

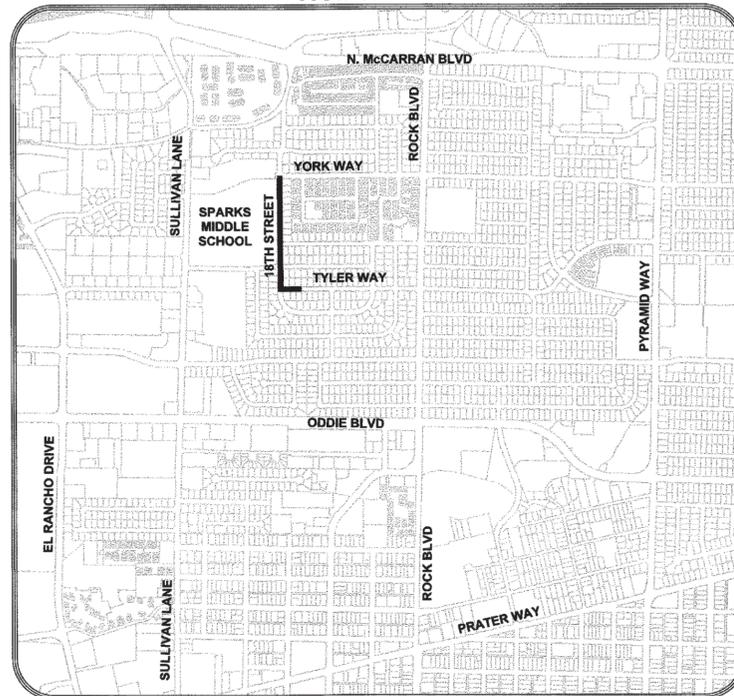
# CITY OF SPARKS

## TYLER WAY & 18TH STREET SEWER CAPACITY IMPROVEMENTS BID #19/20-023, PWP #WA-2020-251



PROFESSIONAL SEAL

VICINITY MAP

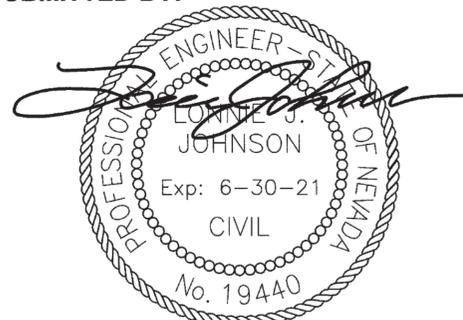


N.T.S.

INDEX OF SHEETS

NUMBER	DESCRIPTION	TITLE
1	G-1	TITLE SHEET
2	G-2	GENERAL NOTES, LEGEND & ABBR.
3	G-3	INDEX PLAN SHEET
4	C-1	PLAN & PROFILE - STA 8+00 TO STA 12+00
5	C-2	PLAN & PROFILE - STA 12+00 TO STA 16+00
6	C-3	PLAN & PROFILE - STA 16+00 TO STA 20+00
7	C-4	PLAN & PROFILE - STA 20+00 TO STA 24+00
8	C-5	PLAN & PROFILE - STA 24+00 TO STA 27+28
9	R-1	STREET RESTORATION - STA 8+00 TO STA 16+00
10	R-2	STREET RESTORATION - STA 16+00 TO STA 24+00
11	R-3	STREET RESTORATION - STA 24+00 TO STA 27+28
12	D-1	DETAILS
13	D-2	DETAILS
14	D-3	DETAILS
15	W1	TMWA INDEX PLAN SHEET
16	W2	TMWA GENERAL NOTES
17	W3	TMWA MATERIAL SPECIFICATIONS
18	W4	TMWA PLAN & PROFILE - TYLER WAY - STA 0+00 TO STA 4+17
19	W5	TMWA PLAN & PROFILE - 18TH STREET - STA 0+00 TO STA 4+00
20	W6	TMWA PLAN & PROFILE - 18TH STREET - STA 4+00 TO STA 6+05
21	W7	TMWA PIPE CONNECTION DETAILS
22	W8	TMWA PIPE CONNECTION DETAILS
23	W9	TMWA PIPE CONNECTION DETAILS
24	W10	TMWA DETAILS
25	W11	TMWA DETAILS

PREPARED & SUBMITTED BY:



03-25-2020

LONNIE J. JOHNSON, PE  
 PROJECT MANAGER

CITY OF SPARKS OFFICIALS:

RONALD E. SMITH MAYOR  
 DONALD ABBOTT COUNCIL MEMBER WARD 1  
 ED LAWSON COUNCIL MEMBER WARD 2  
 PAUL ANDERSON COUNCIL MEMBER WARD 3  
 CHARLENE BYBEE COUNCIL MEMBER WARD 4  
 KRISTOPHER DAHIR COUNCIL MEMBER WARD 5  
 NEIL C. KRUTZ CITY MANAGER

APPROVED BY: DATE: 3/27/2020  
 JON R. ERICSON, P.E., P.T.O.E.  
 CITY ENGINEER

PROJECT LOCATION MAP



N.T.S.

**BID SET**  
 03-25-20

**BASIS OF BEARINGS**

NEVADA STATE PLANE COORDINATE SYSTEM, NAD 83/94, WEST ZONE, MODIFIED BY A GRID TO GROUND COMBINED SCALE. FACTOR OF 1.000197939 BASED ON THE WASHOE COUNTY GPS NETWORK.

**BASIS OF ELEVATIONS**

NAVD 88 BASED ON CITY OF SPARKS BENCHMARK #65 ELEVATION 4525.42.



**CAUTION - NOTICE TO CONTRACTOR**

- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND FEATURES AS SHOWN ON THESE PLANS IS BASED ON THE BEST INFORMATION AVAILABLE TO THE ENGINEER. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THESE LOCATIONS AND/OR ELEVATIONS AT THE PROPOSED POINTS OF CONNECTION AND IN AREAS OF POSSIBLE CONFLICT PRIOR TO BEGINNING CONSTRUCTION. SHOULD THE CONTRACTOR FIND ANY DISCREPANCIES BETWEEN THE CONDITIONS EXISTING IN THE FIELD AND THE INFORMATION SHOWN ON THESE DRAWINGS, HE SHALL NOTIFY THE ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE OR RELOCATE ALL EXISTING UTILITIES AND FEATURES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS. CONTRACTOR SHALL OBTAIN APPROVALS FROM THE GOVERNING AGENCIES, THE ENGINEER, AND THE UTILITY COMPANIES PRIOR TO SUCH REMOVAL AND/OR RELOCATION.
- THE CONTRACTOR ASSUMES ALL RISK FOR ANY CONSTRUCTION PERFORMED WITH PRELIMINARY OR NONAPPROVED PLANS.
- CONTRACTOR TO PROVIDE TRAFFIC CONTROL IN CONFORMANCE WITH THE LATEST EDITION OF MUTCD WHENEVER CONSTRUCTION IS IN PROGRESS WITHIN THE PUBLIC TRAVEL WAY.



