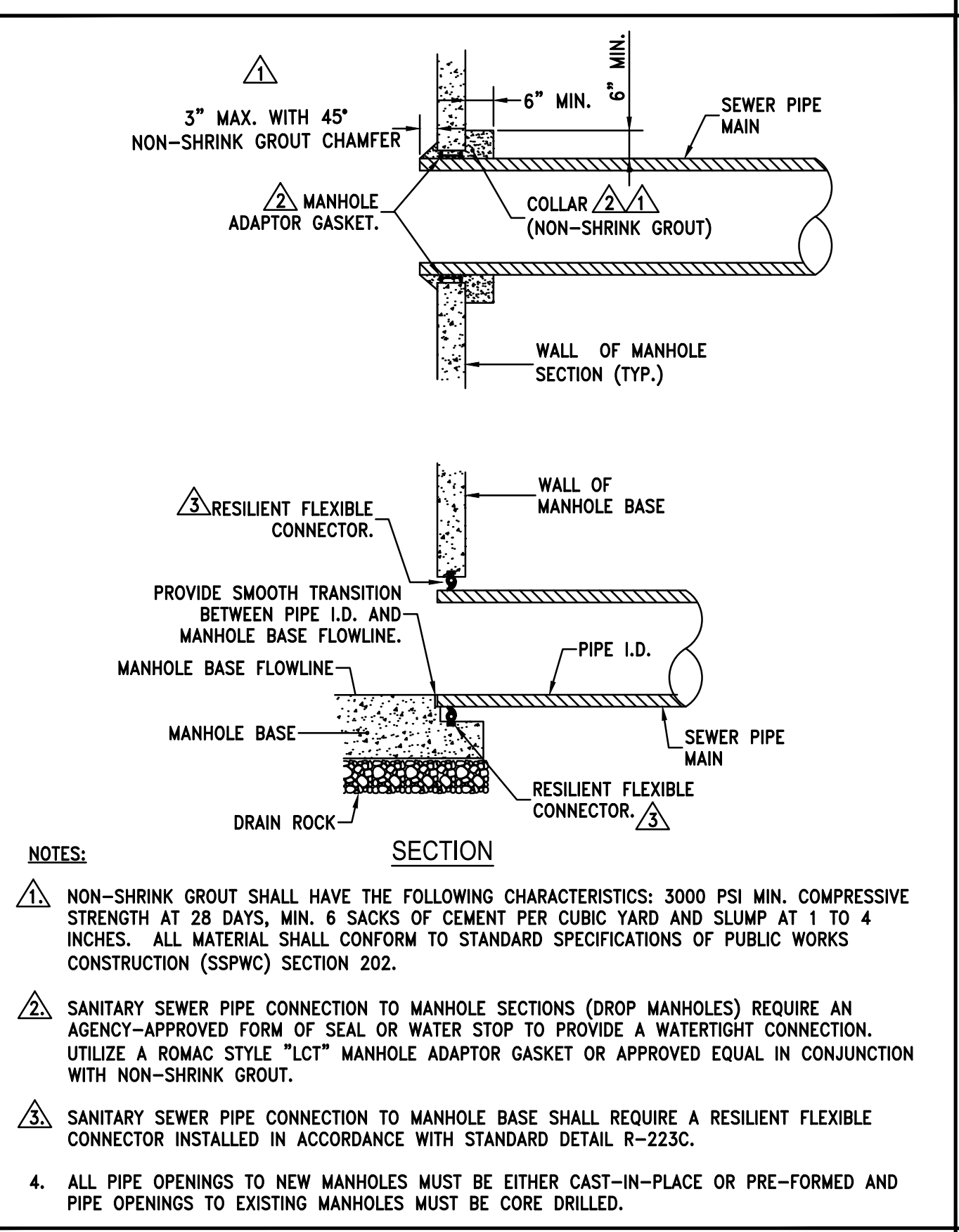
TEMPORARY MANHOLE COVER (MODIFIED)

4
CS.1



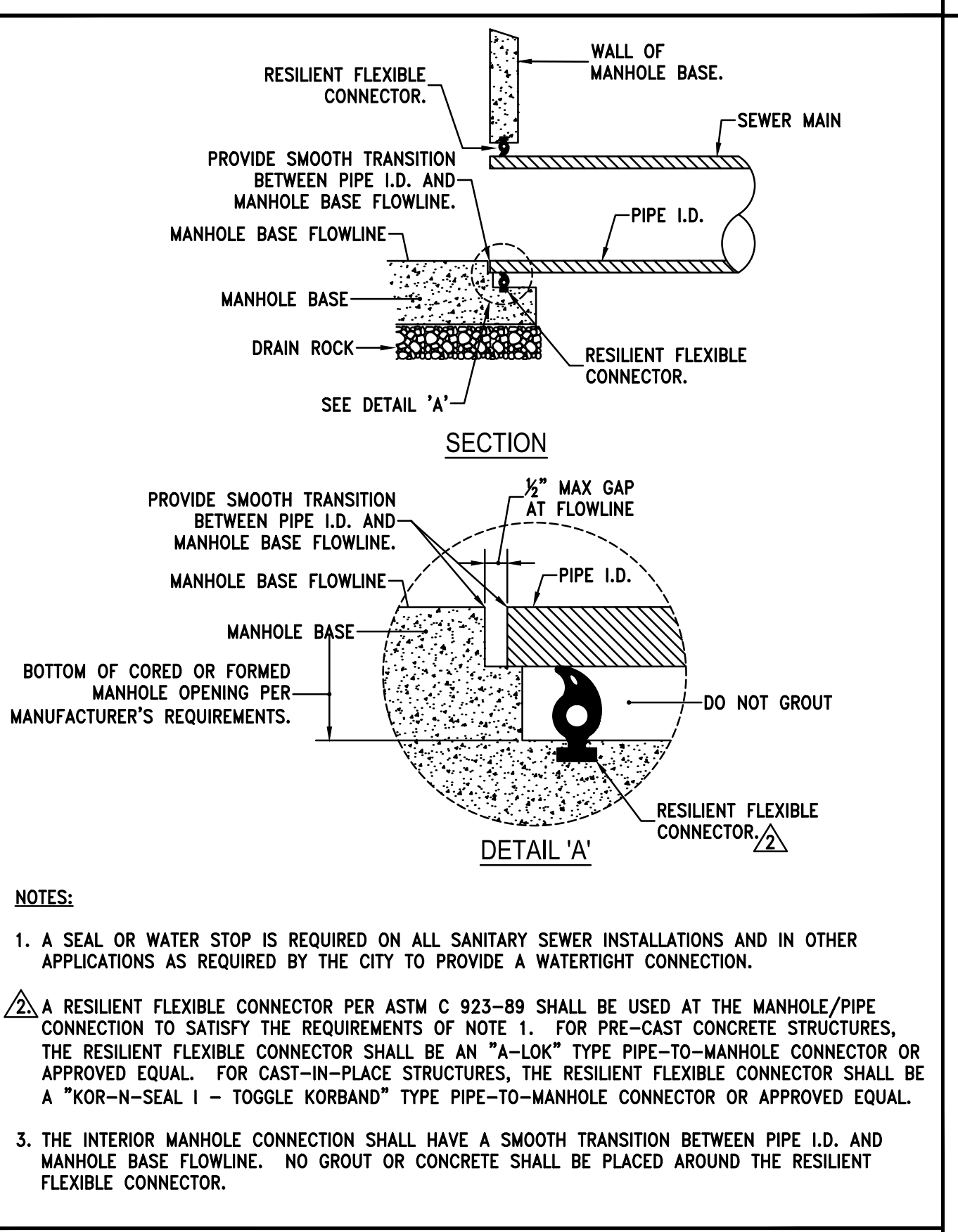
MANHOLE COLLAR (MODIFIED)

5
CS.1



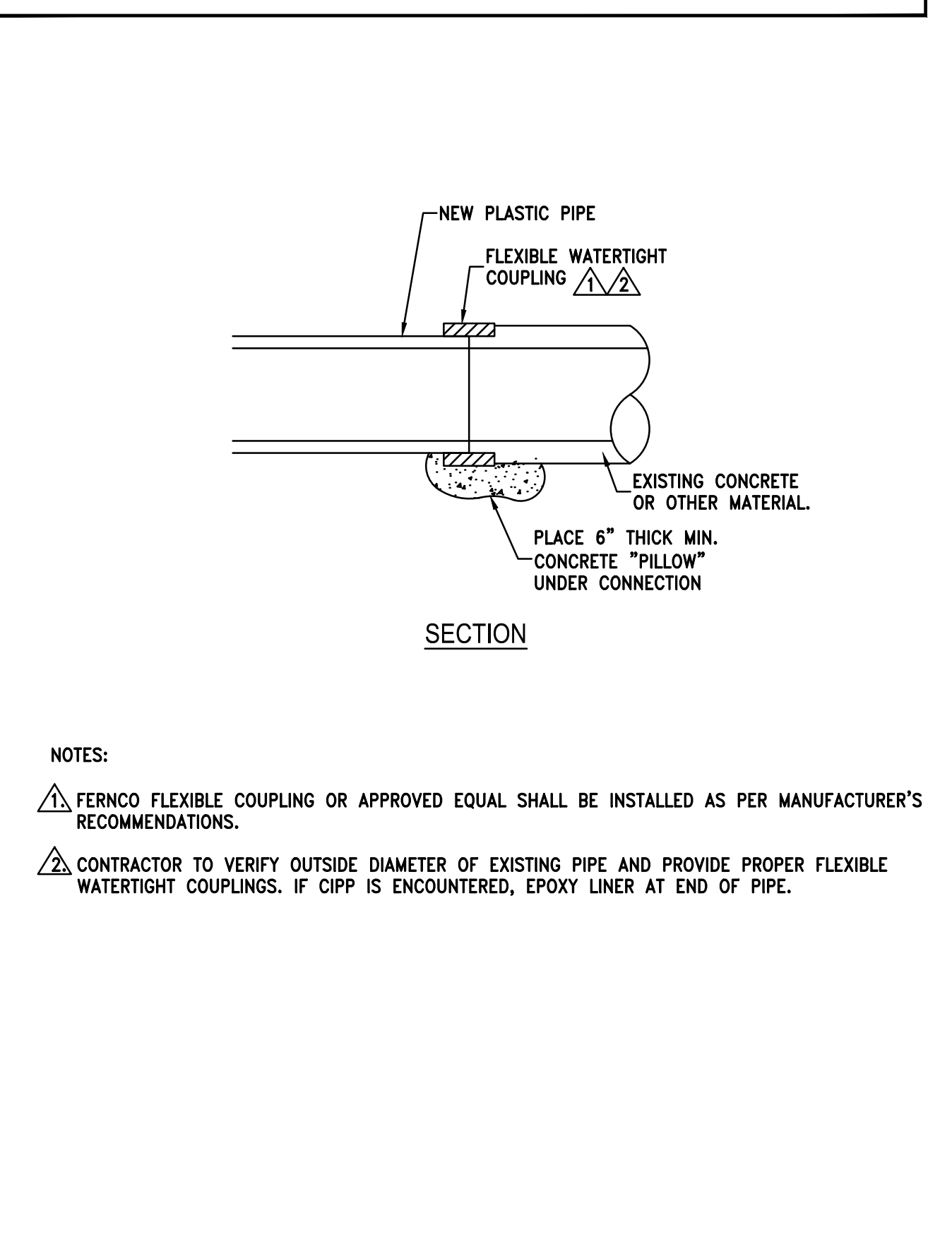
SANITARY SEWER PIPE TO MANHOLE CONNECTION (MODIFIED)

6
CS.1



RESILIENT FLEXIBLE CONNECTOR (MODIFIED)

7
CS.1



EX. PIPE TO NEW PVC PIPE CONNECTION

8
SCALE: NTS
CS.1

NOTES:

- FIBER-REINFORCED PORTLAND CEMENT CONCRETE (P.C.C.) SHALL HAVE THE FOLLOWING CHARACTERISTICS: 4000 PSI MIN. COMPRESSIVE STRENGTH AT 28 DAYS, MIN. 6 SACKS OF CEMENT PER CUBIC YARD WITH MAX. WATER-CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6% ±1.5%, SLUMP AT 1 TO 4 INCHES. MIX DESIGN SHALL CONFORM TO THE REQUIREMENTS OF SECTION 337 OF STANDARD SPECIFICATIONS OF PUBLIC WORKS CONSTRUCTION (SSPWC). CEMENT SHALL BE TYPE II. ALL CEMENT CONCRETE SHALL HAVE A COARSE AGGREGATE GRADATION CONFORMING TO SIZE No. 67. POLYPROPYLENE OR CELLULOSE FIBERS SHALL BE ADDED TO THE P.C.C. AT 1.5 LBS. PER CUBIC YARD. ALL MATERIALS SHALL CONFORM TO SSPWC.
- CIRCUMSTANCES MAY REQUIRE THE NEED FOR SPECIAL TYPES OF TOP OF MANHOLE CONFIGURATIONS SUCH AS FLAT TOP, ABOVE GROUND, ETC. AS DIRECTED BY THE CITY OF SPARKS. DETAILED PLANS OF ANY SPECIAL TOP OF MANHOLE CONFIGURATIONS AND ASSOCIATED COLLARS MUST BE APPROVED BY THE ENGINEER.
- IN UNPAVED AREAS, IT SHALL BE NECESSARY TO SET THE MANHOLE RIM APPROXIMATELY 6 INCHES ABOVE THE SURROUNDING AREA. INSTALL A 6 INCH THICK RING OF CONCRETE, TAPERED AT A 3:1 SLOPE, FROM THE TOP, OUTSIDE EDGE OF THE COLLAR TO THE EXISTING GROUND SURFACE.
- EXISTING SANITARY SEWER MANHOLE LIDS LOCATED IN GUTTER PANS, SHALL HAVE NEW WATER TIGHT FRAMES AND COVERS.
- ALL GRADE RING JOINTS ARE TO BE GROUTED WITH NON-SHRINK GROUT HAVING THE FOLLOWING CHARACTERISTICS: 3000 PSI MIN. COMPRESSIVE STRENGTH AT 28 DAYS, MIN. 6 SACKS OF CEMENT PER CUBIC YARD AND SLUMP AT 1 TO 4 INCHES. ALL MATERIAL SHALL CONFORM TO SSPWC.
- ALL GRADE RINGS SHALL BE PORTLAND CEMENT CONCRETE. PVC GRADE RINGS ARE NOT ALLOWED.

NOTES:

- NON-SHRINK GROUT SHALL HAVE THE FOLLOWING CHARACTERISTICS: 3000 PSI MIN. COMPRESSIVE STRENGTH AT 28 DAYS, MIN. 6 SACKS OF CEMENT PER CUBIC YARD AND SLUMP AT 1 TO 4 INCHES. ALL MATERIAL SHALL CONFORM TO STANDARD SPECIFICATIONS OF PUBLIC WORKS CONSTRUCTION (SSPWC) SECTION 202.
- SANITARY SEWER PIPE CONNECTION TO MANHOLE SECTIONS (DROP MANHOLES) REQUIRE AN AGENCY-APPROVED FORM OF SEAL OR WATER STOP TO PROVIDE A WATERTIGHT CONNECTION. UTILIZE A ROMAC STYLE "LCT" MANHOLE ADAPTOR GASKET OR APPROVED EQUAL IN CONJUNCTION WITH NON-SHRINK GROUT.
- SANITARY SEWER PIPE CONNECTION TO MANHOLE BASE SHALL REQUIRE A RESILIENT FLEXIBLE CONNECTOR INSTALLED IN ACCORDANCE WITH STANDARD DETAIL R-223C.
- ALL PIPE OPENINGS TO NEW MANHOLES MUST BE EITHER CAST-IN-PLACE OR PRE-FORMED AND PIPE OPENINGS TO EXISTING MANHOLES MUST BE CORE DRILLED.

NOTES:

- A SEAL OR WATER STOP IS REQUIRED ON ALL SANITARY SEWER INSTALLATIONS AND IN OTHER APPLICATIONS AS REQUIRED BY THE CITY TO PROVIDE A WATERTIGHT CONNECTION.
- A RESILIENT FLEXIBLE CONNECTOR PER ASTM C 923-89 SHALL BE USED AT THE MANHOLE/PIPE CONNECTION TO SATISFY THE REQUIREMENTS OF NOTE 1. FOR PRE-CAST CONCRETE STRUCTURES, THE RESILIENT FLEXIBLE CONNECTOR SHALL BE AN "A-LOK" TYPE PIPE-TO-MANHOLE CONNECTOR OR APPROVED EQUAL. FOR CAST-IN-PLACE STRUCTURES, THE RESILIENT FLEXIBLE CONNECTOR SHALL BE A "KOR-N-SEAL I - TOGGLE KORBAND" TYPE PIPE-TO-MANHOLE CONNECTOR OR APPROVED EQUAL.
- THE INTERIOR MANHOLE CONNECTION SHALL HAVE A SMOOTH TRANSITION BETWEEN PIPE I.D. AND MANHOLE BASE FLOWLINE. NO GROUT OR CONCRETE SHALL BE PLACED AROUND THE RESILIENT FLEXIBLE CONNECTOR.

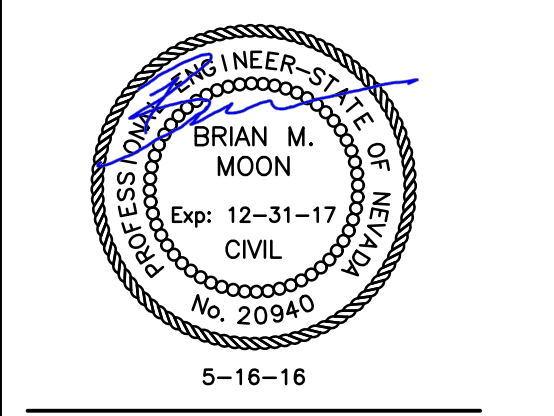
NOTES:

- FERNCO FLEXIBLE COUPLING OR APPROVED EQUAL SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS.
- CONTRACTOR TO VERIFY OUTSIDE DIAMETER OF EXISTING PIPE AND PROVIDE PROPER FLEXIBLE WATERTIGHT COUPLINGS. IF CIPP IS ENCOUNTERED, EPOXY LINER AT END OF PIPE.