9160 Double Diamond Parkway  
 Reno, Nevada 89521 775-852-1440

NO.	DATE	INITIALS	DESCRIPTION

CITY OF SPARKS - TYLER WAY & 18TH STREET  
 SEWER CAPACITY IMPROVEMENTS  
**TITLE SHEET**

DESIGNED BY: LJ  
 DRAWN BY: KBK  
 CHECKED BY: MW  
 DATE: 03-25-2020  
 JOB NO. SPKS-TYLERSS19

SHEET NO.  
**G-1**  
 1 OF 25

**GENERAL NOTES:**

- ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE DETAILS CONTAINED IN THESE PLANS, THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC), 2012 EDITION, AND THE STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION (SDPWC), LATEST EDITION, AS ADOPTED BY CITY OF SPARKS, AND SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER. ALL SPECIFICATIONS REFERENCED HEREIN REFER TO THE SSPWC UNLESS INDICATED OTHERWISE.
- THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL NECESSARY TRAFFIC CONTROL, THROUGHOUT CONSTRUCTION, IN ACCORDANCE WITH APPLICABLE PARTS OF SPECIFICATION SECTION 332, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES; (MUTCD, LATEST EDITION)
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE GENERAL SAFETY DURING CONSTRUCTION, AND ALL WORK SHALL CONFORM TO PERTINENT SAFETY REGULATIONS AND CODES. THE CONTRACTOR SHALL FENCE AND OR BARRICADE THE CONSTRUCTION AREA AS REQUIRED TO PROTECT ADJACENT SITES, VEHICULAR TRAFFIC, AND PEDESTRIAN TRAFFIC. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE PROVISIONS OF OSHA AND NRS CHAPTER 618, IN THE CONSTRUCTION PRACTICES FOR ALL EMPLOYEES DIRECTLY ENGAGED IN THE CONSTRUCTION OF THIS PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND/OR PROTECTION OF ALL EXISTING AND PROPOSED PIPING, UTILITIES, TRAFFIC SIGNAL EQUIPMENT (BOTH ABOVE GROUND AND BELOW GROUND), STRUCTURES ADJACENT TO STREETS, AND ALL OTHER EXISTING IMPROVEMENTS THROUGHOUT CONSTRUCTION.
- THE CONTRACTOR SHALL PURSUE WORK IN A CONTINUOUS AND DILIGENT MANNER TO ENSURE A TIMELY COMPLETION OF THE PROJECT.
- ALL CONSTRUCTION SHALL BE CLOSELY COORDINATED WITH THE CITY OF SPARKS SO THAT THE QUALITY OF WORK CAN BE CHECKED FOR APPROVAL.
- THE CONTRACTOR SHALL INCORPORATE ADEQUATE DRAINAGE PROCEDURES DURING THE CONSTRUCTION PROCESS TO ELIMINATE EXCESSIVE PONDING AND/OR EROSION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE SITE IN A NEAT AND ORDERLY MANNER THROUGHOUT THE CONSTRUCTION PROCESS. ALL MATERIALS SHALL BE STORED WITHIN APPROVED CONSTRUCTION AREAS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTINUOUS DUST CONTROL THROUGHOUT THE CONSTRUCTION OF ALL ITEMS SHOWN ON THESE DRAWINGS IN CONFORMITY WITH SECTION 40.030 OF WASHOE COUNTY AIR POLLUTION REGULATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REGULAR CLEANING OF ALL MUD, DIRT, DEBRIS, ETC., FROM ANY AND ALL ADJACENT STREETS AND SIDEWALKS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING, ALL PERMITS AS REQUIRED BY CITY OF SPARKS. THE DUST CONTROL PERMIT SHALL BE AT THE CONTRACTOR'S EXPENSE. THE ENCROACHMENT, EXCAVATION, AND LANE CLOSURE PERMITS ARE "NO FEE" PERMITS FOR CITY PROJECTS.
- SPARKS MUNICIPAL CODE 20.04.005.D RESTRICTS CONSTRUCTION HOURS TO 7:00 A.M. UNTIL 7:00 P.M., MONDAY THROUGH FRIDAY AND 9:00 A.M. UNTIL 5:00 P.M. ON SATURDAY. FOR THIS PROJECT, THE DEFINED CONSTRUCTION HOURS WILL BE 7:00 A.M. UNTIL 7:00 P.M., MONDAY THROUGH FRIDAY UNLESS OTHERWISE REQUIRED BY THESE SPECIFICATIONS OR REQUESTED BY THE CITY PROJECT COORDINATOR. THE CONTRACTOR SHALL NOT COMMENCE CONSTRUCTION OPERATIONS BEFORE SEVEN O'CLOCK (7:00 A.M. PACIFIC TIME) EACH WORKING DAY EXCEPT AS DIRECTED BY THE CITY COORDINATOR AND AS SPECIFIED HEREIN.

THE CONTRACTOR SHALL NOT PERFORM ANY CONTRACT WORK ON SATURDAY, SUNDAY, LEGAL HOLIDAYS, AND OUTSIDE OF THE TWELVE (12) HOURS AVAILABLE DURING A REGULAR WORKING DAY EXCEPT AS DIRECTED AND APPROVED BY THE CITY PROJECT COORDINATOR AND AS SPECIFIED HEREIN.

WHEN DIRECTED TO WORK OUTSIDE OF THE LEGALLY PERMITTED CONSTRUCTION HOURS DEFINED ABOVE, THE CONTRACTOR SHALL FIRST OBTAIN APPROVAL FROM THE CITY PROJECT COORDINATOR AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO COMMENCING SUCH OVERTIME WORK. IF THE CONTRACTOR PLANS TO PERFORM WORK ON SATURDAY OR SUNDAY, HE/SHE SHALL OBTAIN APPROVAL BY THE WEDNESDAY PRIOR TO WORK ON THE SATURDAY OR SUNDAY FOR WHICH WORK IS PLANNED. IF THE CONTRACTOR PLANS TO PERFORM WORK ON A LEGAL HOLIDAY, HE/SHE SHALL FIRST OBTAIN APPROVAL FROM THE CITY PROJECT COORDINATOR AT LEAST 72 HOURS IN ADVANCE.

CONTRACTOR SHALL OBTAIN APPROVAL THROUGH THE TEMPORARY USE PERMIT (T.U.P.) AND PAY A FEE OF ONE HUNDRED (\$100.00) DOLLARS TO WORK OUTSIDE OF THE ABOVE LEGALLY PERMITTED CONSTRUCTION HOURS. THE REQUEST SHALL INCLUDE JUSTIFICATION OF HOW PUBLIC SAFETY WILL BE ENHANCED THROUGH WORKING OUTSIDE OF THE RESTRICTED CONSTRUCTION HOURS. SUBMITTAL AND PAYMENT OF FEES DOES NOT GUARANTEE APPROVAL.

THE CONTRACTOR SHALL BE CHARGED FOR ALL OF CITY OF SPARKS EMPLOYEE(S) TIME SPENT FOR OVERTIME, SATURDAY, SUNDAY, OR HOLIDAY WORK, BASED ON THE EMPLOYEE'S HOURLY RATE, PLUS BENEFITS. THE CONTRACTOR WILL BE NOTIFIED OF THE COSTS INCURRED AND IF THE PAYMENT IS NOT MADE, SUCH COSTS WILL BE DEDUCTED FROM ANY PAYMENT DUE TO THE CONTRACTOR. IN ADDITION TO THE CHARGE FOR THE CITY EMPLOYEE(S) TIME OUTSIDE A STANDARD WORKDAY.