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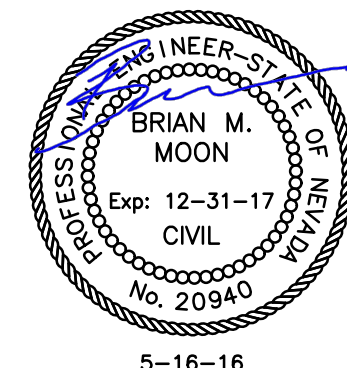


CITY OF SPARKS
SEWER REHABILITATION
A STREET ALLEY
DETAIL SHEET
NEVADA
SPARKS
WASHOE

REV.	DATE	DESCRIPTION

C5.1
DATE: MAY 2016
DRAWN BY: AJG
DESIGNED BY: BM, AJG
CHECKED BY:
JOB NO.: 9006.000

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CITY OF SPARKS
SEWER REHABILITATION
A STREET ALLEY
DETAIL SHEET

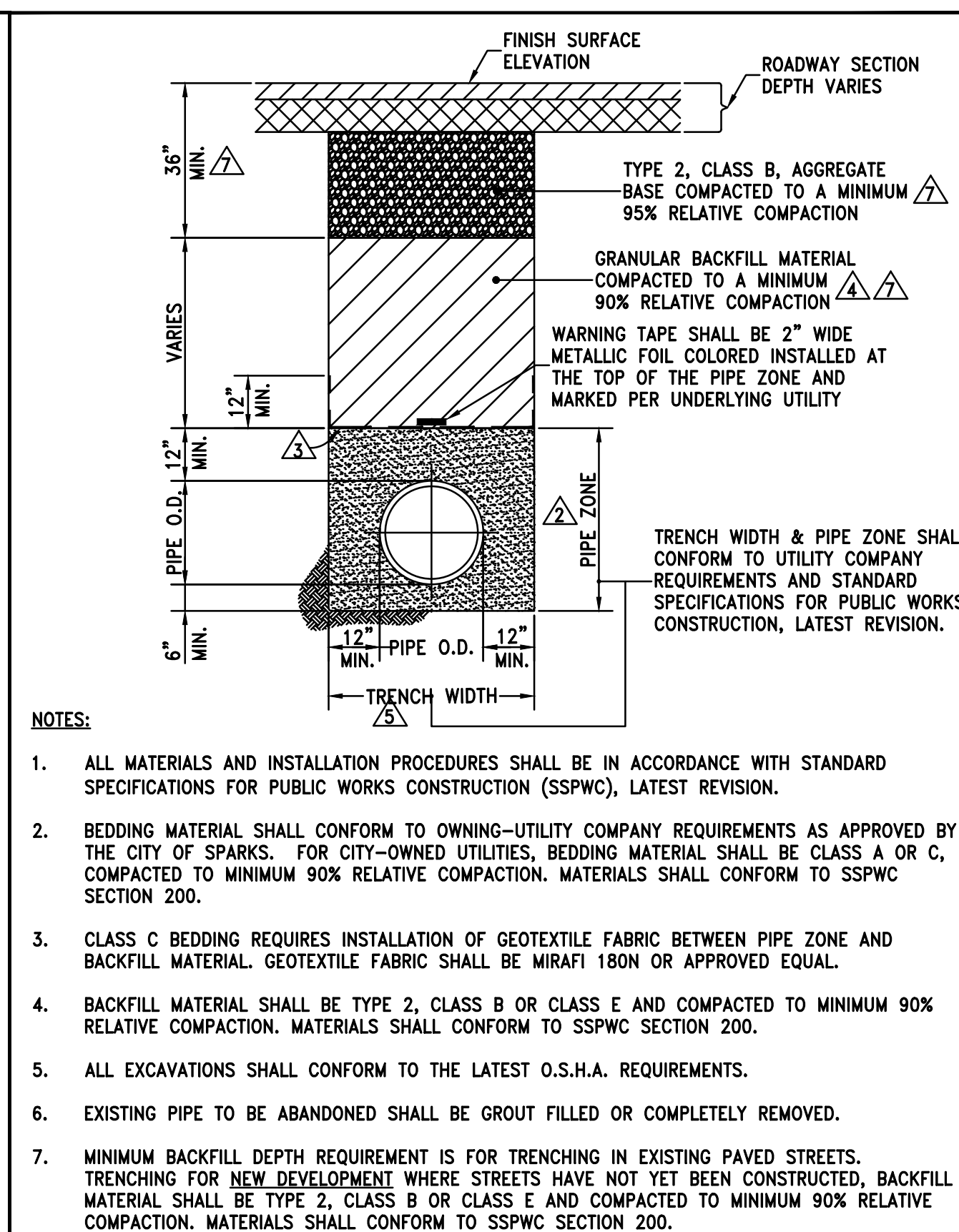
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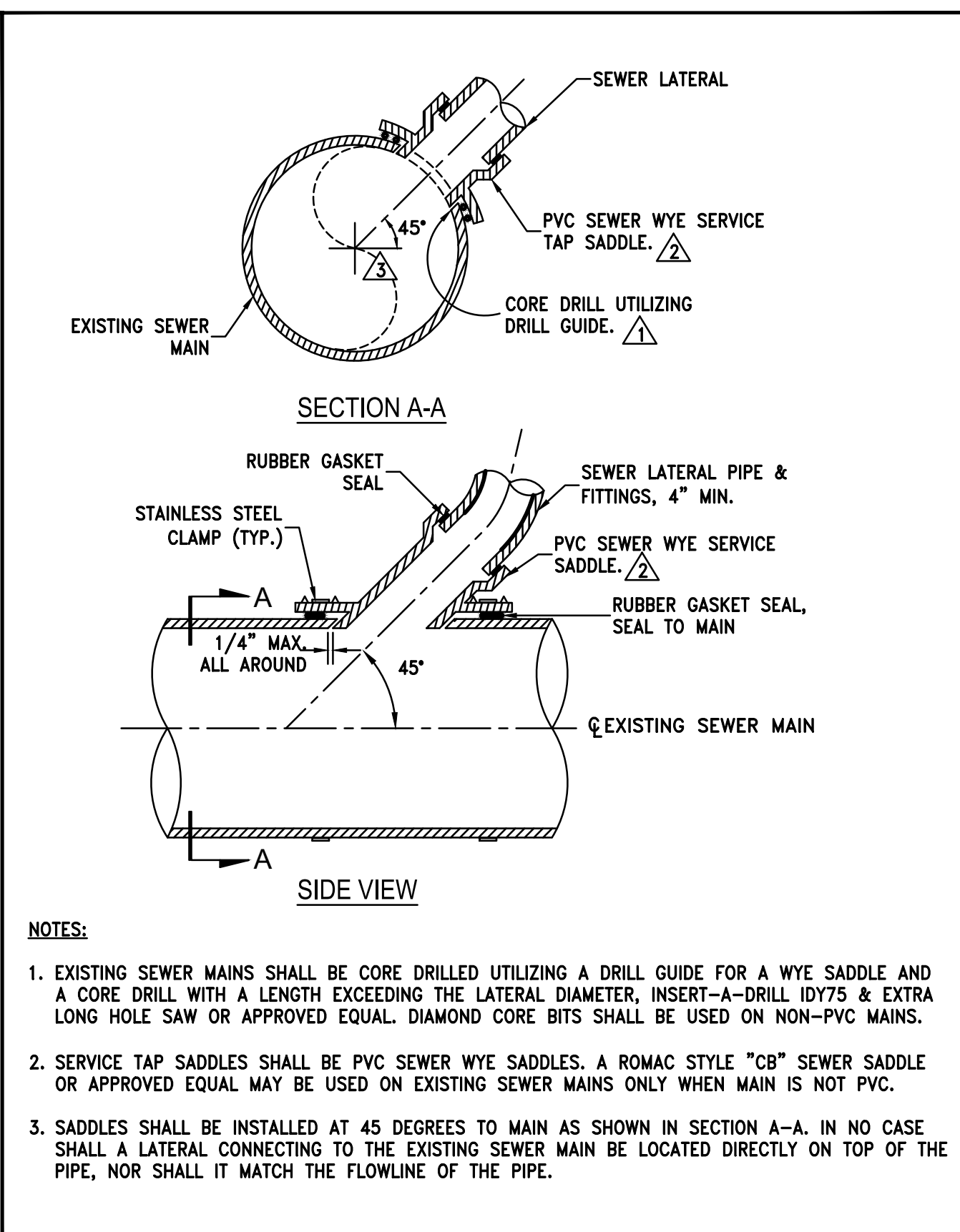
REV DATE

C5.2

DATE: MAY 2016
DRAWN BY: AJG
DESIGNED BY: BM, AJG
CHECKED BY:
JOB NO.: 9006.000



TRENCH EXCAVATION/BACKFILL (MODIFIED) (12 CS.2)

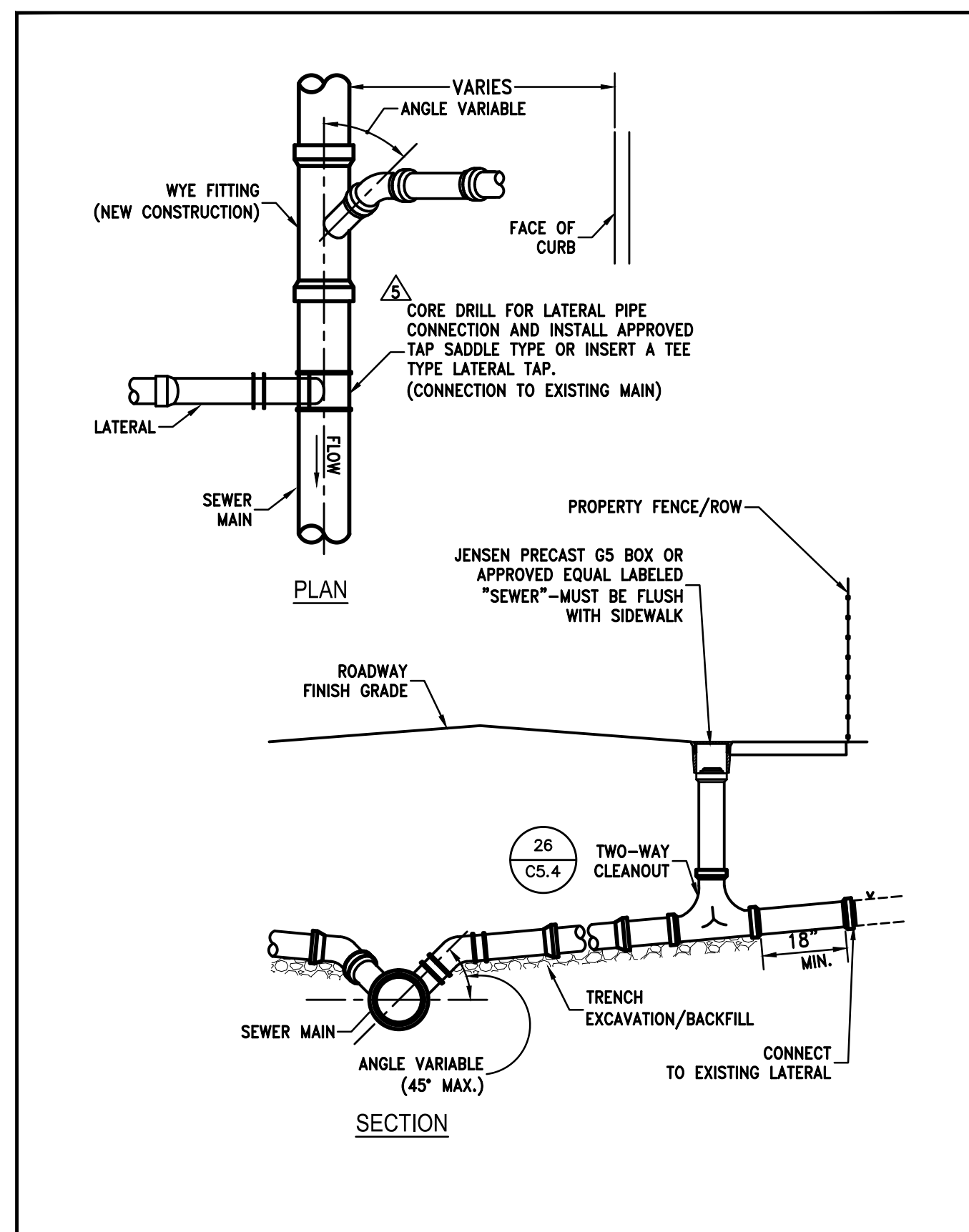


SANITARY SEWER TAP SADDLE (MODIFIED) (11 CS.2)

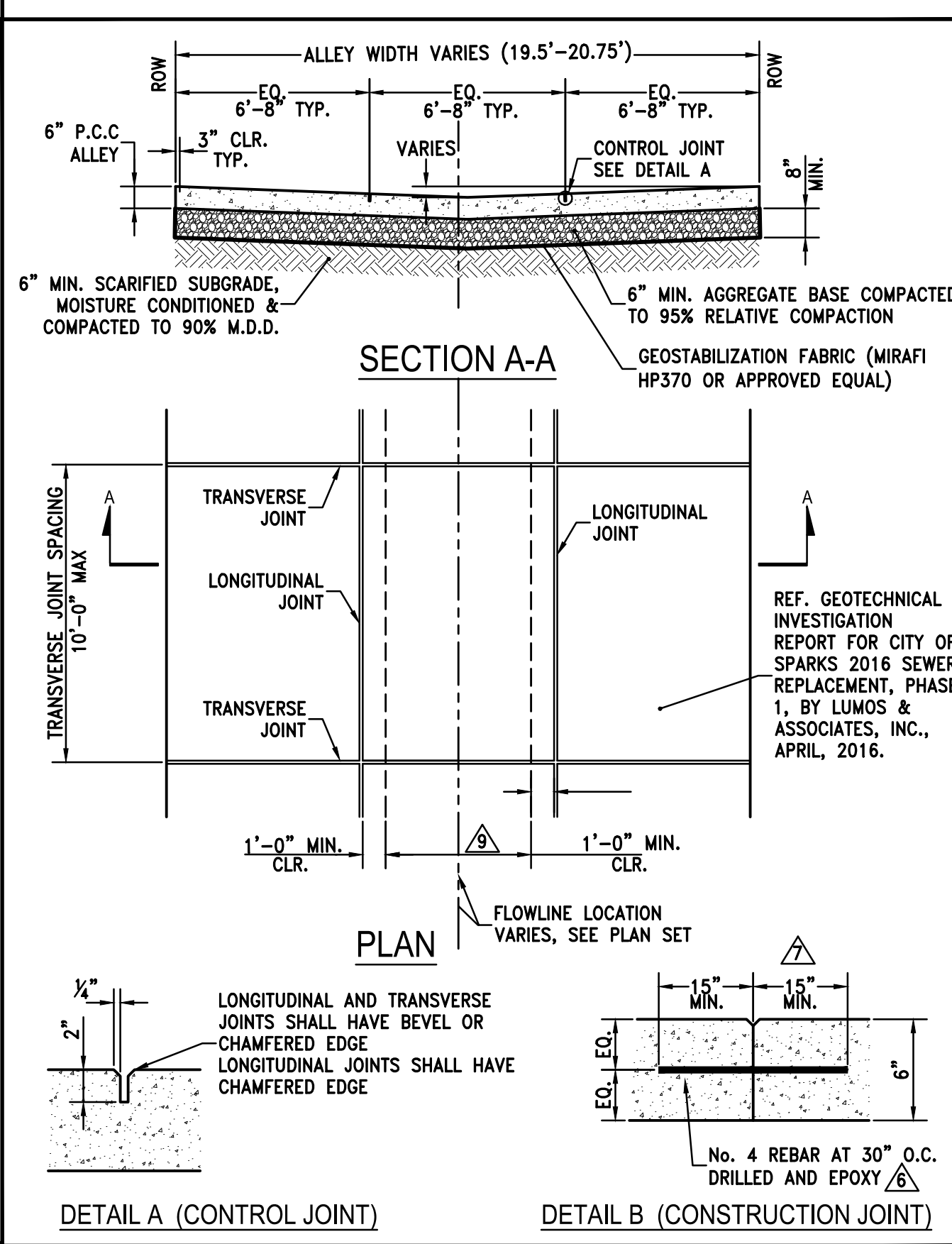
NOTES:

- SEWER LATERALS SHALL HAVE A MINIMUM PIPE DIAMETER OF 4-INCHES.
- ALL PLASTIC PIPE USED FOR SEWER SERVICE LATERAL CONSTRUCTION SHALL BE SOLID WALL AND SHALL MEET THE REQUIREMENTS OF D-2412, HAVE A MINIMUM STIFFNESS OF 46 PSI AS DEFINED BY THE REQUIREMENTS OF ASTM D-3034.
- SEWER LATERALS SHALL HAVE A MINIMUM SLOPE OF 1/4-INCH PER FOOT UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
- SEWER LATERALS SHALL HAVE A MINIMUM COVER OF 36-INCHES IN THE PUBLIC RIGHT-OF-WAY AND IN EASEMENTS UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER. THE DEFINITION OF "COVER" IS THE DISTANCE FROM THE TOP OF PIPE TO FINISHED GRADE.
- USE OF SEWER SERVICE TAP SADDLE CONNECTIONS SHALL NOT BE ALLOWED FOR NEW SEWER MAIN CONSTRUCTION. WHEN A TAP SADDLE CONNECTION IS TO BE USED ON AN EXISTING SEWER MAIN, IT SHALL BE A WYE SADDLE AND BE INSTALLED PER DETAIL R-224C.
- SEWER LATERALS SHALL HAVE A CLEANOUT INSTALLED IMMEDIATELY UPSTREAM OF THE POINT WHERE THE SERVICE LATERAL EXITS THE PUBLIC RIGHT-OF-WAY OR EASEMENT. A GS BOX CLEARLY MARKED "SEWER" SHALL BE INSTALLED OVER THE TOP OF THE CLEANOUT RISER CAP PIPE.
- SEWER LATERALS SHALL NOT BE CONNECTED DIRECTLY TO OR WITHIN 5- FEET OF A MANHOLE STRUCTURE.
- EXISTING SEWER LATERALS SHALL BE CUT BACK TO SOUND MATERIAL FOR COUPLING. PLACE 6-INCH THICK CONCRETE PAD UNDER CONNECTION.
- SEWER LATERAL CONNECTION SHALL BE STABILIZED WITH APPROVED MATERIAL FOLLOWING INSTALLATION. CONNECTION TO CITY SEWER MAIN MUST BE INSPECTED BY THE CITY PRIOR TO BACKFILL.
- NO LATERAL CONNECTIONS SHALL BE MADE DIRECTLY TO A SANITARY SEWER "INTERCEPTOR" UNLESS APPROVED BY THE CITY ENGINEER.
- SEWER LATERALS SHALL NOT BE CONNECTED TO A SEWER MAIN UNLESS THE CONNECTION POINT IS BETWEEN TWO MANHOLE STRUCTURES.
- EACH INDIVIDUAL PARCEL SHALL HAVE A MINIMUM OF ONE SEWER LATERAL. TWO OR MORE PARCELS SHALL NOT SHARE ONE SEWER LATERAL.
- DISCONTINUANCE OF USE OF AN EXISTING SEWER LATERAL REQUIRES ABANDONMENT OF THE LATERAL. CUT, REMOVE 1-FOOT OF EXISTING LATERAL AND CAP BOTH ENDS OF THE EXISTING SEWER LATERAL TO BE ABANDONED WITHIN 6-INCHES OF THE SEWER MAIN. ABANDONMENT MUST BE INSPECTED BY CITY PRIOR TO BACKFILL.
- PROPERTY OWNER SHALL BE RESPONSIBLE FOR OPERATION, MAINTENANCE AND REPAIR OF THE SEWER LATERAL WITHIN THE PUBLIC RIGHT-OF-WAY PER SPARKS MUNICIPAL CODE.

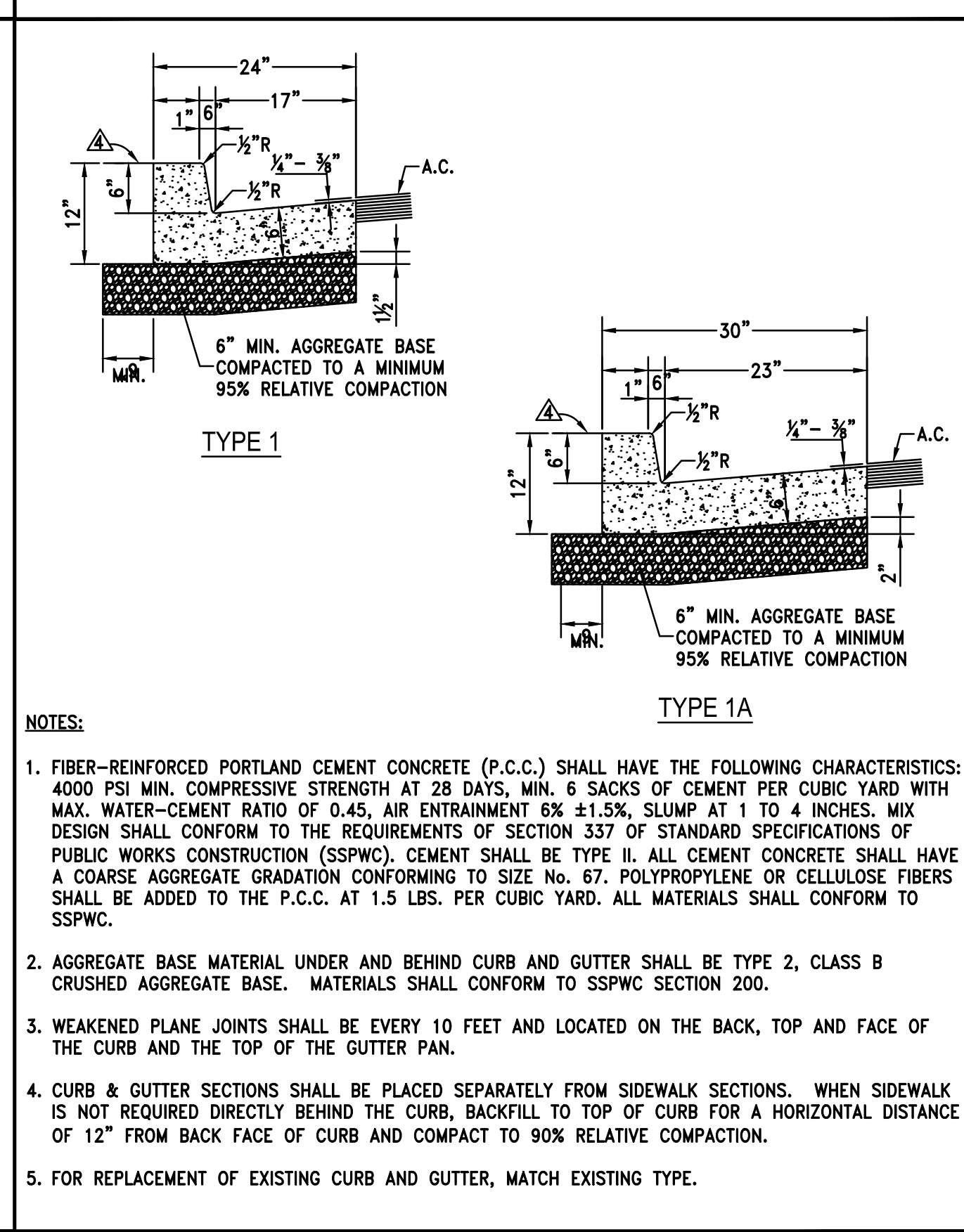
NOTES - SANITARY SEWER LATERAL (MODIFIED) (10 CS.2)



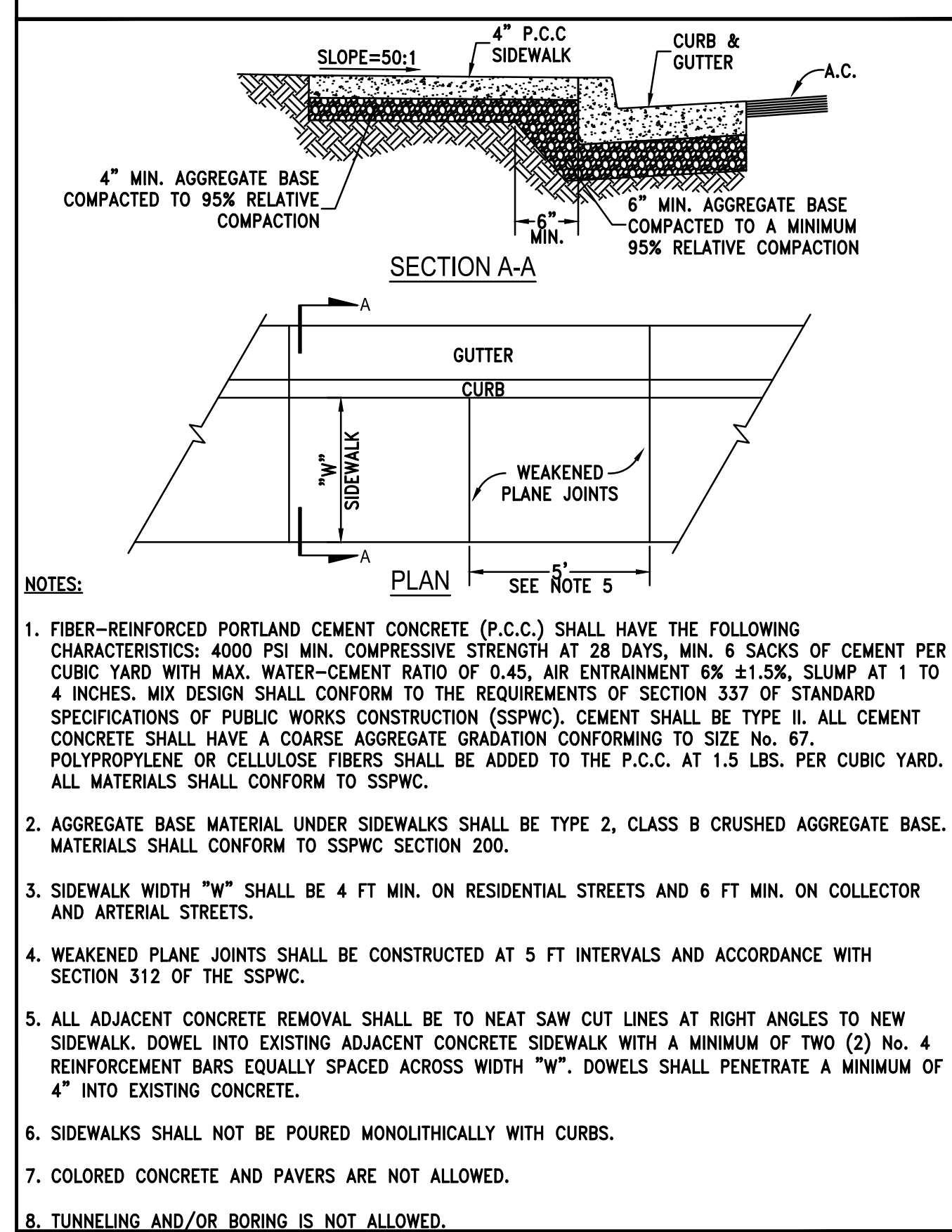
SANITARY SEWER LATERAL (MODIFIED) (9 CS.2)



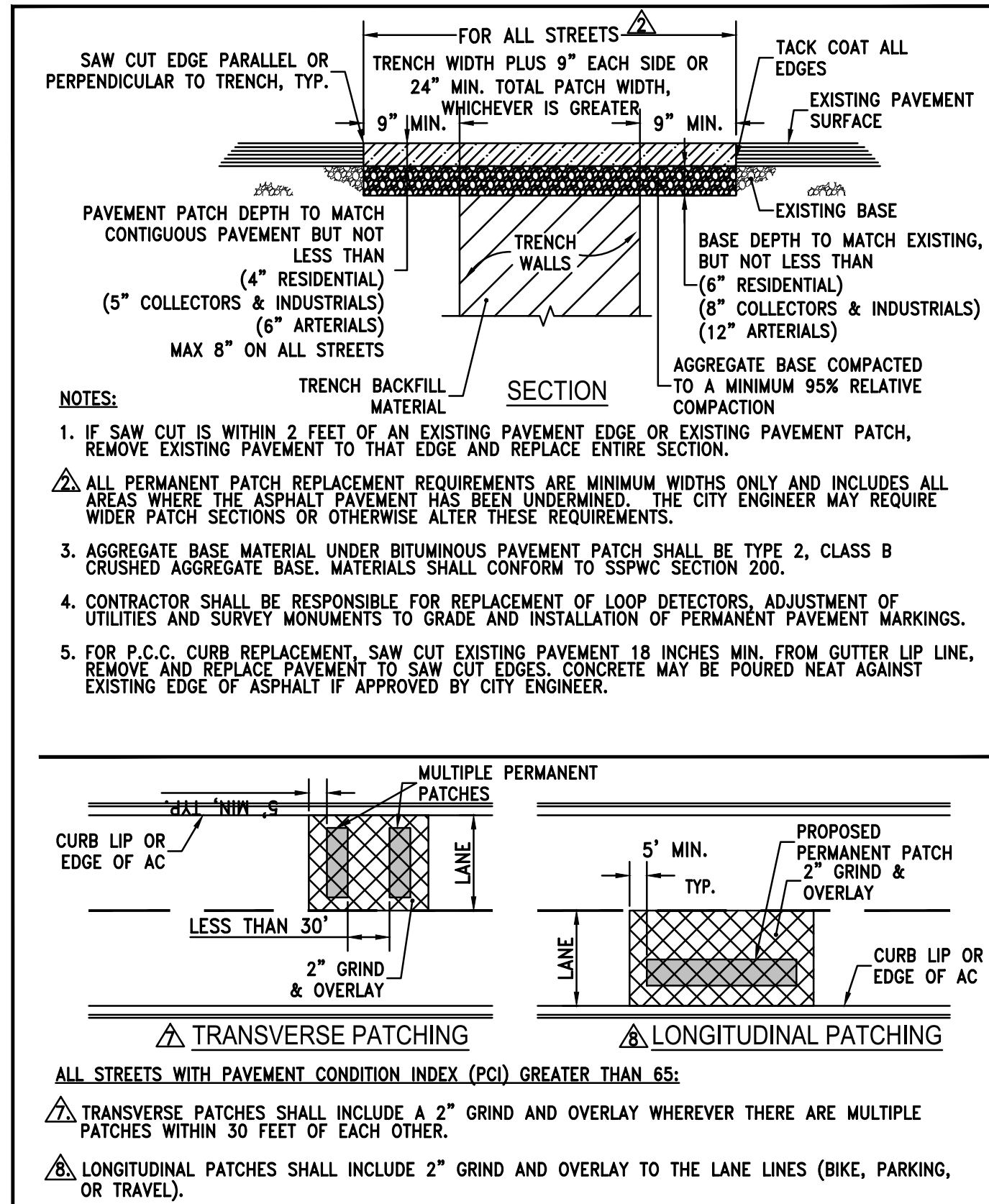
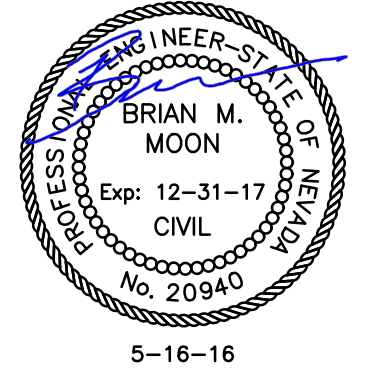
P.C.C. ALLEY (MODIFIED) (15 CS.2)



P.C.C. CURB & GUTTER (MODIFIED) (14 CS.2)

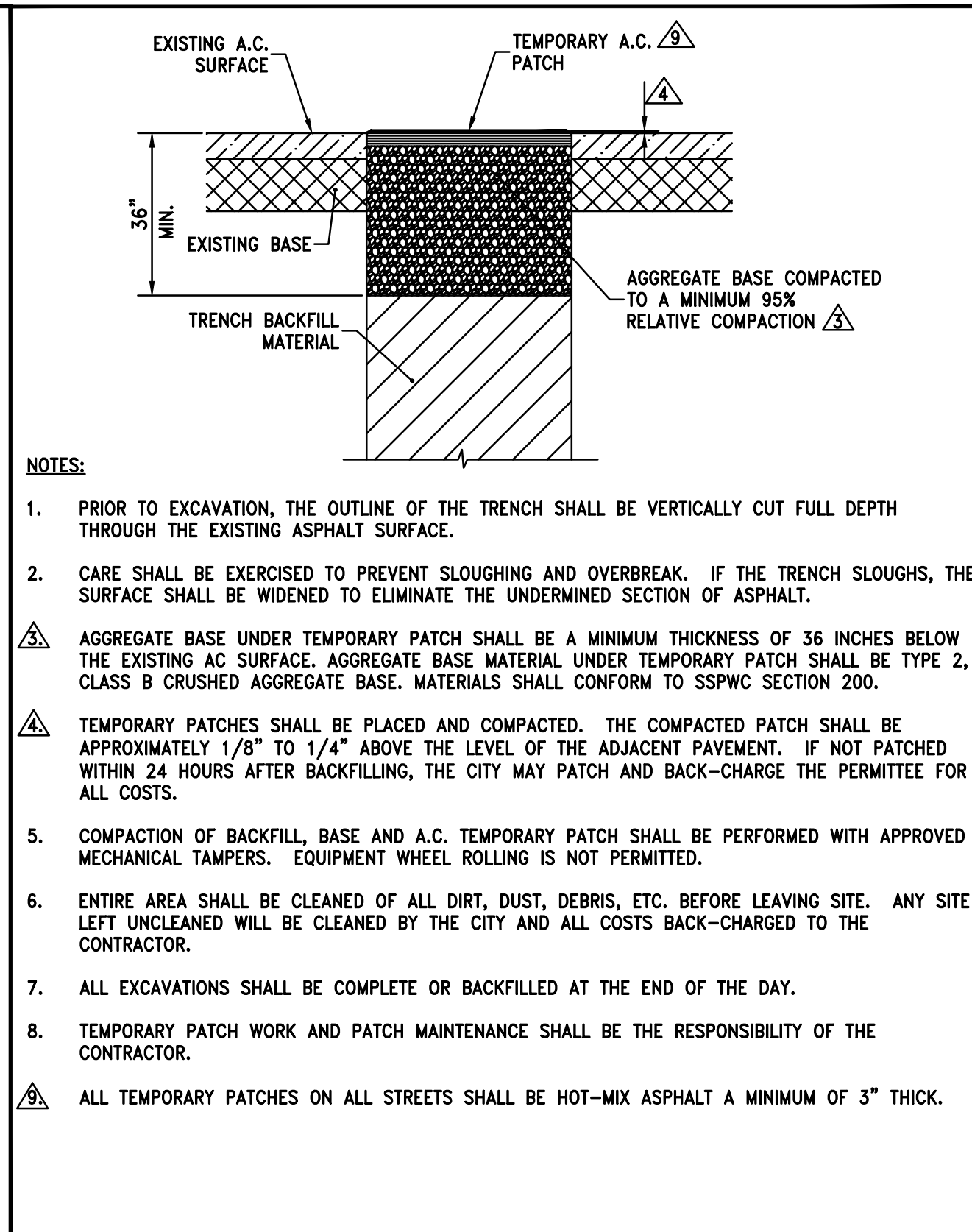


SIDEWALK DETAIL (MODIFIED) (13 CS.2)