- ALL DIMENSIONS ARE TO FRONT FACE OF CURB UNLESS NOTED OTHERWISE.
- SHOULD ANY PREHISTORIC OR HISTORIC REMAINS OR ARTIFACTS BE DISCOVERED DURING SITE DEVELOPMENT, WORK SHALL BE TEMPORARILY HALTED AT THE SPECIFIC SITE AND THE STATE HISTORIC PRESERVATION OFFICE OF THE DEPARTMENT OF MUSEUMS, LIBRARY AND ARTS, SHALL BE NOTIFIED TO RECORD AND PHOTOGRAPH THE SITE. THE PERIOD OF TEMPORARY DELAY SHALL BE LIMITED TO A MAXIMUM OF TWO (2) WORKING DAYS FROM THE DATE OF NOTIFICATION.
- A PRECONSTRUCTION CONFERENCE WILL BE HELD WITH CITY OF SPARKS PRIOR TO ANY CONSTRUCTION
- NO MATERIALS OF ANY KIND SHALL BE STOCKPILED OR CONSTRUCTION EQUIPMENT PARKED ON CONCRETE OR ASPHALT SURFACES.
- CONSTRUCTION OF STREET IMPROVEMENTS MUST ALLOW FOR THE PERPETUATION OF ALL EXISTING LEGAL ACCESSES AND EXISTING DRIVEWAYS.
- THE CONTRACTOR SHALL FURNISH PRODUCT SUBMITTALS FOR IMPROVEMENTS INCLUDING MANUFACTURER'S SPECIFICATIONS, SHOP DRAWINGS, CONCRETE MIX DESIGNS, ASPHALT MIX DESIGNS, GRADATION CERTIFICATIONS, ETC. FOR REVIEW BY THE ENGINEER OF RECORD. SUBMITTALS SHALL BE FURNISHED PROMPTLY AFTER EXECUTION OF THE CONTRACT, BUT IN ALL CASES PRIOR TO DELIVERY OF SUCH MATERIALS.
- THE CONTRACTOR UPON COMPLETION OF THE PROJECT, SHALL PREPARE AND SUBMIT RECORD DRAWINGS TO THE OWNER. SUBMITTAL SHALL BE IN THE FORM OF A CD IN 300 DPI, MULTIPAGE PDF FORMAT.
- THE CONTRACTOR IS REQUIRED TO FILE A NOTICE OF INTENT (NOI) WITH THE NEVADA DEPARTMENT OF ENVIRONMENTAL PROTECTION. THE CONTRACTOR IS REQUIRED TO SUBMIT THE NOI, PAY THE ASSOCIATED FEES, AND PROVIDE A COPY OF THE NOI RECEIPT WITH THE EE PERMIT APPLICATION. BEST MANAGEMENT PRACTICES SHALL BE IN PLACE PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR SHALL COMPLY AND MAINTAIN THE CONSTRUCTION SITE INSPECTION CHECKLIST, LOCATED IN APPENDIX D OF THE TRUCKEE MEADOWS BMP HANDBOOK. THE CHECKLIST SHALL BE ONSITE FOR REVIEW BY STATE AND LOCAL GOVERNMENT INSPECTORS. THE CONTRACTOR SHALL INSPECT THE SITE DAILY; PRIOR TO FORECASTED RAIN EVENTS AND WITHIN 24 HOURS OF ANY RAIN EVENT. IF AN INSPECTOR DETERMINES THAT INSTALLED STORM WATER CONTROLS PLACE THE CITY AT RISK OF VIOLATING ITS NPDES PERMIT, THE INSPECTOR MAY ORDER A CHANGE TO THE TO THE STORM WATER CONTROLS. IF THE CHANGE IS NOT ACCEPTABLE OR IS NOT IMMEDIATELY IMPLEMENTED, A VIOLATION POSSIBLY RESULTING IN A FINE MAY BE ISSUED. THE CONTRACTOR SHALL NOT DISPOSE OR PLACE DEBRIS IN ANY CITY OF SPARKS MANHOLE, CATCH BASIN OR FACILITY.

**DEMOLITION NOTES:**

- THE REMOVAL OF EXISTING IMPROVEMENTS SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC, 2012), SECTION 301.00.
- EXISTING IMPROVEMENTS, ADJACENT PROPERTY, FENCING, WALLS, UTILITIES AND OTHER FACILITIES, TREES AND PLANTS THAT ARE NOT TO BE REMOVED SHALL BE PROTECTED FROM INJURY OR DAMAGE RESULTING FROM THE CONTRACTORS OPERATIONS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC, 2012), SECTIONS 301.04 AND 300.04.
- THE CONTRACTOR SHALL ADJUST ALL EXISTING MANHOLE RIMS, WATER & GAS VALVE COVERS, & UTILITY BOXES AND FRAME AND COVERS, BOTH HORIZONTALLY AND VERTICALLY, AS REQUIRED TO FIT THE NEW WORK. THE CONTRACTOR SHALL REPLACE ANY APPURTENANCE DAMAGED DURING RELOCATION AT THE COST OF THE CONTRACTOR.
- ALL EXISTING FEATURES IN CONFLICT WITH PROPOSED SHALL BE REMOVED, RELOCATED AND/OR REPLACED. CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER AND THE GOVERNING AGENCIES PRIOR TO SUCH REMOVAL, RELOCATION AND/OR REPLACEMENT.

**BYPASS PUMPING NOTES:**

- BYPASS PUMPING SHALL BE MONITORED 24 HOURS A DAY, 7 DAYS A WEEK BY A MECHANICALLY QUALIFIED AND PROPERLY TRAINED PERSON THAT CAN QUICKLY AND EFFECTIVELY ADDRESS POTENTIAL EMERGENCY SITUATIONS WHILE THE SYSTEM IS IN OPERATION.
- THE BYPASS PUMPING SYSTEM SHALL INCLUDE REDUNDANT BYPASS PUMP(S), INTAKE AND DISCHARGE PIPE(S), AND ANY OTHER EQUIPMENT REQUIRED TO PROVIDE CONTINUOUS WASTEWATER PUMPING AT ALL TIMES.
- A BYPASS PUMPING PLAN SHALL BE SUBMITTED FOR REVIEW. THE BYPASS PUMPING PLAN SHALL BE SCHEMATIC IN NATURE AND THE CONTRACTOR SHALL SUBMIT THEIR PROPOSED PLAN TO THE CITY OF SPARKS FOR REVIEW AND APPROVAL PRIOR TO BEGINNING THE WORK.
- ALL EXISTING IMPROVEMENTS REMOVED OR DAMAGED DURING THE BYPASS PUMPING OPERATION SHALL BE REPAIRED/REPLACED PER ORANGE BOOK REQUIREMENTS, THE CITY OF SPARKS REQUIREMENTS AND PER THE PLANS AND SPECIFICATIONS.