PERMANENT BITUMINOUS PAVEMENT PATCH (MODIFIED)

17
C5.3

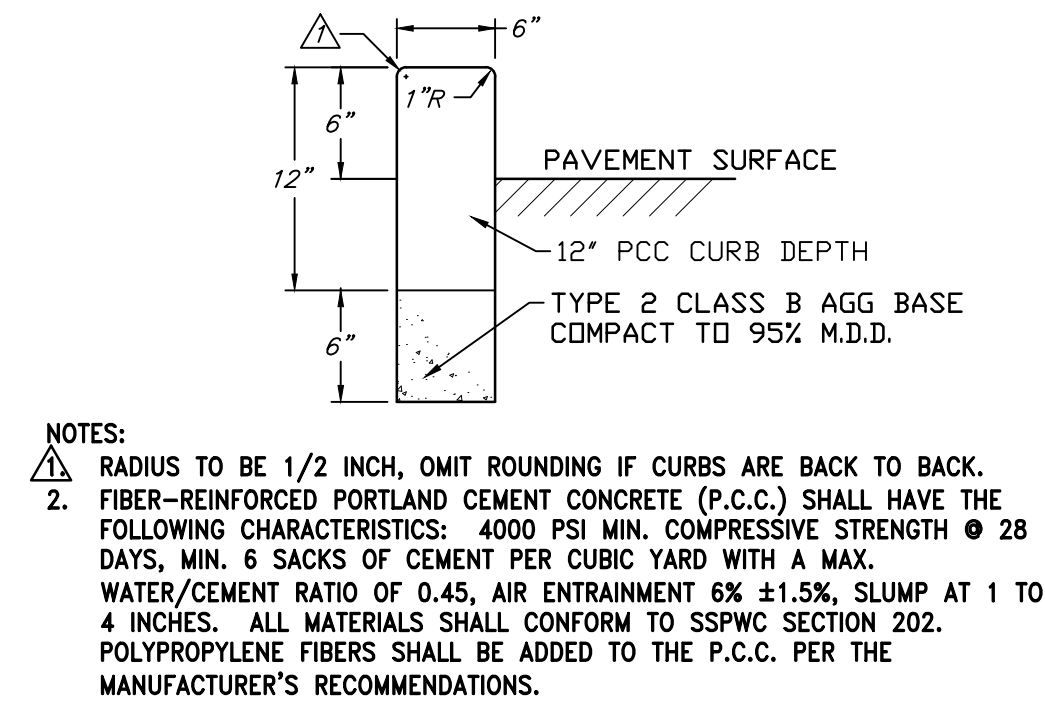


TEMPORARY A.C. TRENCH PATCH (MODIFIED)

18
C5.3

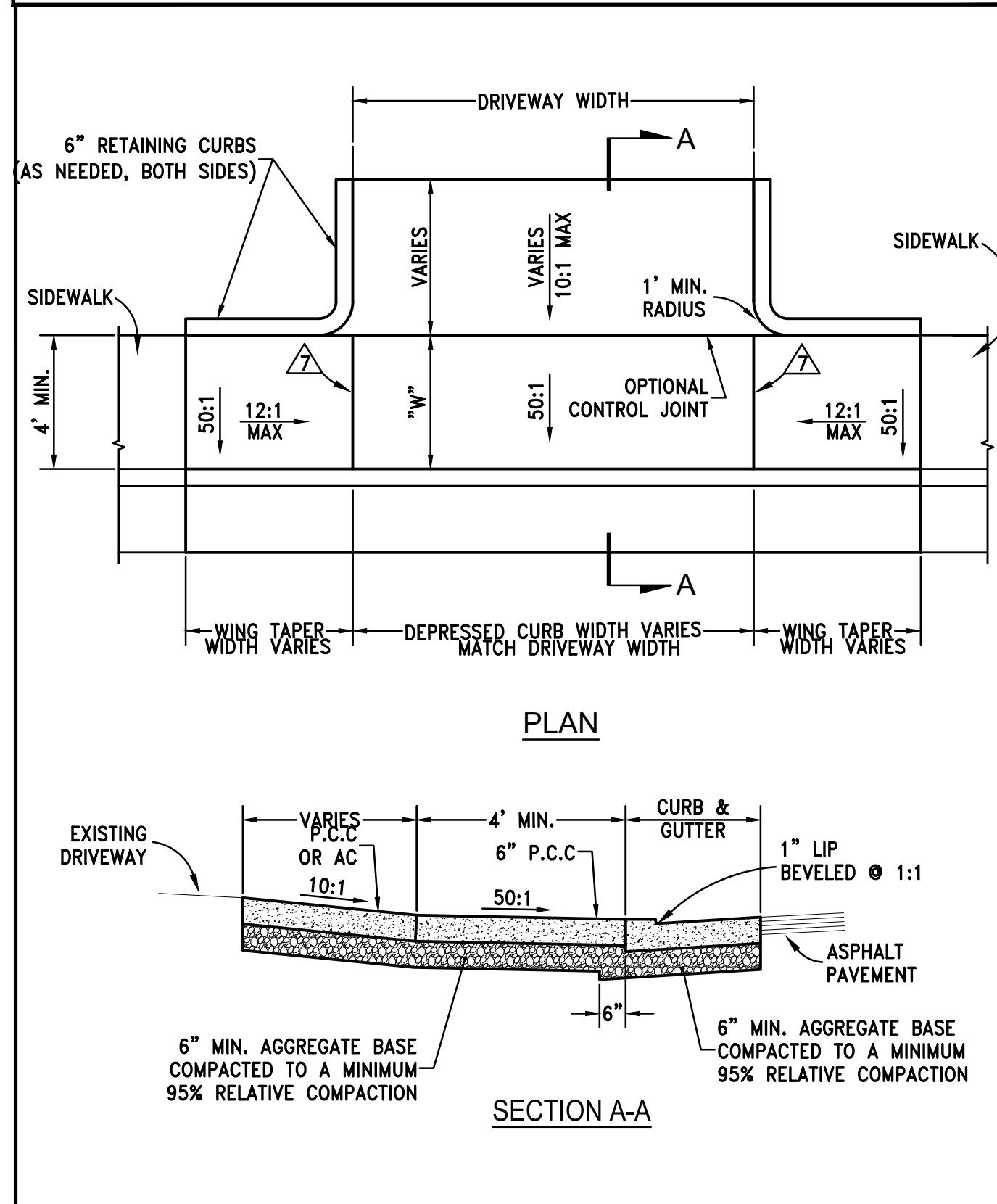
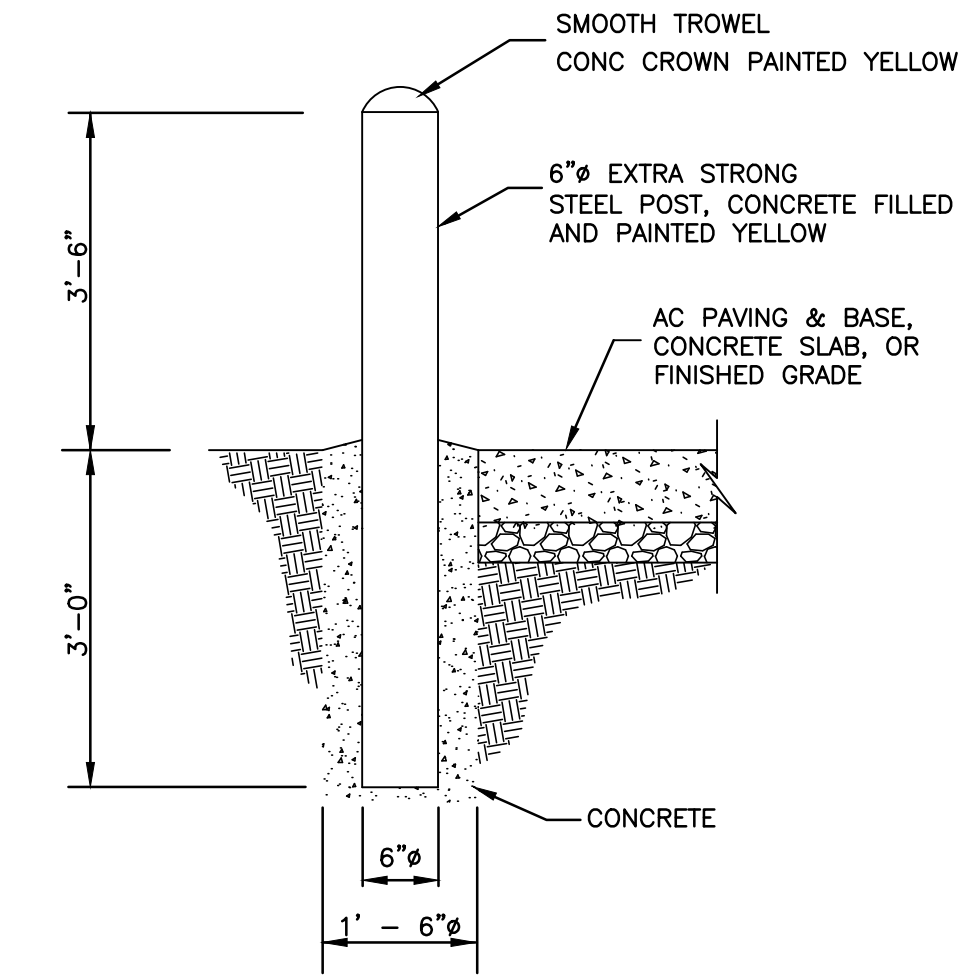
POST CURB DETAIL

SCALE: NTS
19
C5.3



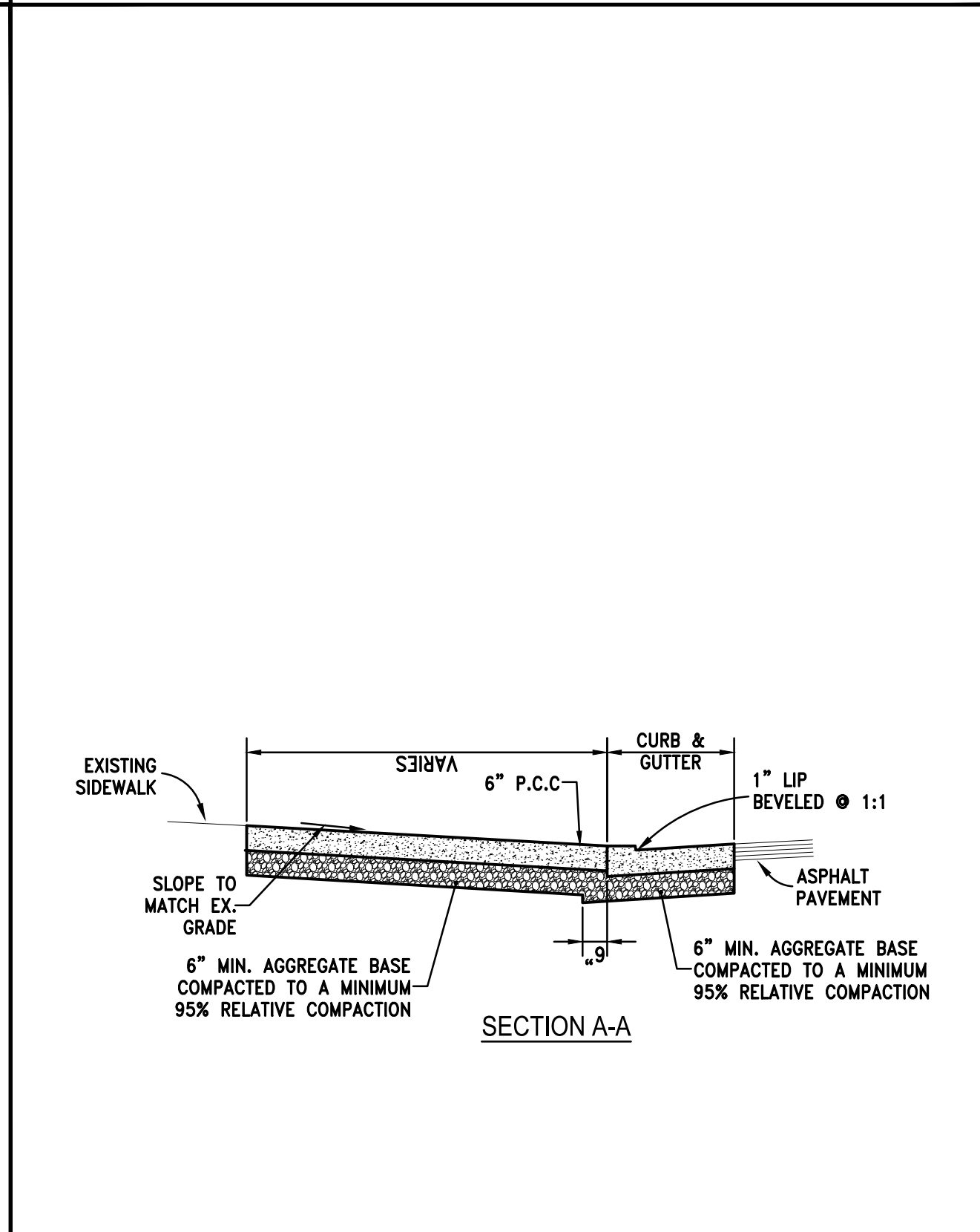
BOLLARD DETAIL

SCALE: NTS
20
C5.3



ADA P.C.C. DRIVEWAY APRON (MODIFIED)

21
C5.3



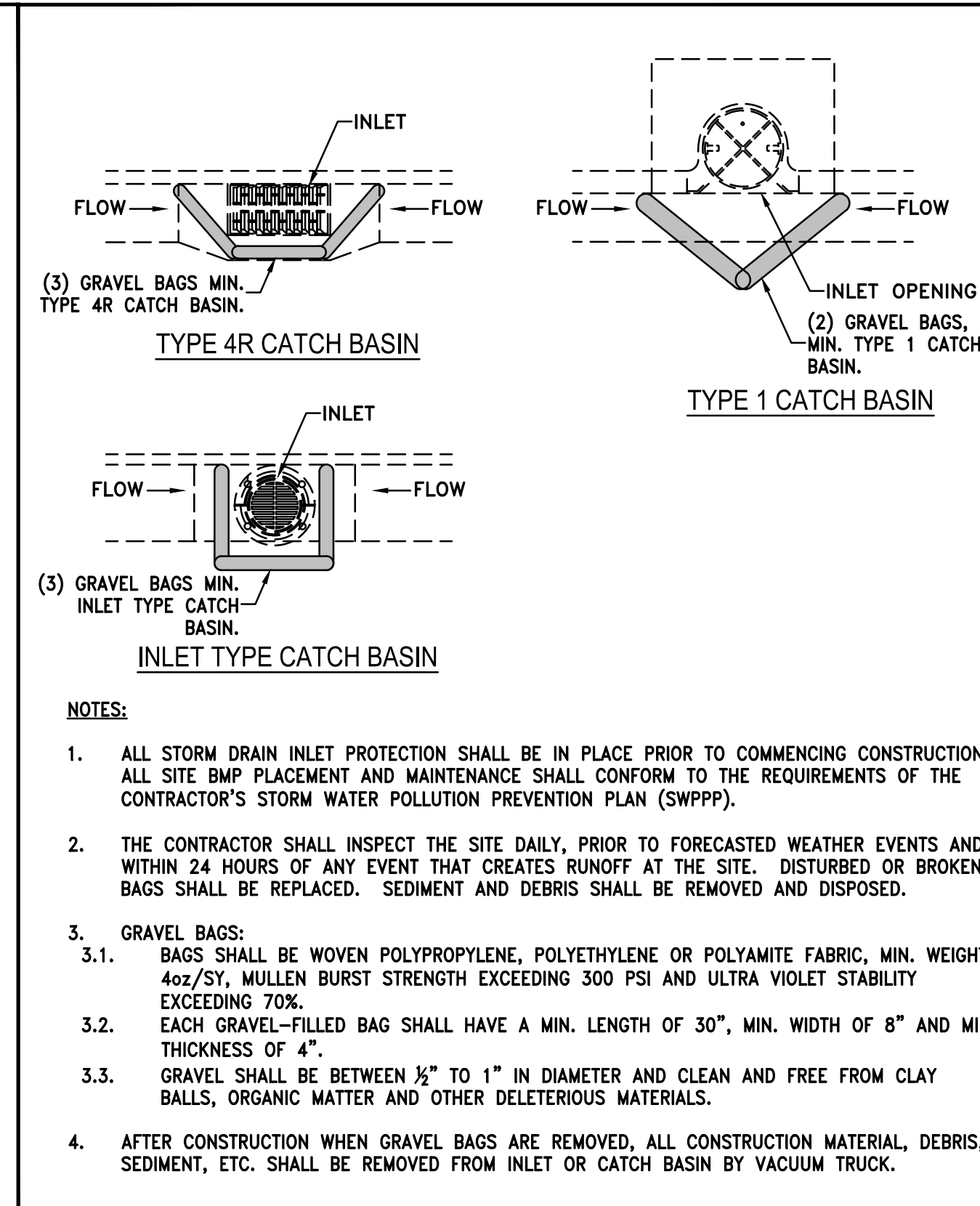
P.C.C. DRIVEWAY APRON SECTION (MODIFIED)

22
C5.3

NOTES - P.C.C. DRIVEWAY APRON (MODIFIED)

23
C5.3

- NOTES:**
- FIBER-REINFORCED PORTLAND CEMENT CONCRETE (P.C.C.) SHALL HAVE THE FOLLOWING CHARACTERISTICS: 4000 PSI MIN. COMPRESSIVE STRENGTH AT 28 DAYS, MIN. 6 SACKS OF CEMENT PER CUBIC YARD WITH MAX. WATER-CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6% ±1.5%, SLUMP AT 1 TO 4 INCHES. MIX DESIGN SHALL CONFORM TO THE REQUIREMENTS OF SECTION 337 OF STANDARD SPECIFICATIONS OF PUBLIC WORKS CONSTRUCTION (SSPWC). CEMENT SHALL BE TYPE II. ALL CEMENT CONCRETE SHALL HAVE A COARSE AGGREGATE GRADATION CONFORMING TO SIZE No. 67. POLYPROPYLENE OR CELLULOSE FIBERS SHALL BE ADDED TO THE P.C.C. AT 1.5 LBS. PER CUBIC YARD. ALL MATERIALS SHALL CONFORM TO SSPWC.
 - AGGREGATE BASE MATERIAL UNDER DRIVEWAYS AND SIDEWALKS SHALL BE TYPE 2, CLASS B CRUSHED AGGREGATE BASE. ALL MATERIALS SHALL CONFORM TO SSPWC SECTION 200.
 - RESIDENTIAL DRIVEWAYS SHALL BE POURED SEPARATE FROM CURB AND GUTTER.
 - IF EXISTING DRIVEWAY IS FOUND TO BE REINFORCED, THEN NEW DRIVEWAY SHALL HAVE #4 BARS AT 18" ON CENTER LONGITUDINAL & TRANSVERSE EXTENDING INTO GUTTER PAN AND DRIVEWAY WINGS. MINIMUM 2" CONCRETE COVER FOR ALL REINFORCING BARS. WHEN DRIVEWAY APPROACH AND CURB & GUTTER IS POURED SEPARATELY, IT SHALL BE REQUIRED FOR EACH REINFORCING BAR TO BE DOWELED INTO ADJACENT CURB & GUTTER. DOWELS SHALL #4 REBAR, PENETRATE INTO CURB & GUTTER MINIMUM OF 6", SPACED AT 18" ON CENTER AND BE SECURELY TIED TO THE DRIVEWAY APPROACH REINFORCING.
 - IF JOINT EXISTS WITHIN 4 FEET OF DRIVEWAY, REMOVE SIDEWALK AND CURB AND GUTTER TO THAT JOINT.
 - ALL ADJACENT CONCRETE REMOVAL SHALL BE TO NEAT SAW CUT LINES AT RIGHT ANGLES. DOWEL INTO EXISTING ADJACENT CONCRETE DRIVEWAY APPROACH OR SIDEWALK WITH (2) No. 4 REINFORCING BARS EQUALLY SPACED ACROSS WIDTH "W". DOWELS SHALL PENETRATE A MINIMUM OF 4" INTO EXISTING CONCRETE.
 - WEAKENED PLANE JOINTS SHALL BE CONSTRUCTED AT 5 FT INTERVALS AND IN ACCORDANCE WITH SECTION 312 OF THE SSPWC.