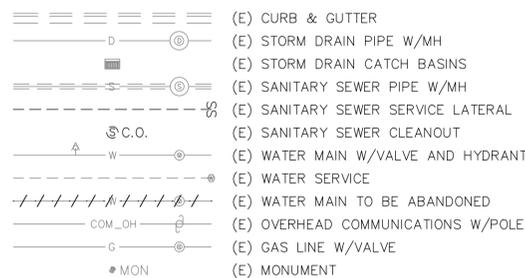
**ABBREVIATIONS**

AB	ANCHOR BOLT	FL	FLOWLINE	REQD	REQUIRED
ABAN	ABANDON	FPS	FEET PER SECOND	RT	RIGHT
ABC	AGGREGATE BASE COURSE	FT	FOOT OR FEET	RW OR ROW	RIGHT-OF-WAY
AC	ASPHALT CONCRETE	C	GAS	SCH	SCHEDULE
ADD	ADDITIONAL	GAL	GALLON	SD	STORM DRAIN
ADJ	ADJACENT	GALV	GALVANIZED	SECT	SECTION
APPROX	APPROXIMATE	GB	GRADE BREAK	SF	SQUARE FOOT
APPR	APPROVED	GPD	GALLONS PER DAY	SI	SQUARE INCH
ARV	AIR RELEASE VALVE	HORIZ	HORIZONTAL	SSE	SANITARY SEWER EASEMENT
BC	BEGIN CURVE	HP	HORSEPOWER	STA	STATION
BCR	BEGIN CURB RETURN	ID	INSIDE DIAMETER	SPEC	SPECIFICATIONS
BFC	BACK FACE OF CURB	IE	INVERT ELEVATION	SQ	SQUARE
BLDG	BUILDING	IN	INVERT	SRV	SERVICE
BM	BENCH MARK BOT BOTTOM	INV	INVERT	SS	SANITARY SEWER
BSW	BACK OF SIDEWALK	IRR	IRRIGATION	STD	STANDARD
BVC	BEGIN VERTICAL CURVE	KW	KILOWATT	ST	STORM SEWER
CB	CATCH BASIN	L	LENGTH	STL	STEEL
CFM	CUBIC FEET PER MINUTE	LAT	LATERAL	TAN	TANGENT
CFS	CUBIC FEET PER SECOND	LB	POUNDS	TB	THRUST BLOCK
CJ	CONSTRUCTION JOINT	LB/CU FT	POUNDS PER CUBIC FOOT	TC	TOP OF CURB
CL	CENTERLINE	LAT/LONG	LATITUDE/LONGITUDE	TC-DEP	TOP OF CURB - DEPRESSED
CLR	CLEAR	LT	LEFT	TEL/T	TELEPHONE
CMP	CORRUGATED METAL PIPE	MDD	MAXIMUM DRY DENSITY	TR	TRANSITE (PIPE MATERIAL)
CMU	CONCRETE MASONRY UNIT	MECH	MECHANICAL	TW	TOP OF WALL
CO	CLEANOUT	MFR	MANUFACTURER	TYP	TYPICAL
CONC	CONCRETE	MH	MANHOLE	V	VELOCITY
CONN	CONNECTION	MIN	MINIMUM	VERT	VERTICAL CURVE
CONT	CONTINUOUS	MISC	MISCELLANEOUS	VERT	VERTICAL
COORD	COORDINATE	MPH	MILES PER HOUR	VG	VALLEY GUTTER
CTR	CENTER	N	NORTHING	W	WATER
CU	CUBIC	NDP	NO DIRECT PAYMENT	WWF	WELDED WIRE FABRIC
CU FT	CUBIC FEET	NTS	NOT TO SCALE	XTC	GAS (PIPE MATERIAL)
CU IN	CUBIC INCH	OG	ORIGINAL GROUND	YD	YARD
CU YD	CUBIC YARD	OHSA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION		
CULV	CULVERT	OZ	OUNCE		
DBL	DOUBLE	PC	POINT OF CURVE		
DEP	DEPRESSED	PCC	PORTLAND CEMENT CONCRETE		
DTL	DETAIL	PI	POINT OF INTERSECTION		
DJ	DROP INLET	PL	PROPERTY LINE		
DIA	DIAMETER	PR	PROPOSED		
DWG	DRAWING	PRC	POINT OF REVERSE CURVE		
E	EASTING	PROP	PROPERTY		
EX	EXISTING	PSF	POUNDS PER SQUARE FOOT		
EA	EACH	PSI	POUNDS PER SQUARE INCH		
EC	END CURVE	PT	POINT OF TANGENCY		
ECR	END CURB RETURN	PUE	PUBLIC UTILITY EASEMENT		
ECC	ECCENTRIC	PVC	POLYVINYL CHLORIDE		
EL	ELEVATION	PVI	POINT OF VERTICAL INTERSECTION		
ELEC	ELECTRIC	PVMT	PAVEMENT		
ENGR	ENGINEER	R	RADIUS		
ENR	END OF VERTICAL CURVE	RCB	REINFORCED CONCRETE BOX CULVERT		
EVC	EACH WAY	RCP	REINFORCED CONCRETE PIPE		
EW	EXISTING	RD	ROAD		
EXST	EXISTING	REF	REFERENCE OR REFER		
EXP	EXPANSION JOINT	REINF	REINFORCED		
FES	FLARED END SECTION				
FFC	FRONT FACE OF CURB				
FG	FINISH GRADE				
FH	FIRE HYDRANT				
FIG	FIGURE				

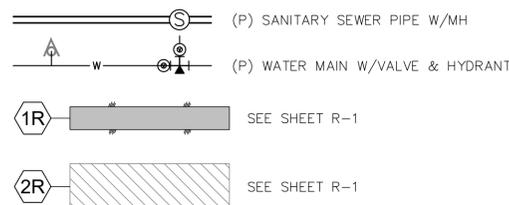
**UTILITY NOTES:**

- UTILITIES MAY EXIST THAT ARE NOT SHOWN ON THE PLANS. HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE ONLY. CONTRACTOR SHALL VERIFY ACTUAL LOCATIONS OF EXISTING UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CALL UNDERGROUND SERVICES ALERT, USA, AT (1-800-227-2600) OR (811) PRIOR TO ANY EXCAVATION.
- THE CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES WHICH MAY CONFLICT WITH THE NEW WORK PRIOR TO BEGINNING CONSTRUCTION.
- THE CONTRACTOR SHALL NOTIFY NV ENERGY AND TMWA AT LEAST 48 HOURS PRIOR TO THE START OF UTILITY CONSTRUCTION.
- THE CONTRACTOR SHALL MAKE EVERY ATTEMPT TO AVOID SHUT OFF OR DISCONNECTION OF ACTIVE UTILITIES. IF SHUT OFFS ARE UNAVOIDABLE, THE CONTRACTOR SHALL COORDINATE THAT SHUT OFF WITH THE AFFECTED CUSTOMERS AND UTILITY COMPANIES AT LEAST 48 HOURS IN ADVANCE OF THE DISRUPTION OF THE SERVICE.
- CONTRACTOR TO PROVIDE ALL MISCELLANEOUS PIPE, FITTINGS AND APPURTENANCES AS REQUIRED TO COMPLETE THE UTILITY WORK AS SHOWN.
- A MANHOLE PROTECTION PLAN SHALL BE SUBMITTED AND APPROVED PRIOR TO ANY MANHOLE ADJUSTMENTS. THE PLAN SHALL CLEARLY IDENTIFY HOW THE CONTRACTOR WILL PROTECT FROM ALL DEBRIS ENTERING INTO THE SYSTEM AND A DETAIL OF HOW THE CONTRACTOR IS PREPARED FOR EMERGENCY OVERFLOWS. PRIOR TO PERFORMING ANY ADJUSTMENTS OR GROUTING THE ENGINEER OF RECORD SHALL OBSERVE AND VERIFY THAT THE CONTRACTOR IS IN COMPLIANCE WITH THE "MANHOLE PROTECTION PLAN".
- MANHOLES AND CATCH BASINS SHALL BE PORTLAND CEMENT CONCRETE PER STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC, 2012), SECTION 204.00. MANHOLES AND CATCH BASINS SHALL BE PLACED PER APPLICABLE PARTS OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC, 2012), SECTIONS 305.00, 306.00, AND 311.00.
- ALL CATCH BASIN COVERS DESIGNATED TO BE RESET TO GRADE OR THAT MAY BE DISTURBED DURING CONSTRUCTION SHALL BE REPLACED WITH A NEW FRAME AND COVER AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR TO VACUUM CLEAN ALL STORM DRAIN & SANITARY SEWER MANHOLES AND CATCH BASINS AFTER REMOVING CONTAINMENT DEVICES UPON COMPLETION OF THE PROJECT.
- ALL BMPS SHALL BE REMOVED FROM CATCH BASINS & MANHOLES PRIOR TO FINAL ACCEPTANCE & RELEASE OF RETENTION.
- THE CONTRACTOR SHALL POTHOLE ALL WATER MAINS AHEAD OF CONSTRUCTION AND VERIFY THAT SUFFICIENT VERTICAL CLEARANCE EXISTS TO PROVIDE SUFFICIENT PROTECTIVE COVER AND TO ACCOMMODATE THE STREET STRUCTURAL SECTION. IF WATER PIPE IS NEAR THE SUBGRADE, THE CONTRACTOR MAY NEED TO PERFORM ADDITIONAL WORK TO SHIELD WATER MAINS FROM DAMAGE. SUCH WORK MAY INCLUDE, BUT NOT BE LIMITED TO, REDUCING EXCAVATION/PULVERIZATION DEPTH OVER THE PIPE ZONE, ADDING BASE OVER THE PIPE TO INCREASE COVER PRIOR TO COMPACTION, OR REDUCING VIBRATORY COMPACTION AND CONSTRUCTION TRAFFIC OVER THE PIPE ZONE. ACTUAL FIELD CONDITIONS SHOULD BE EXAMINED AND CONSTRUCTION METHODS DISCUSSED PRIOR TO BEGINNING EXCAVATION.
- TMWA WILL INSPECT, CLEAN, OPERATE AND DOCUMENT ALL TMWA-OWNED VALVES WITHIN THE CONSTRUCTION ZONE PRIOR TO THE PRE-CONSTRUCTION MEETING. THE CONTRACTOR SHALL REVIEW AND VERIFY THIS INFORMATION WITH THE CITY OF SPARKS. ANY DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF TMWA'S INSPECTOR PRIOR TO CONSTRUCTION. THE FINAL LIST WILL BE USED FOR VALVE ADJUSTMENT/CLEANING VERIFICATION AT THE END OF THE PROJECT.
- STEEL PLATES -- THE USE OF STEEL PLATES SERVING AS A TEMPORARY TRENCH COVER SHALL ONLY BE USED WITHIN CLOSED TRAVEL LANES. THE USE OF STEEL PLATES WITHIN CLOSED TRAVEL LANES SERVING AS A TEMPORARY TRENCH COVER SHALL HAVE ASPHALT RAMPS CONSTRUCTED OR PLATE LOCKS (ROAD PLATE SECURING SYSTEM) INSTALLED AROUND THE PERIMETER OF THE PLATE(S) FOR EMERGENCY VEHICLES AND CONSTRUCTION VEHICLES. STEEL PLATES MUST BE ANCHORED AND LOCKED IN PLACE AT THE END OF EACH WORK SHIFT IN ORDER TO ELIMINATE SHIFTING. WARNING SIGNS MUST BE APPROPRIATELY PLACED TO CAUTION MOTORISTS. STEEL PLATES WILL NOT BE ALLOWED IF SNOW OR FREEZING TEMPERATURES ARE EXPECTED.