STORM DRAIN INLET PROTECTION (MODIFIED)

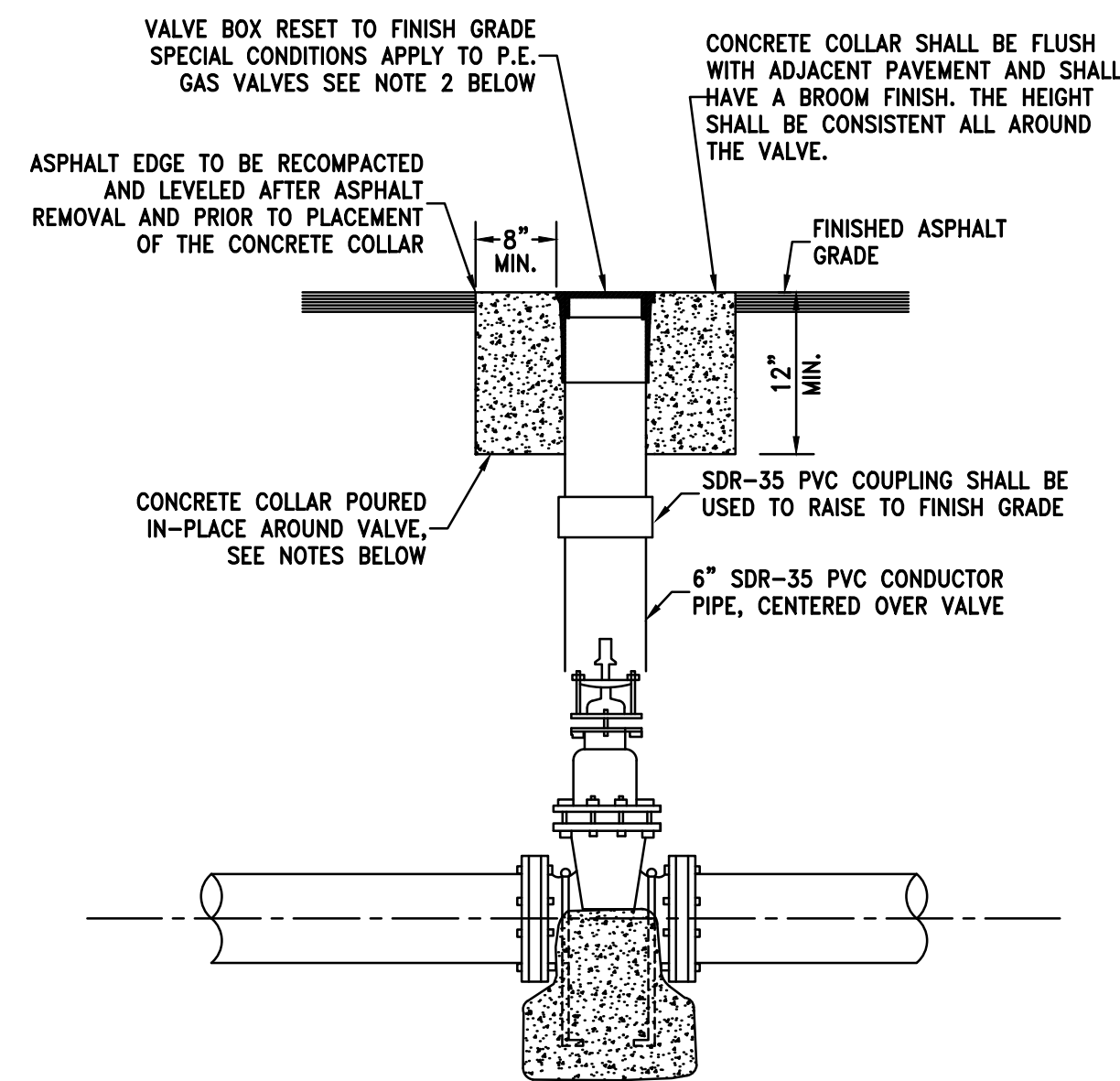
24
C5.3

CITY OF SPARKS
SEWER REHABILITATION
A STREET ALLEY
DETAIL SHEET

REV	DATE	DESCRIPTION

C5.3

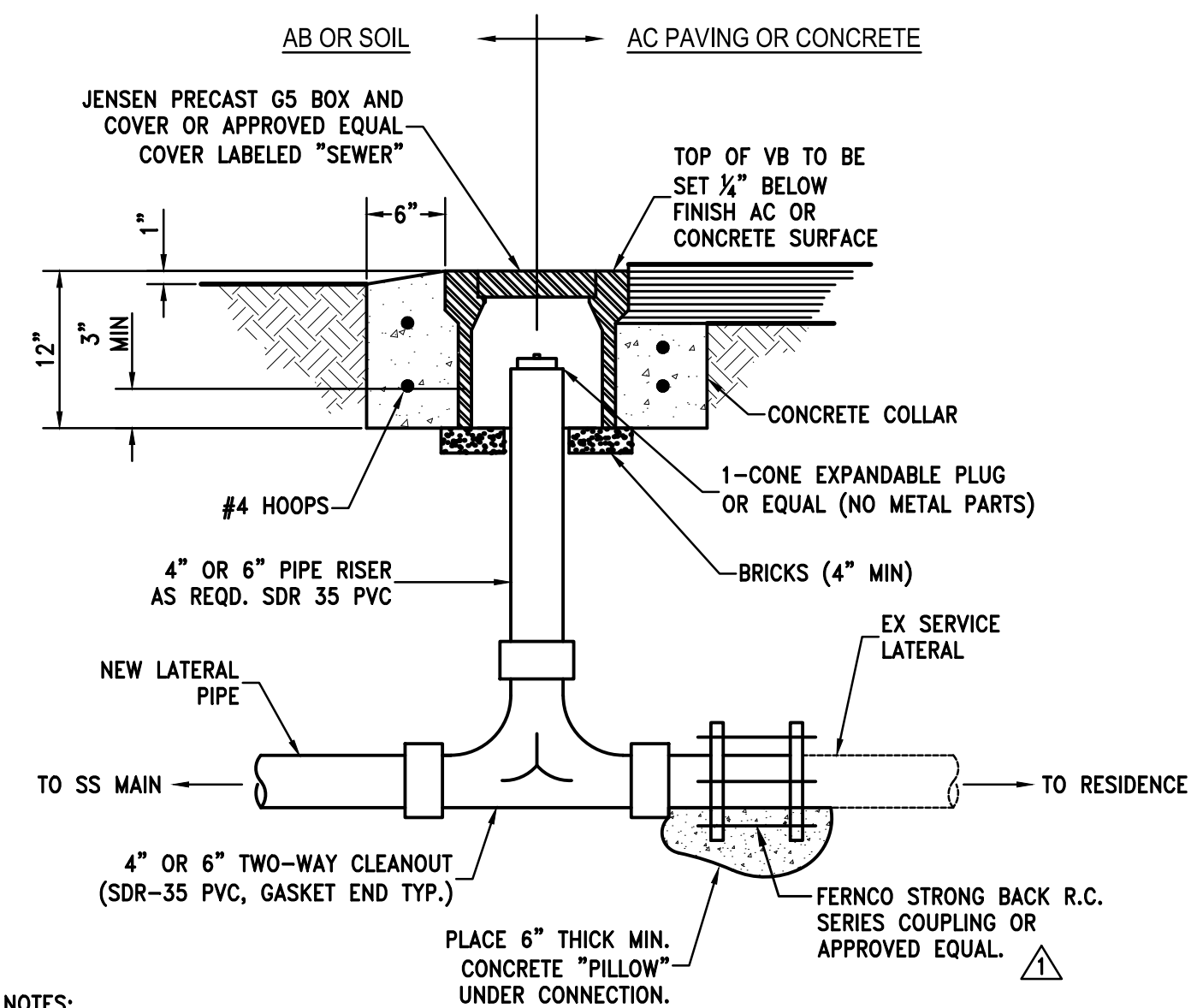
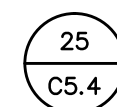
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- NOTES:**
- FIBER-REINFORCED PORTLAND CEMENT CONCRETE (P.C.C.) SHALL HAVE THE FOLLOWING CHARACTERISTICS: 4000 PSI MIN. COMPRESSIVE STRENGTH AT 28 DAYS, MIN. 6 SACKS OF CEMENT PER CUBIC YARD WITH MAX. WATER-CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6% ±1.5%, SLUMP AT 1 TO 4 INCHES. MIX DESIGN SHALL CONFORM TO THE REQUIREMENTS OF SECTION 337 OF STANDARD SPECIFICATIONS OF PUBLIC WORKS CONSTRUCTION (SSPWC). CEMENT SHALL BE TYPE II. ALL CEMENT CONCRETE SHALL HAVE A COARSE AGGREGATE GRADATION CONFORMING TO SIZE NO. 67. POLYPROPYLENE OR CELLULOSE FIBERS SHALL BE ADDED TO THE P.C.C. AT 1.5 LBS. PER CUBIC YARD. ALL MATERIALS SHALL CONFORM TO SSPWC.
 - SPECIAL CONDITIONS APPLY TO P.E. GAS VALVES WITH TELESCOPING RISERS. CONTRACTORS SHALL NOT RAISE TO GRADE RISERS THAT HAVE BEEN CUT-OFF DURING LOWERING. RISERS CUT-OFF DURING LOWERING SHALL BE REMOVED COMPLETELY TO MAIN AND TAKEN TO NV ENERGY FOR EXACT MATERIAL REPLACEMENT PRIOR TO RAISING TO GRADE.

VALVE BOX COLLAR

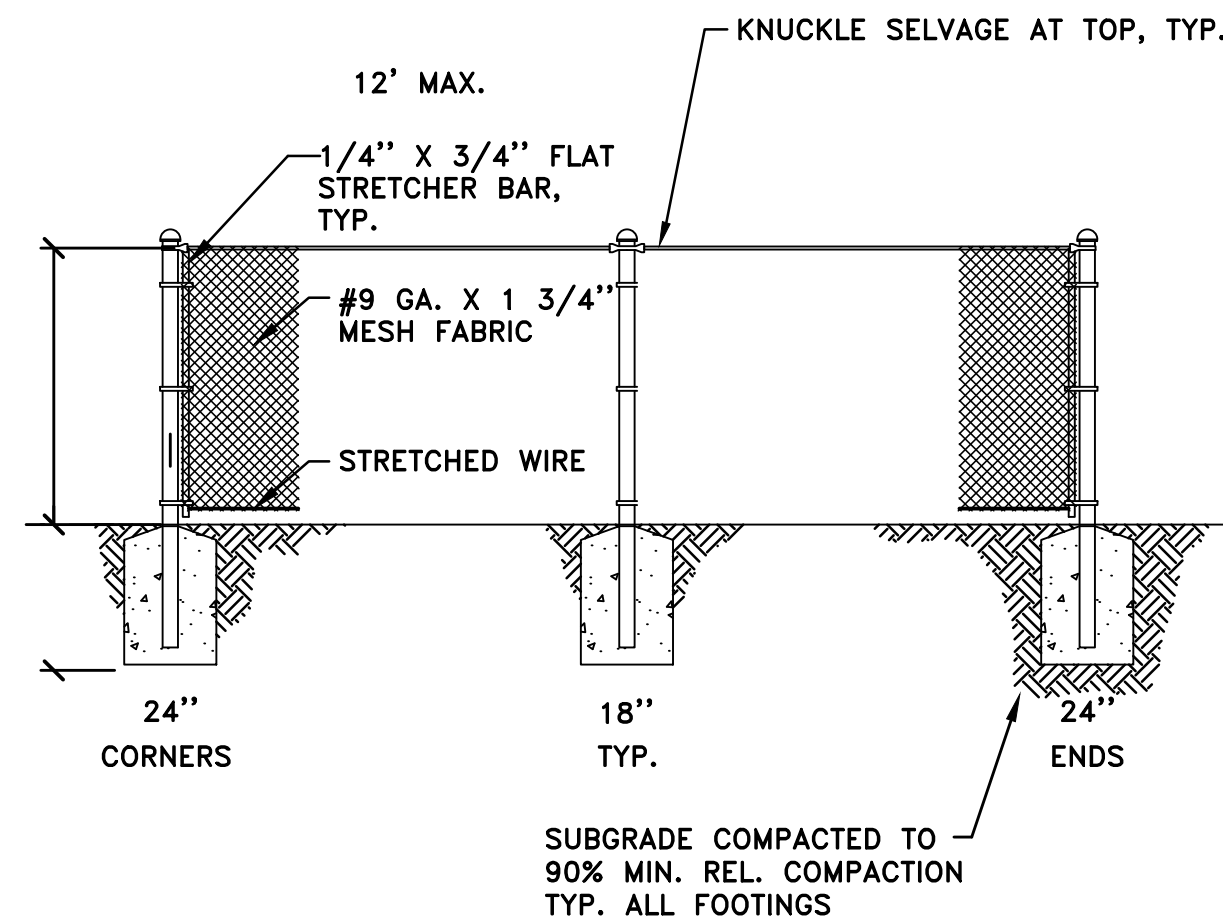
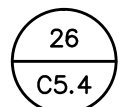
SCALE: NTS



- NOTES:**
- EXISTING SEWER LATERALS SHALL BE CUT BACK TO SOUND MATERIAL FOR COUPLING AND A CLEAN CONNECTION MUST BE MADE.

TWO-WAY LATERAL CLEANOUT DETAIL

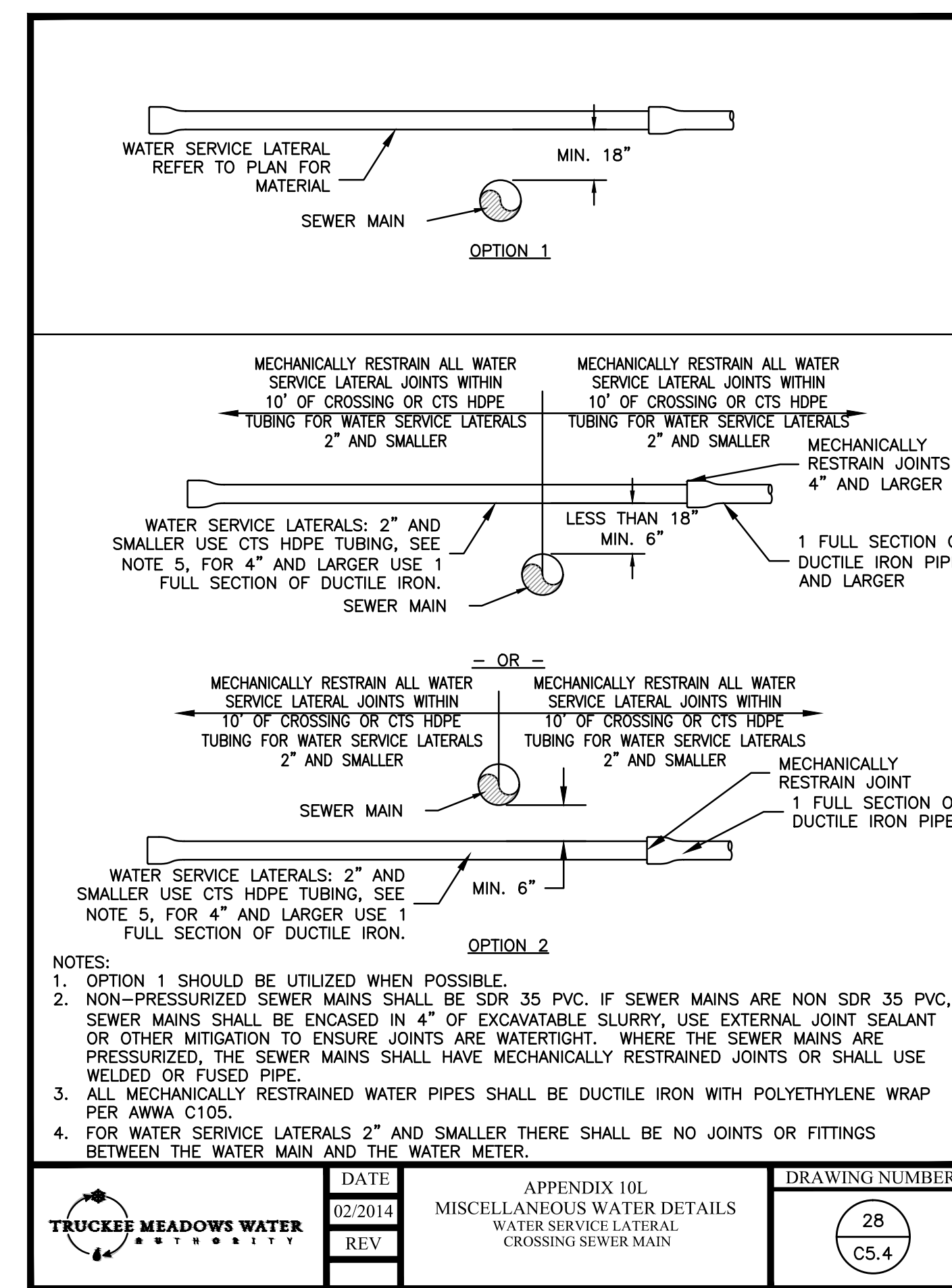
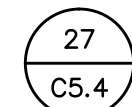
SCALE: NTS



- NOTES:**
- TOP RAIL SHALL BE 1 5/8" O.D.
 - FENCES 8' OR HIGHER SHALL HAVE 1 5/8" O.D. MID RAIL.
 - CORNER AND END POSTS SHALL BE 3" O.D. AT 6' AND 4' HIGH FENCE, 4" O.D. AT 8' OR HIGHER FENCE.
 - INTERMEDIATE POSTS SHALL BE 2 1/2" O.D. AT 6' AND 4' HIGH FENCE, 3" O.D. AT 8' OR HIGHER FENCE.
 - FENCING FABRIC, POSTS, RAILS AND HARDWARE SHALL BE GALVANIZED.

4' HIGH CHAIN LINK FENCE

SCALE: NTS

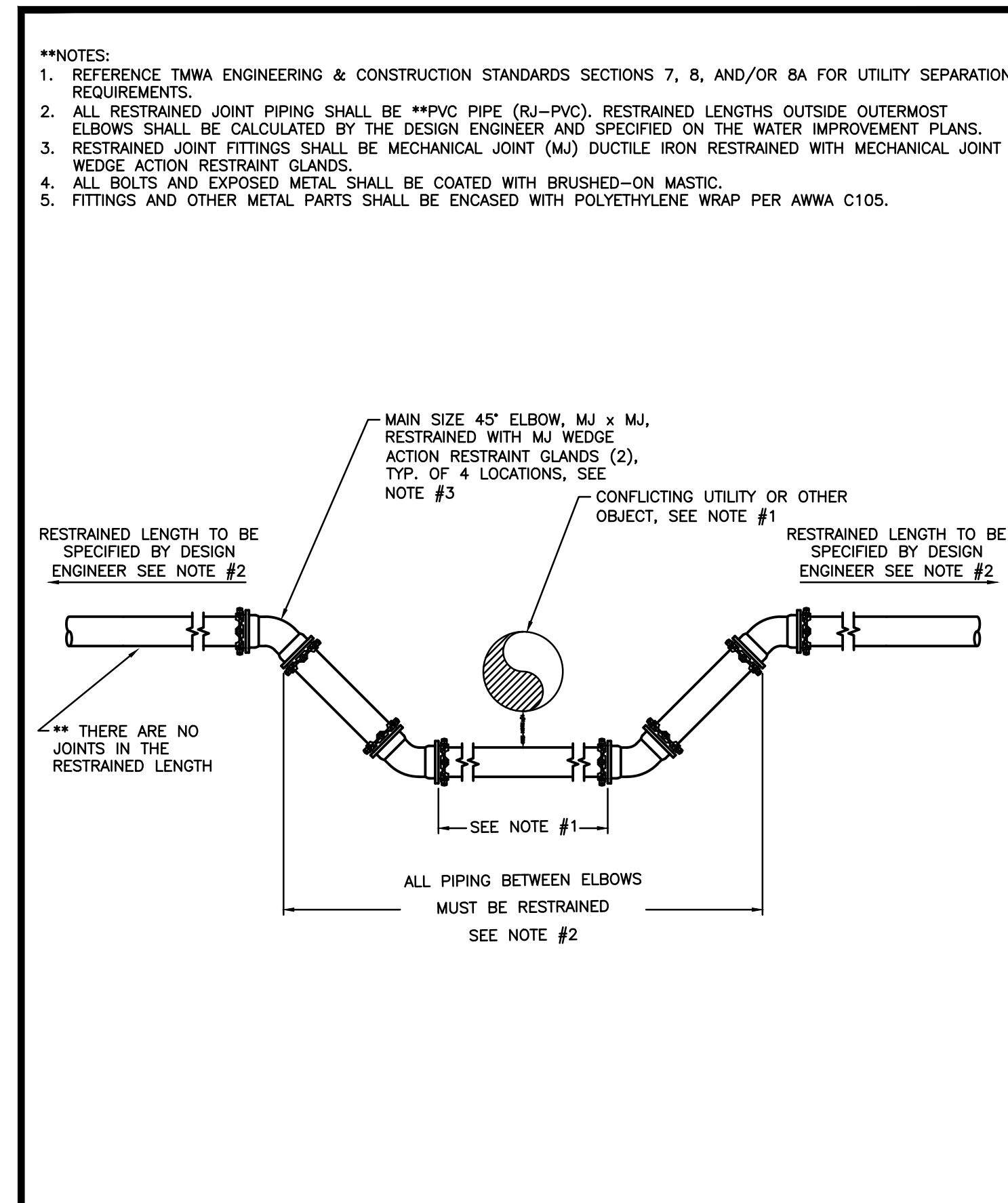


- NOTES:**
- OPTION 1 SHOULD BE UTILIZED WHEN POSSIBLE.
 - NON-PRESSURIZED SEWER MAINS SHALL BE SDR 35 PVC. IF SEWER MAINS ARE NON SDR 35 PVC, SEWER MAINS SHALL BE ENCASED IN 4" OF EXCAVATABLE SLURRY, USE EXTERNAL JOINT SEALANT OR OTHER MITIGATION TO ENSURE JOINTS ARE WATER-TIGHT. WHERE THE SEWER MAINS ARE PRESSURIZED, THE SEWER MAINS SHALL HAVE MECHANICALLY RESTRAINED JOINTS OR SHALL USE WELDED OR FUSED PIPE.
 - ALL MECHANICALLY RESTRAINED WATER PIPES SHALL BE DUCTILE IRON WITH POLYETHYLENE WRAP PER AWWA C105.
 - FOR WATER SERVICE LATERALS 2" AND SMALLER THERE SHALL BE NO JOINTS OR FITTINGS BETWEEN THE WATER MAIN AND THE WATER METER.



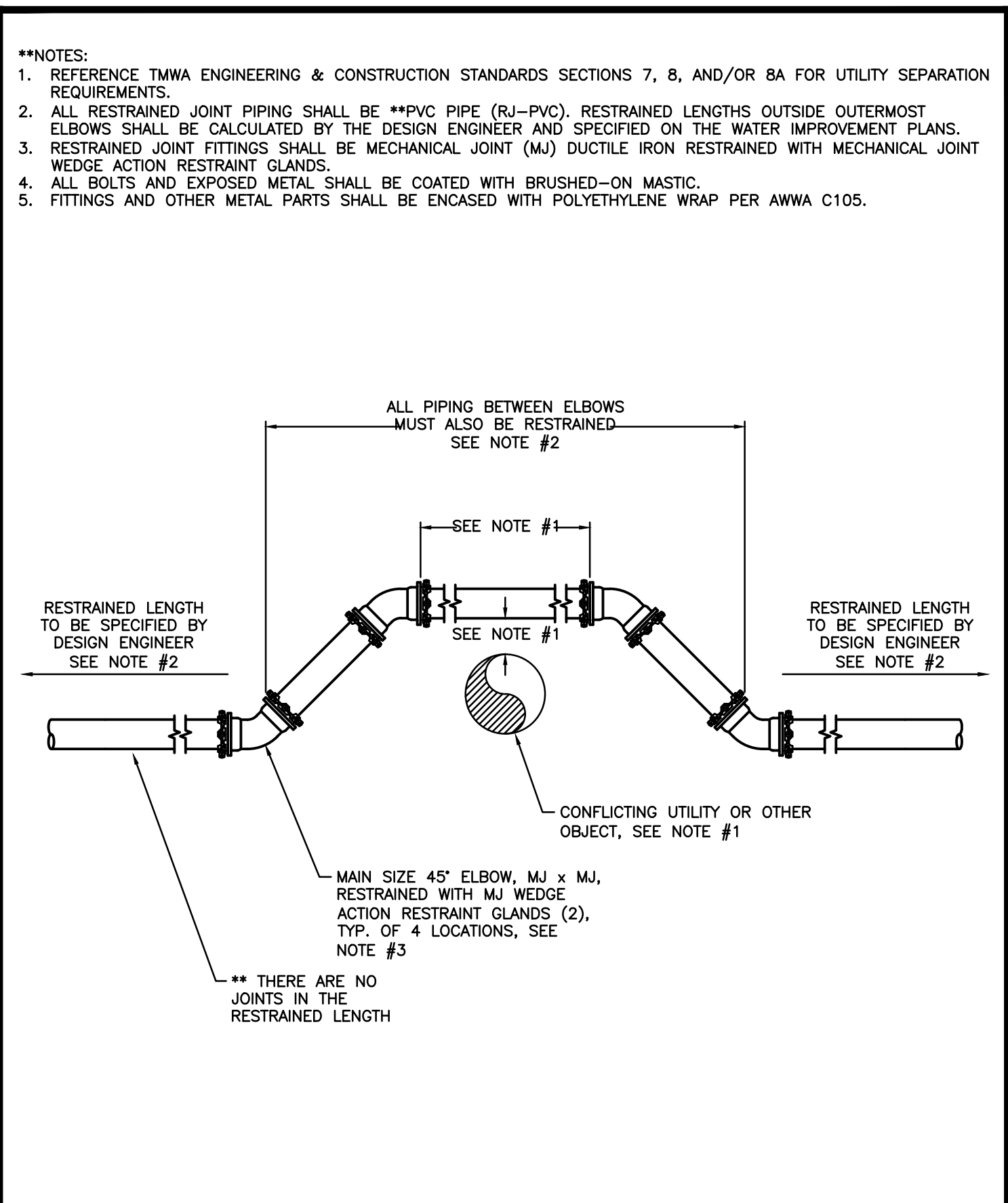
DATE	02/2014	APPENDIX 101 MISCELLANEOUS WATER DETAILS WATER SERVICE LATERAL CROSSING SEWER MAIN
REV		

DRAWING NUMBER	28
	C5.4



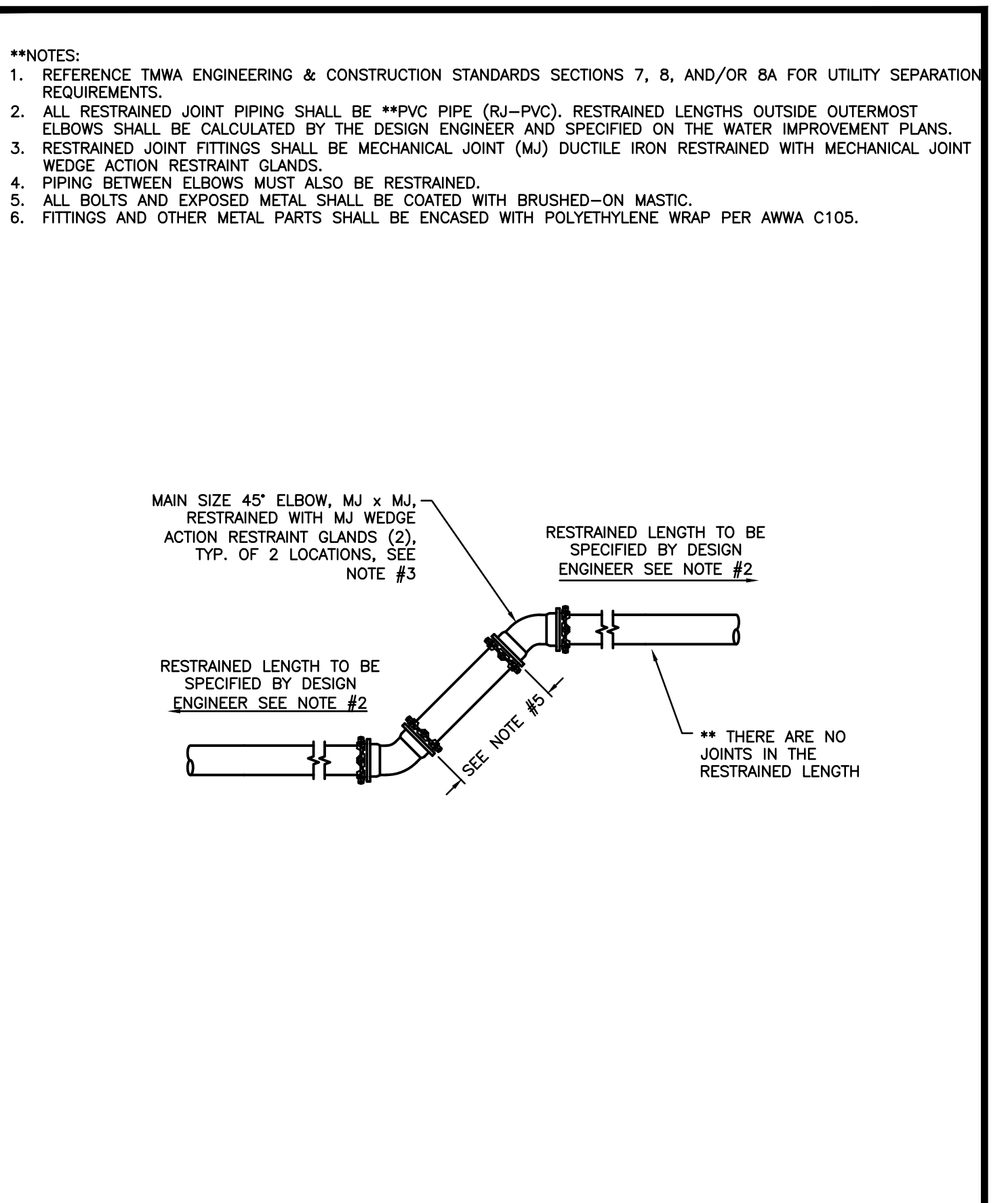
- **NOTES:**
- REFERENCE TMWA ENGINEERING & CONSTRUCTION STANDARDS SECTIONS 7, 8, AND/OR 8A FOR UTILITY SEPARATION REQUIREMENTS.
 - ALL RESTRAINED JOINT PIPING SHALL BE **PVC PIPE (RJ-PVC). RESTRAINED LENGTHS OUTSIDE OUTERMOST ELBOWS SHALL BE CALCULATED BY THE DESIGN ENGINEER AND SPECIFIED ON THE WATER IMPROVEMENT PLANS.
 - RESTRAINED JOINT FITTINGS SHALL BE MECHANICAL JOINT (MJ) DUCTILE IRON RESTRAINED WITH MECHANICAL JOINT WEDGE ACTION RESTRAINT GLANDS.
 - ALL BOLTS AND EXPOSED METAL SHALL BE COATED WITH BRUSHED-ON MASTIC.
 - FITTINGS AND OTHER METAL PARTS SHALL BE ENCASED WITH POLYETHYLENE WRAP PER AWWA C105.

DATE	7/2001	APPENDIX 101 VERTICAL ELBOW INSTALLATION **MODIFIED
REV	7/2011	RESTRAINED JOINT VERTICAL OFFSET UNDER UTILITY/OBJECT FOR MAINS 6" TO 12"



- **NOTES:**
- REFERENCE TMWA ENGINEERING & CONSTRUCTION STANDARDS SECTIONS 7, 8, AND/OR 8A FOR UTILITY SEPARATION REQUIREMENTS.
 - ALL RESTRAINED JOINT PIPING SHALL BE **PVC PIPE (RJ-PVC). RESTRAINED LENGTHS OUTSIDE OUTERMOST ELBOWS SHALL BE CALCULATED BY THE DESIGN ENGINEER AND SPECIFIED ON THE WATER IMPROVEMENT PLANS.
 - RESTRAINED JOINT FITTINGS SHALL BE MECHANICAL JOINT (MJ) DUCTILE IRON RESTRAINED WITH MECHANICAL JOINT WEDGE ACTION RESTRAINT GLANDS.
 - ALL BOLTS AND EXPOSED METAL SHALL BE COATED WITH BRUSHED-ON MASTIC.
 - FITTINGS AND OTHER METAL PARTS SHALL BE ENCASED WITH POLYETHYLENE WRAP PER AWWA C105.