**PROJECT LEGEND - EXISTING**



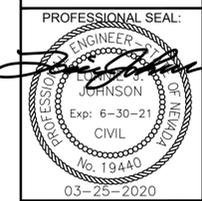
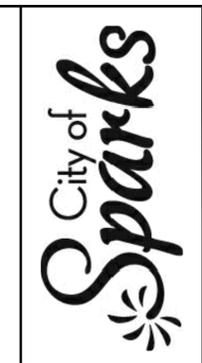
**PROJECT LEGEND - PROPOSED**



**BID SET**  
03-25-20



9160 Double Diamond Parkway  
Reno, Nevada 89521 775-852-1440

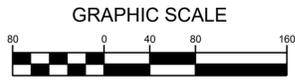
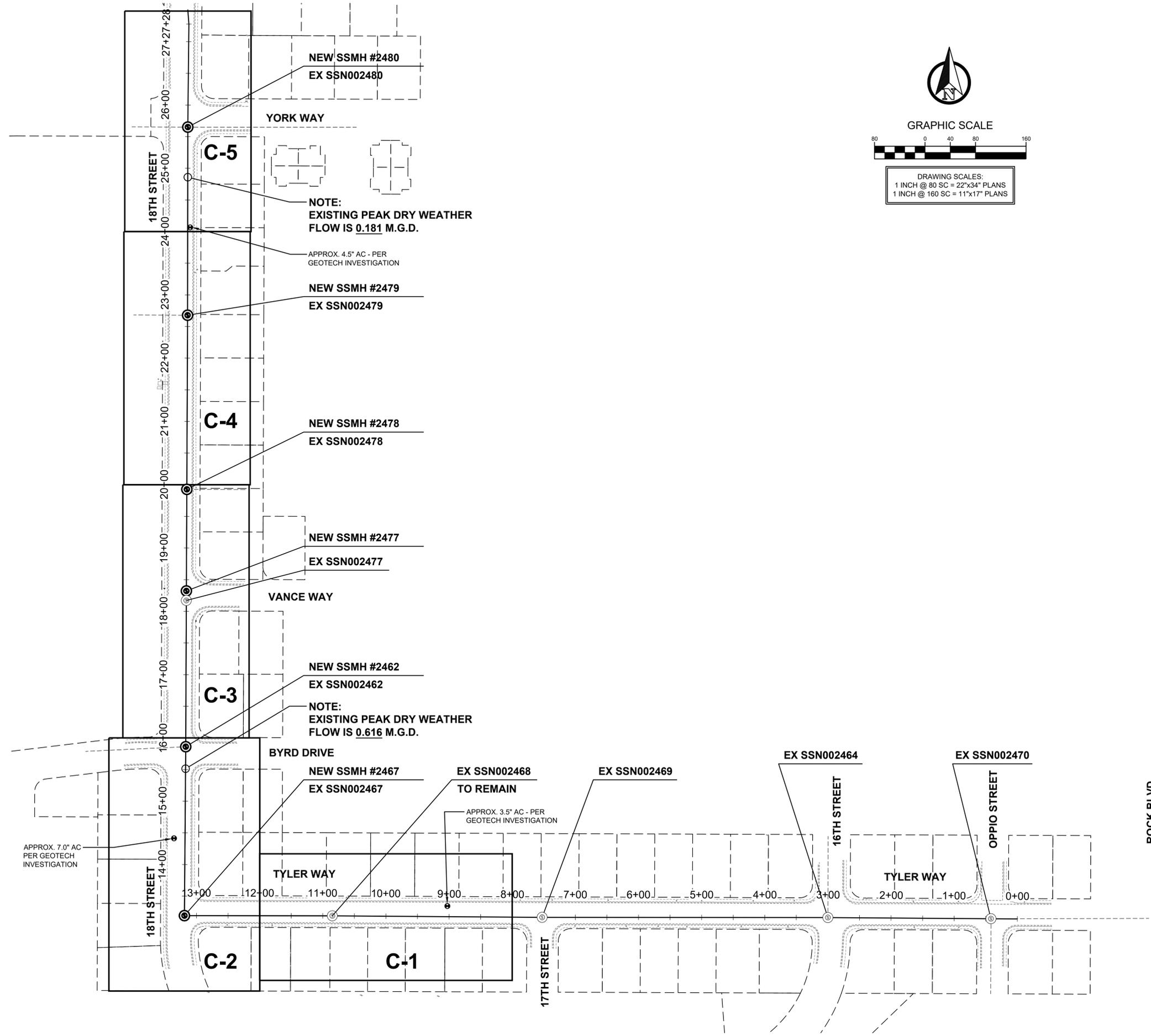


NO.	DATE	INITIALS	DESCRIPTION

CITY OF SPARKS - TYLER WAY & 18TH STREET  
SEWER CAPACITY IMPROVEMENTS  
**GENERAL NOTES, LEGEND & ABBR.**

DESIGNED BY: LJ  
 DRAWN BY: KBK  
 CHECKED BY: MW  
 DATE: 03-25-2020  
 JOB NO. SPKS-TYLER519

SHEET NO.  
**G-2**  
2 OF 25



DRAWING SCALES:  
1 INCH @ 80 SC = 22"x34" PLANS  
1 INCH @ 160 SC = 11"x17" PLANS



NO.	DATE	INITIALS	DESCRIPTION

CITY OF SPARKS - TYLER WAY & 18TH STREET  
SEWER CAPACITY IMPROVEMENTS  
**INDEX PLAN SHEET**  
AND PIPE DIAGRAM

**BID SET**  
03-25-20



9160 Double Diamond Parkway  
Reno, Nevada 89521 775-852-1440

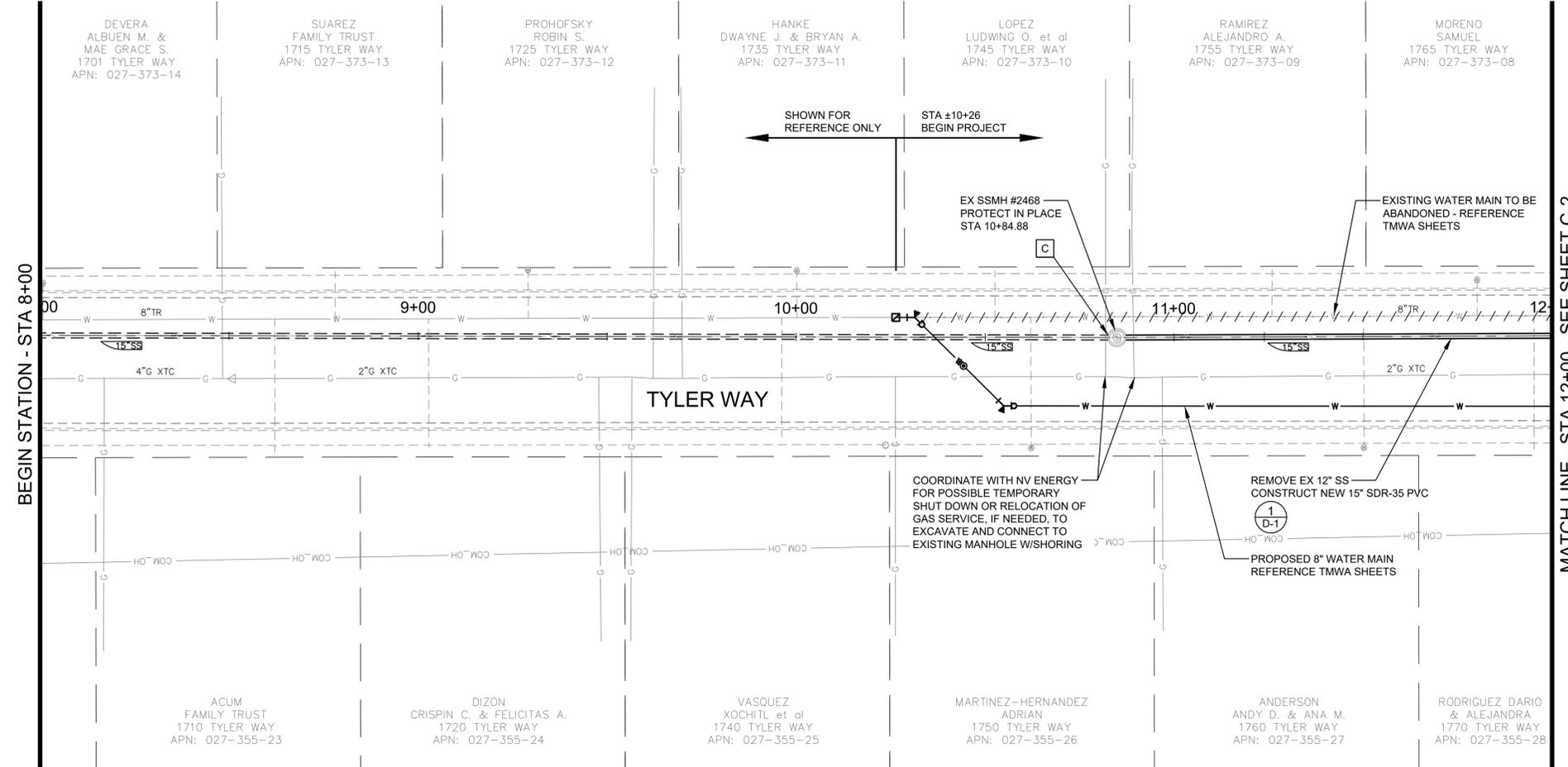
DESIGNED BY:	LJ	KBK	MW	05-25-2020	JOB NO. SPKS-TYLER\$19
DRAWN BY:					
CHECKED BY:					
DATE:					

SHEET NO.  
**G-3**  
3 OF 25

GRAPHIC SCALE



DRAWING SCALES:  
1 INCH @ 20 SC = 22'x34" PLANS  
1 INCH @ 40 SC = 11'x17" PLANS

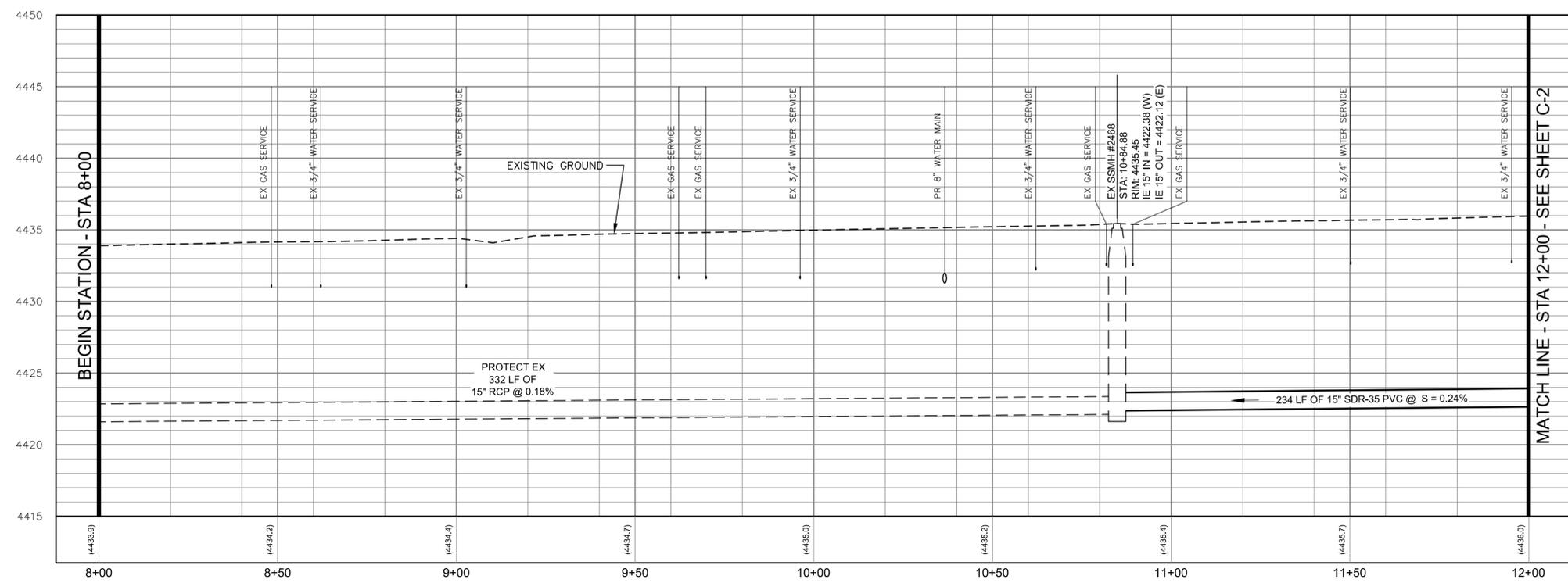


GENERAL NOTES:

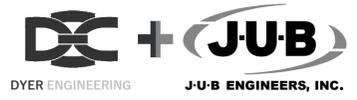
- PIPE LENGTHS AND SLOPES ARE MEASURED FROM CENTER OF MANHOLE TO CENTER OF MANHOLE.
- ALL MANHOLE PIPE PENETRATIONS SHALL BE SDR-35 PVC (EXCEPTING THE INSIDE DROP MANHOLES), SEE DETAIL 4, SHEET D-2 FOR EXISTING PIPE CONNECTIONS OUTSIDE OF MANHOLE.
- PROTECTION OF ALL UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE EXACT LOCATION AND/OR ELEVATION OF EXISTING UTILITIES SHOWN ON THESE DRAWINGS IS APPROXIMATE AND ARE NOT TO BE RELIED ON AS EXACT OR COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO POTHOLE AND VERIFY THE LOCATIONS AND/OR ELEVATIONS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES BETWEEN THE EXISTING CONDITIONS IN THE FIELD AND THE INFORMATION SHOWN ON THESE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

**C** CORE DRILL EXISTING MANHOLE FOR INSTALLATION OF 15" SDR-35 PVC PIPE, GROUT PIPE IN PLACE (NDP) - SEE DETAIL 1, SHEET D-2

TYLER WAY & 18TH STREET SEWER PROFILE - STA: 8+00 TO 12+00  
HORIZONTAL SCALE: 1"=20' 22x34 PLANS / 1"=40' 11x17 PLANS  
VERTICAL SCALE: 1"=5' 22x34 PLANS / 1"=10' 11x17 PLANS



**BID SET**  
03-25-20



9160 Double Diamond Parkway  
Reno, Nevada 89521 775-852-1440

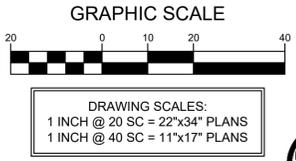
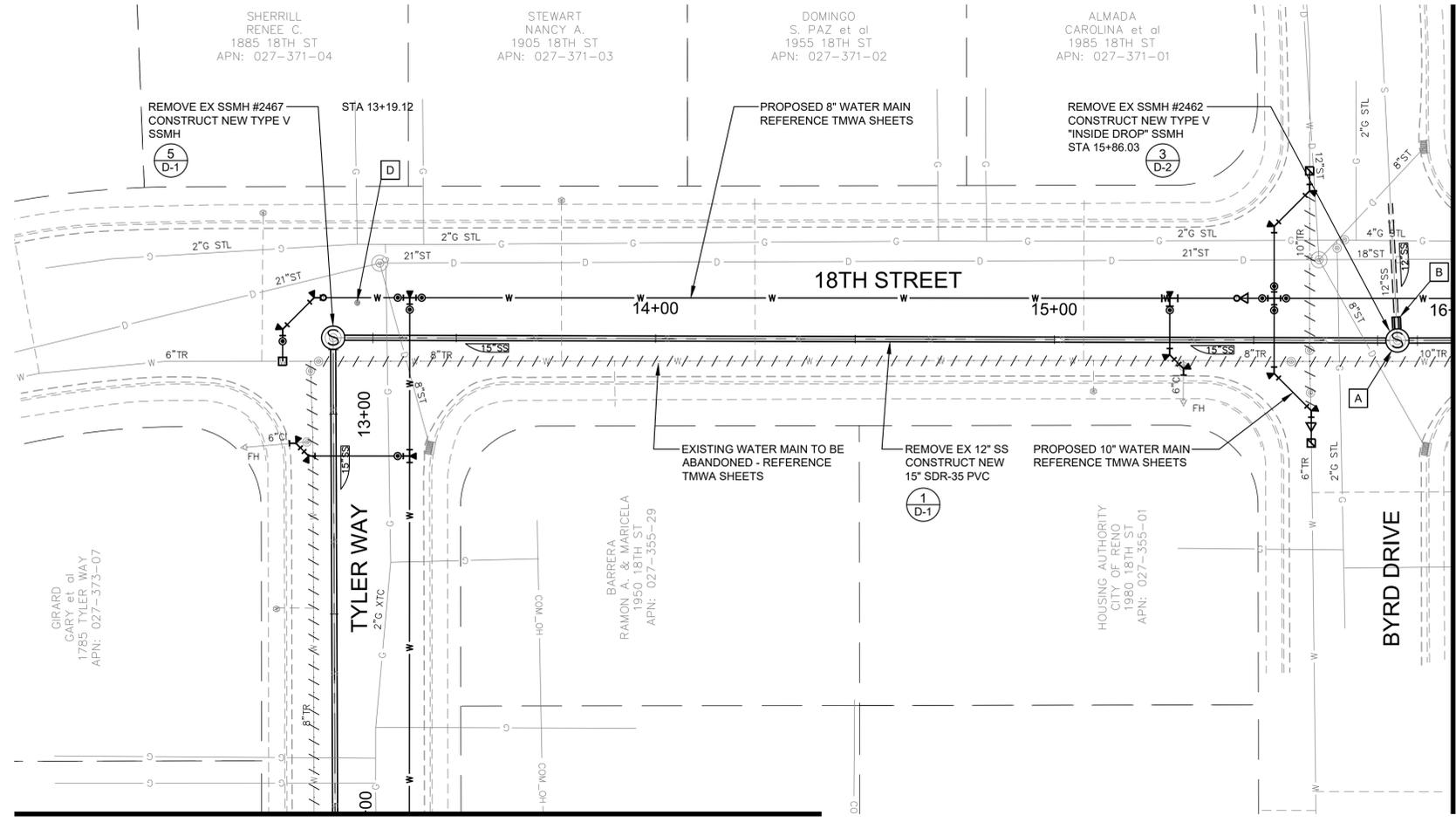


NO.	DATE	INITIALS	DESCRIPTION

CITY OF SPARKS - TYLER WAY & 18TH STREET  
SEWER CAPACITY IMPROVEMENTS  
**PLAN & PROFILE**  
STATION 8+00 TO STATION 12+00