DATE	7/2001	APPENDIX 101 VERTICAL ELBOW INSTALLATION **MODIFIED
REV	7/2011	DOMESTIC USE REDUCED PRESSURE PRINCIPLE RESTRAINED JOINT VERTICAL OFFSET OVER UTILITY/OBJECT



- **NOTES:**
- REFERENCE TMWA ENGINEERING & CONSTRUCTION STANDARDS SECTIONS 7, 8, AND/OR 8A FOR UTILITY SEPARATION REQUIREMENTS.
 - ALL RESTRAINED JOINT PIPING SHALL BE **PVC PIPE (RJ-PVC). RESTRAINED LENGTHS OUTSIDE OUTERMOST ELBOWS SHALL BE CALCULATED BY THE DESIGN ENGINEER AND SPECIFIED ON THE WATER IMPROVEMENT PLANS.
 - RESTRAINED JOINT FITTINGS SHALL BE MECHANICAL JOINT (MJ) DUCTILE IRON RESTRAINED WITH MECHANICAL JOINT WEDGE ACTION RESTRAINT GLANDS.
 - PIPING BETWEEN ELBOWS MUST ALSO BE RESTRAINED.
 - ALL BOLTS AND EXPOSED METAL SHALL BE COATED WITH BRUSHED-ON MASTIC.
 - FITTINGS AND OTHER METAL PARTS SHALL BE ENCASED WITH POLYETHYLENE WRAP PER AWWA C105.

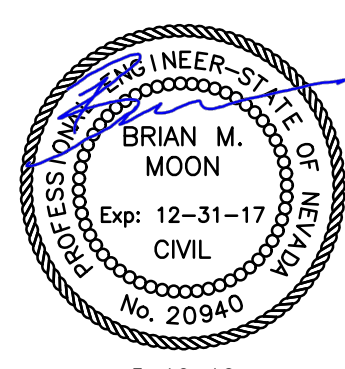
DATE	7/2001	APPENDIX 101 VERTICAL ELBOW INSTALLATION **MODIFIED
REV	7/2011	RESTRAINED JOINT SINGLE OFFSET FOR MAINS 6" TO 12"



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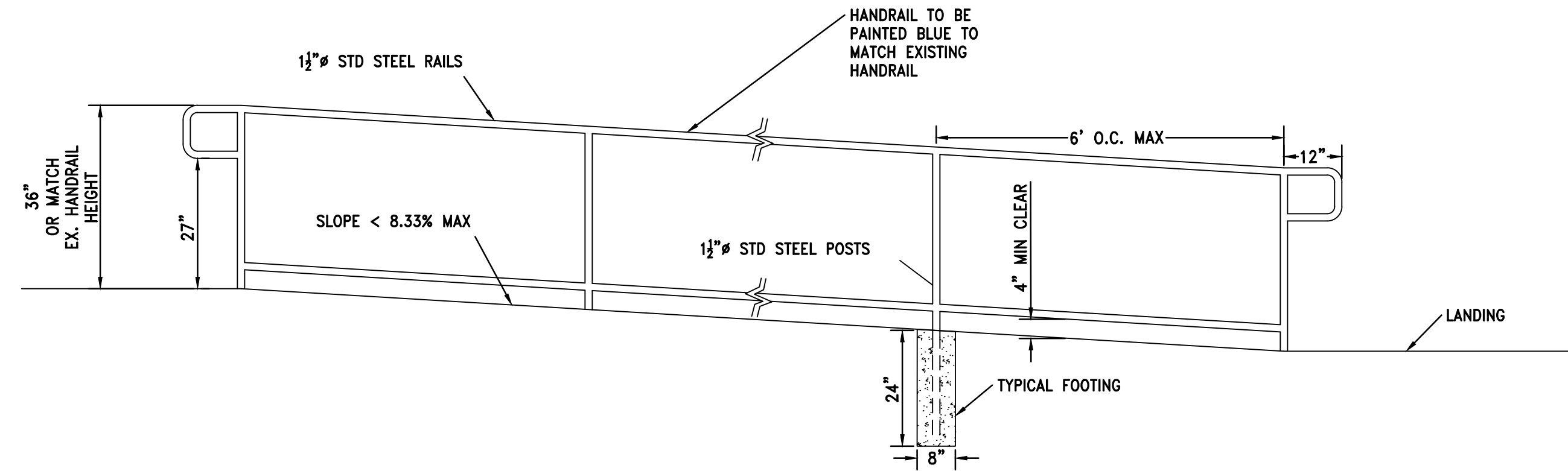
CITY OF SPARKS
SEWER REHABILITATION
A STREET ALLEY
DETAIL SHEET

REV	DATE	DESCRIPTION

C5.4

DATE: MAY 2016
DRAWN BY: AJG
DESIGNED BY: BM, AJG
CHECKED BY:
JOB NO.: 9006.000

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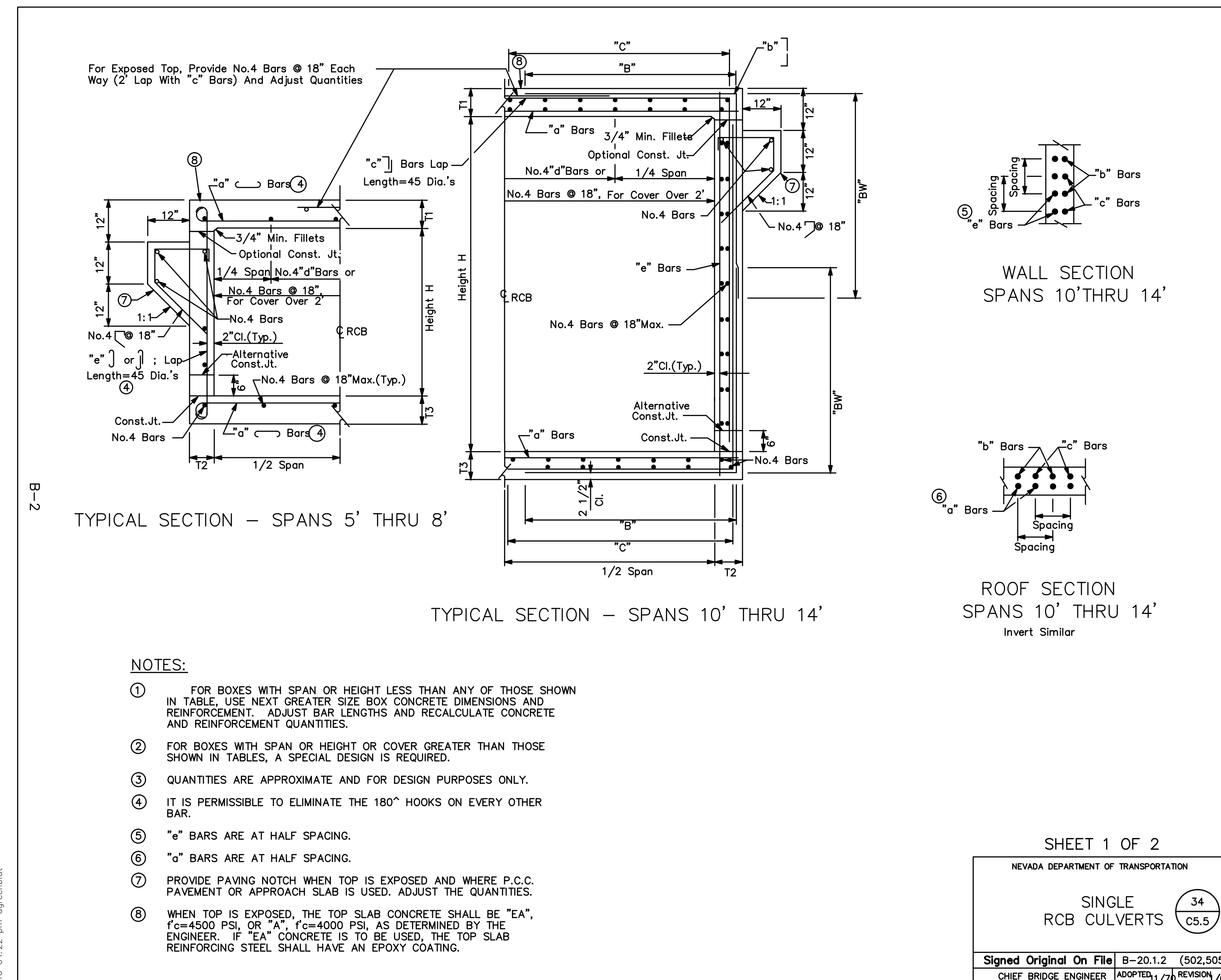


HANDRAIL CONSTRUCTION NOTES:

1. ALL HANDRAIL CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE ADA AND ABA ACCESSIBILITY GUIDELINES.
2. HANDRAIL GRIPPING SURFACES SHALL BE CONTINUOUS ALONG THEIR LENGTH AND SHALL NOT BE OBSTRUCTED ALONG THEIR TOPS OR SIDES.
3. ALL GUARDRAILS, FENCING AND HANDRAILS MUST BE COMPLIANT WITH 2012 IBC SECTIONS 1607.8.1, 1003.2.12, AND 1003.3.3.11.
4. CUT, DRILL AND PUNCH METALS CLEANLY AND ACCURATELY. REMOVE BURRS AND EASE EDGES TO A RADIUS OF APPROX. 1/8 INCH UNLESS OTHERWISE INDICATED. REMOVE SHARP OR ROUGH AREAS ON EXPOSED SURFACES.
5. ALL RAILINGS, BRACKETS, FLANGES FITTINGS AND ANCHORS SHALL BE MEDIA BLASTED TO A WHITE FINISH REMOVING ALL RUST, SCALE, OIL AND GREASE. POWDER COAT ALL FRAME MEMBERS WITH ZINC PRIMER, (MIN. 2.5 - 3 MIL) AND TGIC POLYESTER, (MIN. 2.5 - 3 MIL FOR A TOTAL MINIMUM THICKNESS OF 5-6 MILS. FINISH SHALL BE A SMOOTH UNIFORM SURFACE WITH NO PITS, RUNS OR SAGS.
6. WELDED CONNECTIONS: WELD ALL AROUND AT CONNECTIONS, INCLUDING AT FITTINGS.
 - 6.1. USE MATERIALS AND METHODS THAT MINIMIZE DISTORTION AND DEVELOP STRENGTH AND CORROSION RESISTANCE OF BASE METALS.
 - 6.2. OBTAIN FUSION WITHOUT UNDERCUT OR OVERLAP.
 - 6.3. REMOVE FLUX IMMEDIATELY.
 - 6.4. FINISH EXPOSED SURFACES SMOOTH AND BLEND SO NO ROUGHNESS SHOWS AFTER FINISHING AND WELDED SURFACE MATCHES COUNTOURS OF ADJOINING SURFACES.
7. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR HANDRAIL PRIOR TO CONSTRUCTION FOR APPROVAL BY THE ENGINEER.

HANDRAIL DETAIL

SCALE: NTS 32
C5.5



NOTES:

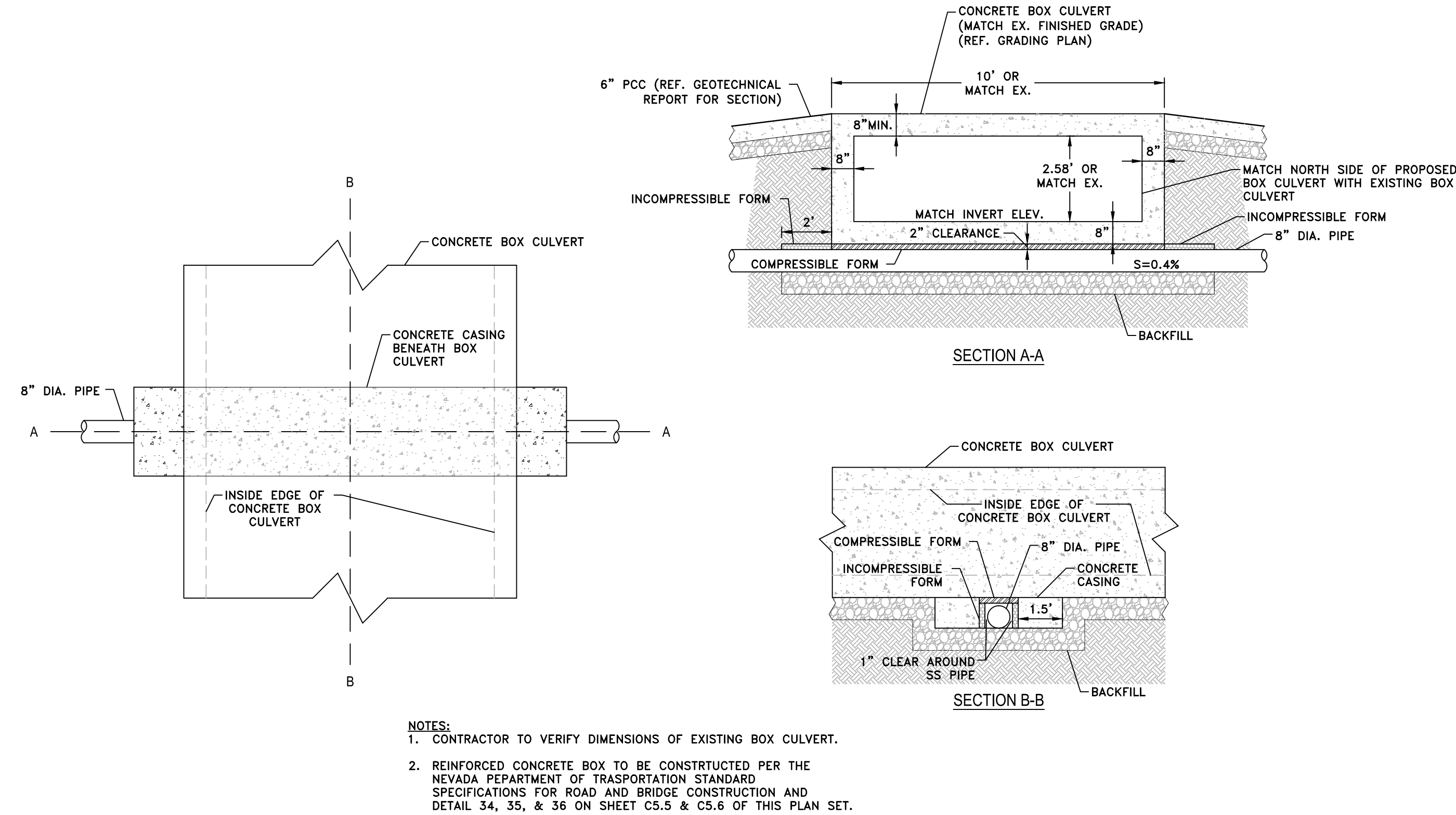
1. FOR BOXES WITH SPAN OR HEIGHT LESS THAN ANY OF THOSE SHOWN IN TABLE, USE NEXT GREATER SIZE BOX CONCRETE DIMENSIONS AND REINFORCEMENT. ADJUST BAR LENGTHS AND RECALCULATE CONCRETE AND REINFORCEMENT QUANTITIES.
2. FOR BOXES WITH SPAN OR HEIGHT OR COVER GREATER THAN THOSE SHOWN IN TABLES, A SPECIAL DESIGN IS REQUIRED.
3. QUANTITIES ARE APPROXIMATE AND FOR DESIGN PURPOSES ONLY.
4. IT IS PERMISSIBLE TO ELIMINATE THE 180° HOOKS ON EVERY OTHER BAR.
5. "a" BARS ARE AT HALF SPACING.
6. "a" BARS ARE AT HALF SPACING.
7. PROVIDE PAVING NOTCH WHEN TOP IS EXPOSED AND WHERE P.C.C. PAVEMENT OR APPROACH SLAB IS USED. ADJUST THE QUANTITIES.
8. WHEN TOP IS EXPOSED, THE TOP SLAB CONCRETE SHALL BE "EA", $f_c=4500$ PSI, OR "A", $f_c=4000$ PSI, AS DETERMINED BY THE ENGINEER. IF "EA" CONCRETE IS TO BE USED, THE TOP SLAB REINFORCING STEEL SHALL HAVE AN EPOXY COATING.

SHEET 1 OF 2

NEVADA DEPARTMENT OF TRANSPORTATION

SINGLE 34
RCB CULVERTS C5.5

Signed Original On File B-20.1.2 (502,505)
CHIEF BRIDGE ENGINEER ADOPTED 1/7/16 REVISION /09



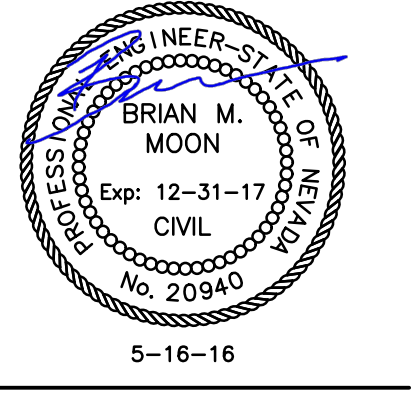
REINFORCED CONCRETE BOX & SS MAIN CROSSING DETAIL

SCALE: NTS 33
C5.5



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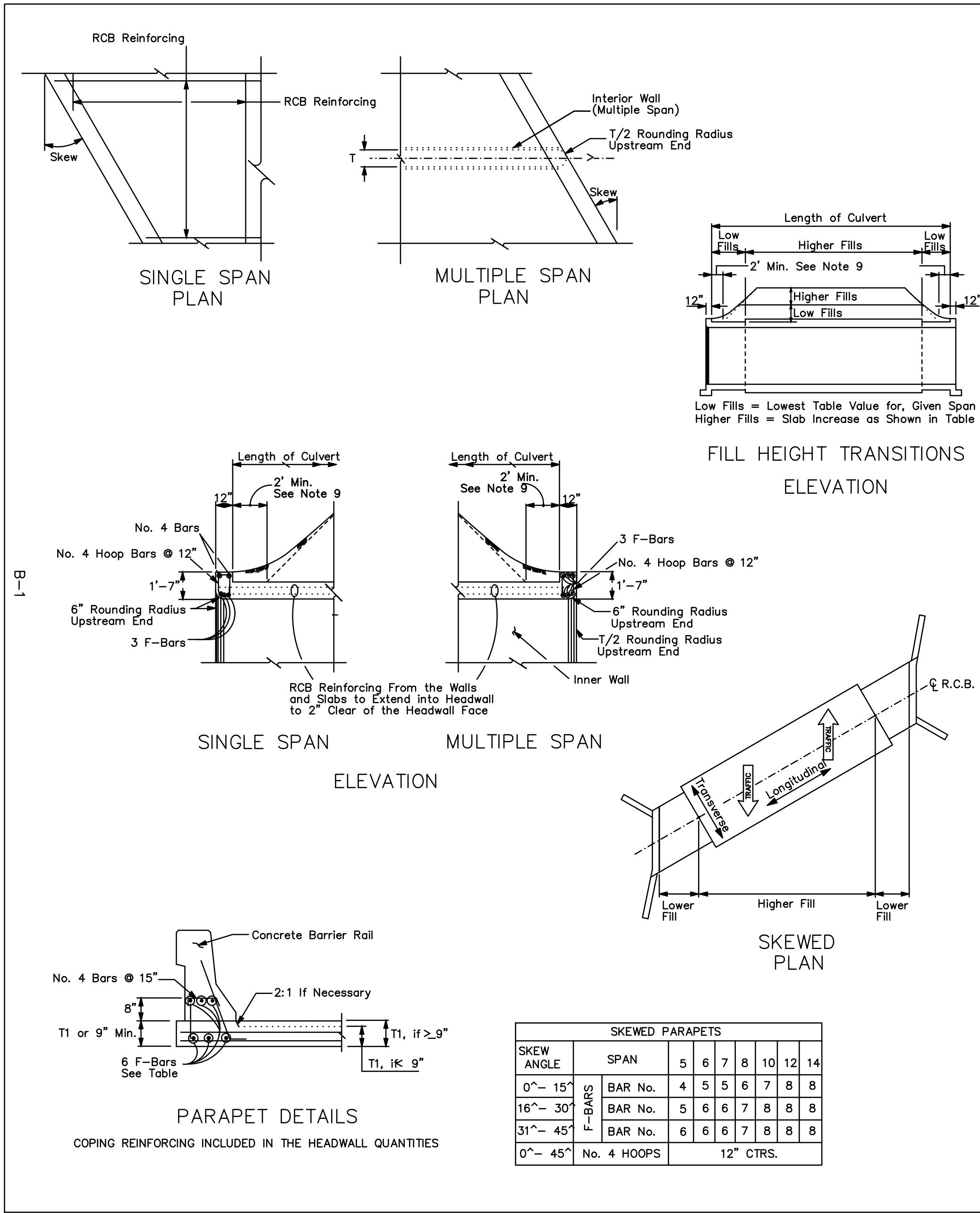
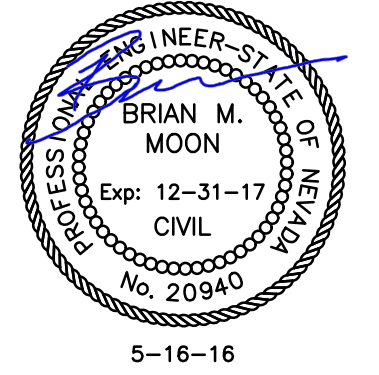
CITY OF SPARKS
**SEWER REHABILITATION
A STREET ALLEY
DETAIL SHEET**
WASHOE
SPARKS
NEVADA

REV.	DATE	DESCRIPTION

C5.5

DATE: MAY 2016
DRAWN BY: AJG
DESIGNED BY: BM, AJG
CHECKED BY: BM
JOB NO.: 9006.000

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COVER HEIGHTS	10 FT.	20 FT.
RCB HEIGHT	TON/SQ.FT.	
6 FT.	1.0	1.6
8 FT.	1.1	1.7
10 FT.	1.2	1.8
12 FT.	1.3	1.9
14 FT.	1.4	2.0

SKEW ANGLE	SPAN														
	5	6	7	8	10	12	14	16	18	20	22	24	26	28	30
0° - 15°	4	5	5	6	7	8	8	8	9	9	9	9	9	9	9
16° - 30°	5	6	6	7	8	8	8	8	9	9	9	9	9	9	9
31° - 45°	6	6	6	7	8	8	8	8	9	9	9	9	9	9	9
0° - 45°	No. 4 HOOPS 12" CTRS.														

NEVADA DEPARTMENT OF TRANSPORTATION

R.C.B., CULVERTS, GENERAL NOTES

Signed Original On File B-20.1.1 (502,505)
CHIEF BRIDGE ENGINEER ADOPTED 11/7/11 REVISION 09

SPAN HEIGHT	SPAN FT.													
	3	4	5	6	7	8	10	12	14	16	18	20	22	24
MAXIMUM EARTH COVER FT.	10	20	10	20	10	20	10	20	10	20	10	20	10	20
ROOF T1 IN.	7.5	7.5	7.5	7.5	7.5	7.5	8	8	8	8	8	8	8	8
WALLS T2 IN.	6	6	6	7	6.5	7.5	6	6	6	7	6.5	7.5	6	6
INVERT T3 IN.	6.5	7	6.5	7	6.5	7	7	8	7	8	7	8	8	9
SPACING IN.	8.5	8.5	8.5	8.5	8.5	8.5	7.5	5	7.5	5	7.5	4.5	6.5	5.5
"a" BAR NO.	4	4	5	5	6	6	4	4	5	5	6	6	6	6
"e" BAR NO.	4	4	5	5	6	6	4	4	5	5	6	6	6	6
CONCRETE CF/LF	10.0	10.2	11.0	12.0	12.5	13.7	11.7	12.3	12.7	14.2	15.9	15.9	18.3	13.7
REINFORCEMENT LBS/LF	58	68	67	81	82	105	70	81	82	96	97	120	124	148

SPAN HEIGHT	SPAN FT.											
	3	4	5	6	7	8	9	10	12	14	16	18
MAXIMUM EARTH COVER FT.	10	20	10	20	10	20	10	20	10	20	10	20
ROOF T1 IN.	8	10.5	8	10.5	8	10.5	8	10.5	8	10.5	8	10.5
WALLS T2 IN.	8	8	8	8	8	8	8	8	8	8.5	11.5	9.5
INVERT T3 IN.	8	11	8	11	8	11	8	11	8	11	8.5	11
SPACING IN.	13	12	13	12	13	12	12	11	11	10	11	10
"a" BAR NO.	6	7	6	7	6	7	6	7	6	7	6	7
"b" DIMENSION "B" FT. - IN.	2-9	4-2	3-4	4-4	3-4	4-6	3-4	4-6	3-6	4-6	3-6	4-6
"c" DIMENSION "BW" FT. - IN.	6-5	7	7	8-4	7	8-4	6	6	6	6	6	6
"e" BAR NO.	7	7	7	7	7	7	7	7	7	7	7	7
CONCRETE CF/LF	36.2	51.0	37.8	53.1	39.5	54.9	41.9	58.7	45.9	64.1	49.9	69.5
REINFORCEMENT LBS/LF	374	471	449	522	446	587	449	580	492	596	537	605

SPAN HEIGHT	SPAN FT.													
	7	8	9	10	11	12	13	14	15	16	17	18	20	22
MAXIMUM EARTH COVER FT.	10	20	10	20	10	20	10	20	10	20	10	20	10	20
ROOF T1 IN.	9?	14	9?	14	9?	14	9?	14	10	14	10	14	10?	14
WALLS T2 IN.	9?	11	9?	11?	9?	11?	10	12?	10?	14?	11?	15	12?	16?
INVERT T3 IN.	10	14?	10	14?	10	14?	10	14?	10?	14?	10?	15	11	15?
SPACING IN.	10	9	10	9	10	8	10	8	10	8	10	10	10	9
"d" BAR NO.	7	7	7	7	7	7	7	7	7	7	7	7	7	7
"b" DIMENSION "B" FT. - IN.	2-9	4-2	3-4	4-4	3-4	4-6	3-4	4-6	3-6	4-6	3-6	4-6	3-6	4-6
"c" DIMENSION "BW" FT. - IN.	6-5	7	7	8-4	7	8-4	6	6	6	6	6	6	6	6
"e" BAR NO.	7	7	7	7	7	7	7	7	7	7	7	7	7	7
CONCRETE CF/LF	4	4	4	4	4	4	4	4	4	4	4	4	4	4
REINFORCEMENT LBS/LF	374	471	449	522	446	587	449	580	492	596	537	605	564	634

"d" BARS, FOR EARTH COVERS OF 2' AND LESS TO BE PLACED IN TOP SLAB ONLY

SHEET 2 OF 2

NEVADA DEPARTMENT OF TRANSPORTATION

SINGLE RCB CULVERTS

Signed Original On File B-20.1.2.1 (502,505)
CHIEF BRIDGE ENGINEER ADOPTED 11/7/11 REVISION 09

C5.6

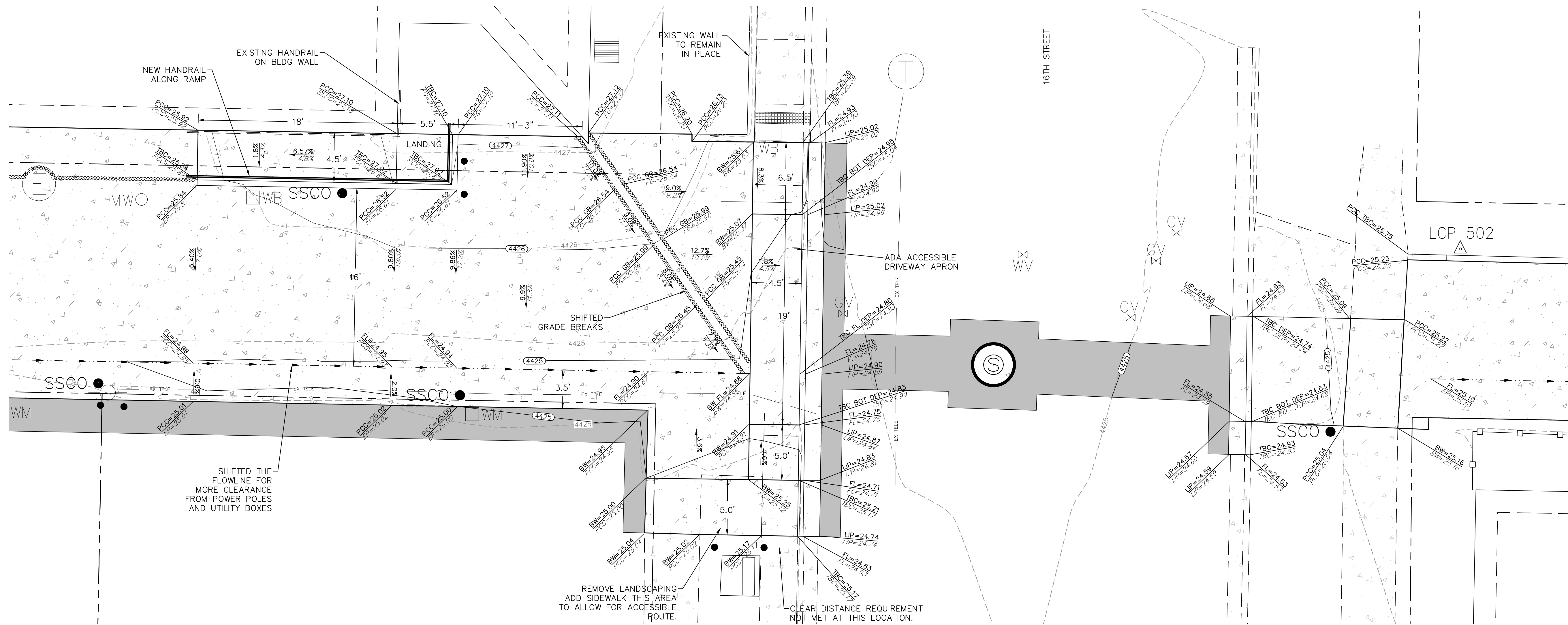
DATE: MAY 2016
DRAWN BY: AJG
DESIGNED BY: BM, AJG
CHECKED BY: BM
JOB NO.: 9006.000

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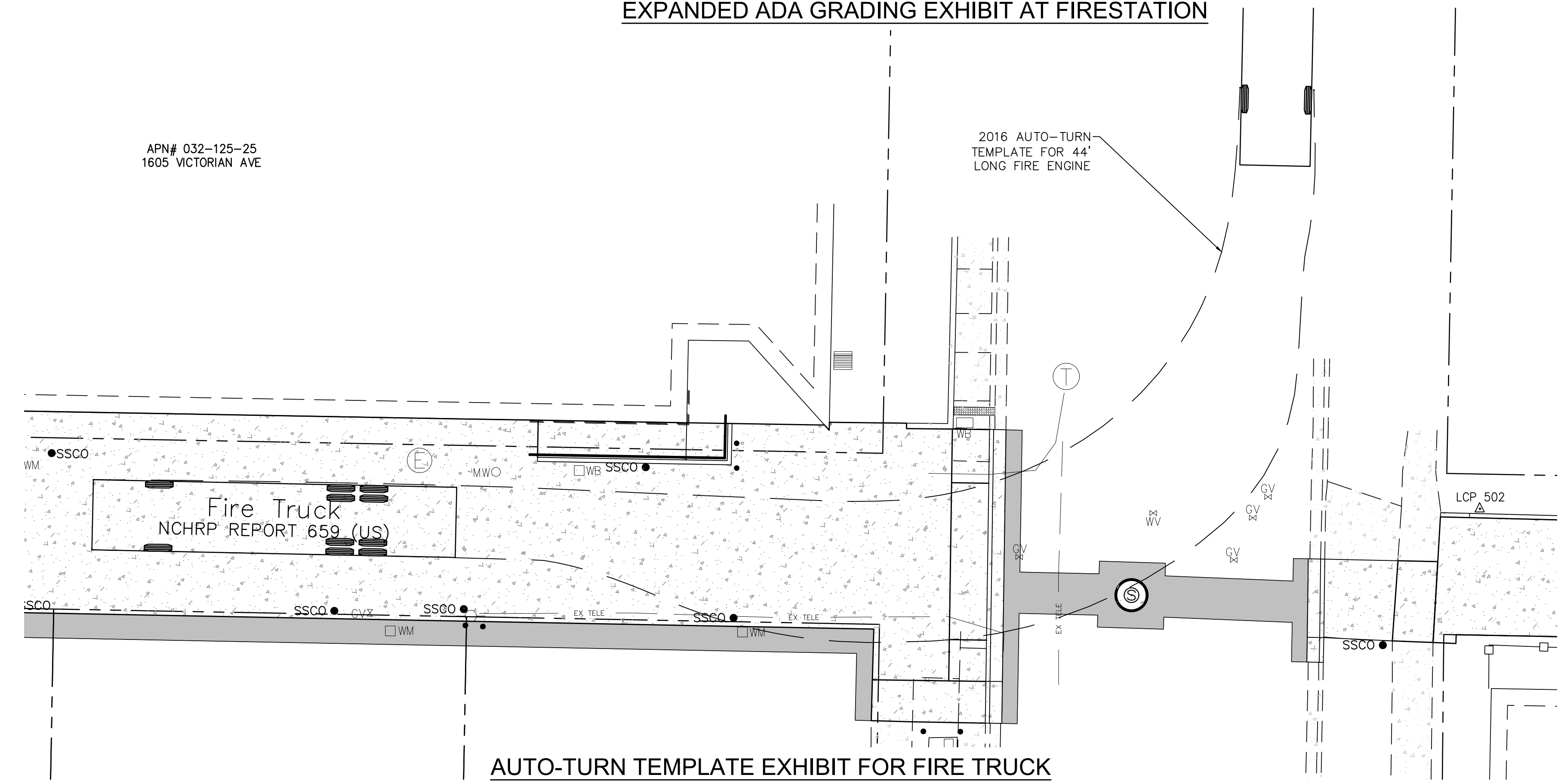
REV.	DATE	DESCRIPTION

C5.7

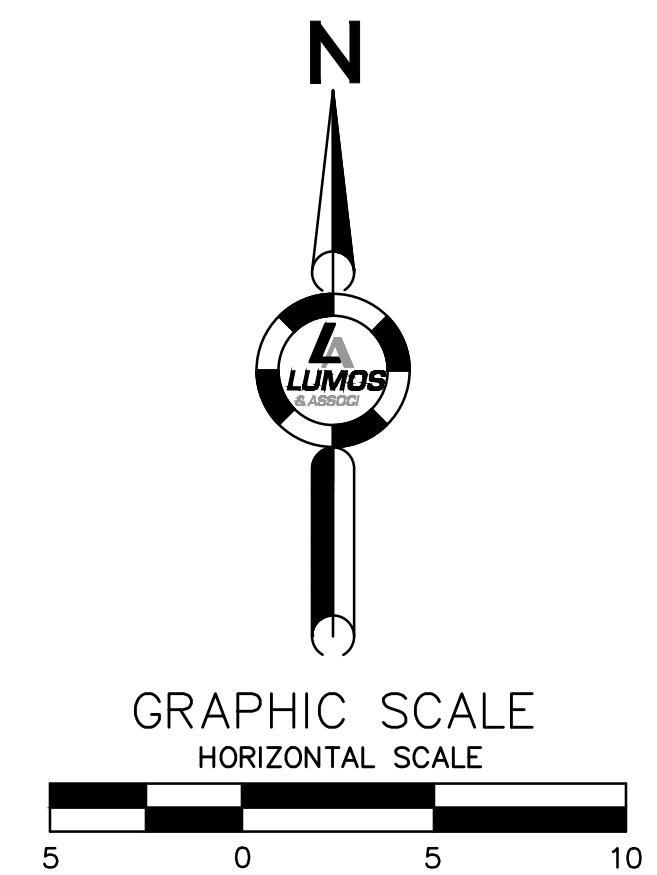
DATE: MAY 2016
DRAWN BY: AJG
DESIGNED BY: BM, AJG
CHECKED BY:
JOB NO.: 9006.000



EXPANDED ADA GRADING EXHIBIT AT FIRESTATION



AUTO-TURN TEMPLATE EXHIBIT FOR FIRE TRUCK



FOR SHEET SIZE 22"x34"

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