DESIGNED BY: LJ KBK  
DRAWN BY: MW  
CHECKED BY: MW  
DATE: 03-25-2020  
JOB NO. SPKS-TYLER519

SHEET NO.  
**C-1**  
4 OF 25



**GENERAL NOTES:**

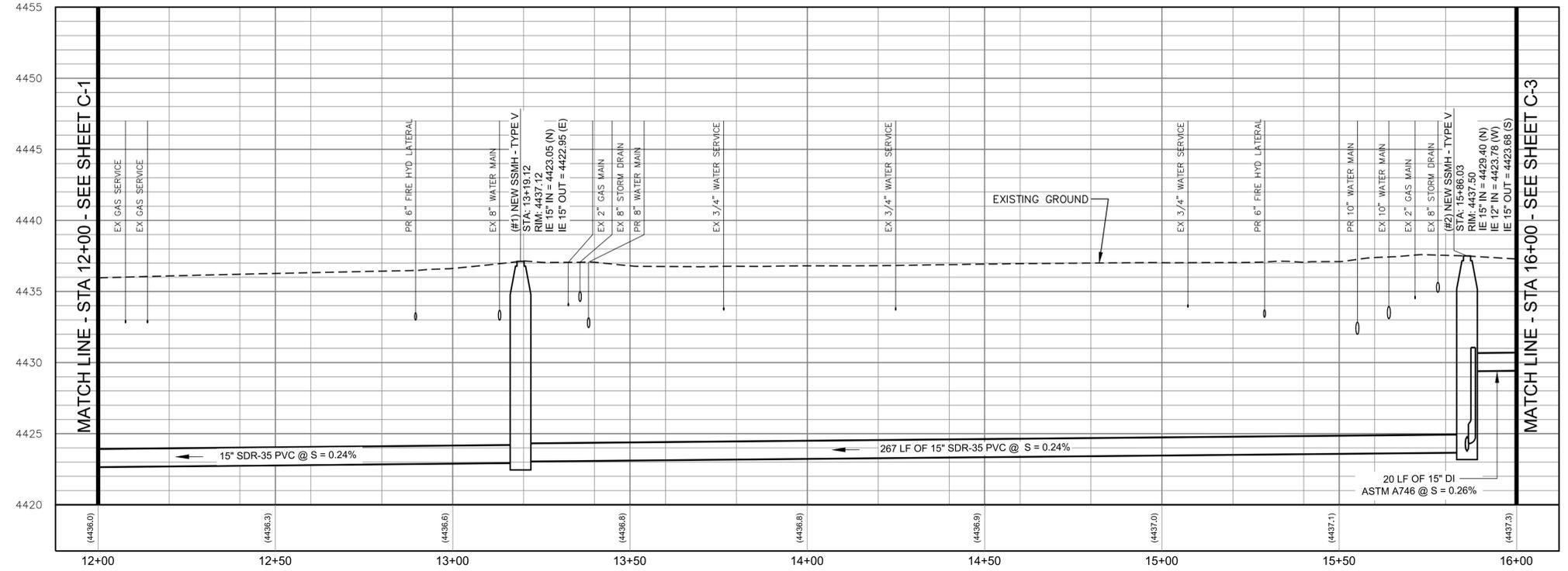
- PIPE LENGTHS AND SLOPES ARE MEASURED FROM CENTER OF MANHOLE TO CENTER OF MANHOLE.
- ALL MANHOLE PIPE PENETRATIONS SHALL BE SDR-35 PVC (EXCEPTING THE INSIDE DROP MANHOLES), SEE DETAIL 4, SHEET D-2 FOR EXISTING PIPE CONNECTIONS OUTSIDE OF MANHOLE.
- PROTECTION OF ALL UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE EXACT LOCATION AND/OR ELEVATION OF EXISTING UTILITIES SHOWN ON THESE DRAWINGS IS APPROXIMATE AND ARE NOT TO BE RELIED ON AS EXACT OR COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO POTHOLE AND VERIFY THE LOCATIONS AND/OR ELEVATIONS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES BETWEEN THE EXISTING CONDITIONS IN THE FIELD AND THE INFORMATION SHOWN ON THESE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

- A** TYPE V "INSIDE DROP" SSMH - SEE DETAIL 3, SHEET D-2
- B** EXISTING PIPE CONNECTION - OUTSIDE MANHOLE (NDP) - SEE DETAIL 4, SHEET D-2
- D** REMOVE AND RESET EXISTING MONUMENT SEE DETAIL 1, SHEET D-3

MATCH LINE - STA 12+00 - SEE SHEET C-1

MATCH LINE - STA 16+00 - SEE SHEET C-3

TYLER WAY & 18TH STREET SEWER PROFILE - STA: 12+00 TO 16+00  
 HORIZONTAL SCALE: 1"=20' 22x34 PLANS / 1"=40' 11x17 PLANS  
 VERTICAL SCALE: 1"=5' 22x34 PLANS / 1"=10' 11x17 PLANS



**BID SET**  
03-25-20



9160 Double Diamond Parkway  
Reno, Nevada 89521 775-852-1440

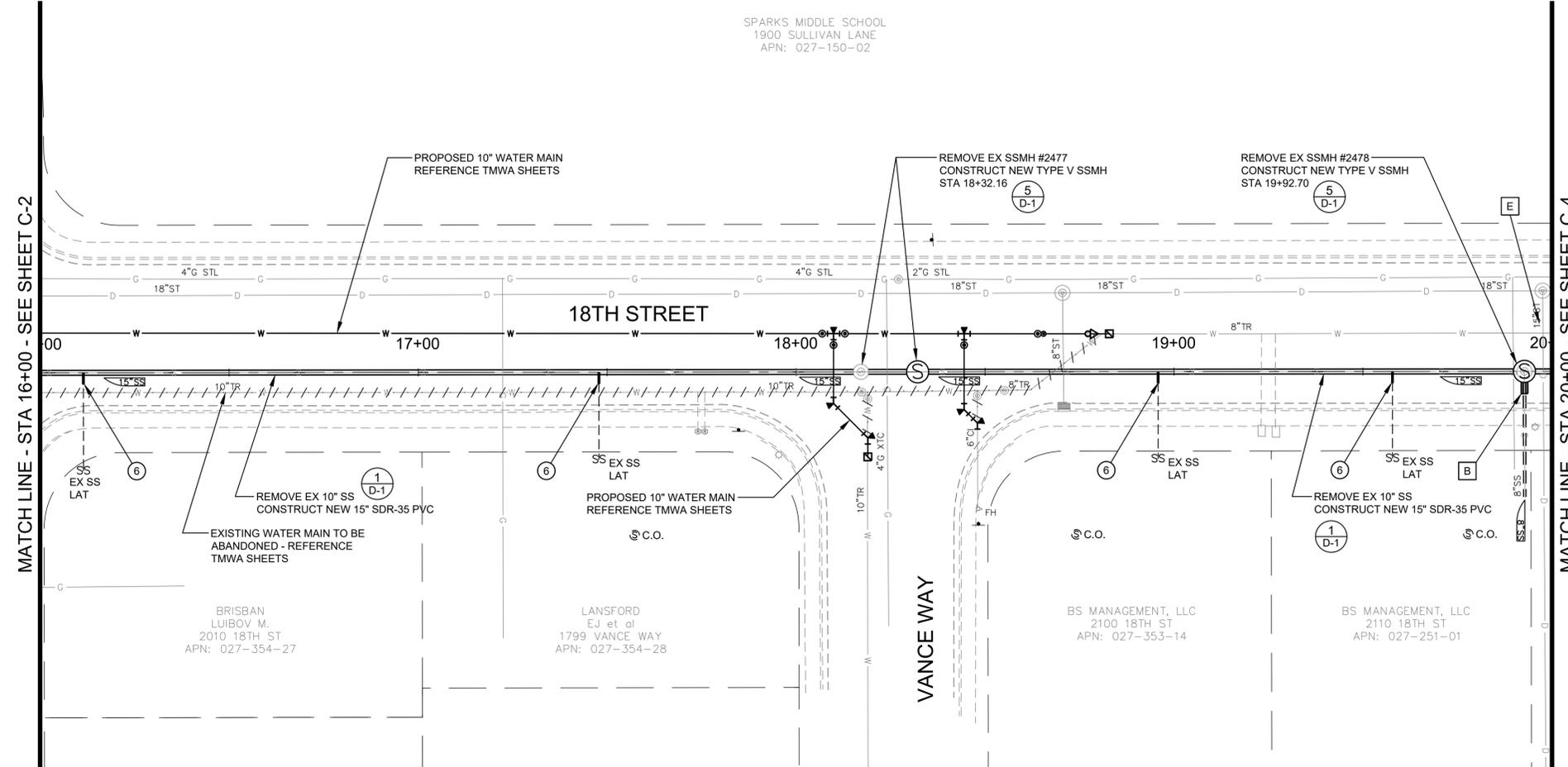
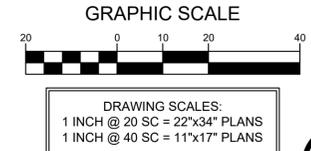


NO.	DATE	INITIALS	DESCRIPTION

CITY OF SPARKS - TYLER WAY & 18TH STREET  
SEWER CAPACITY IMPROVEMENTS  
**PLAN & PROFILE**  
STATION 12+00 TO STATION 16+00  
NEVADA  
SPARKS

DESIGNED BY: LJ  
 DRAWN BY: KBK  
 CHECKED BY: MW  
 DATE: 03-25-2020  
 JOB NO. SPKS-TYLERSS19

SHEET NO.  
**C-2**  
5 OF 25

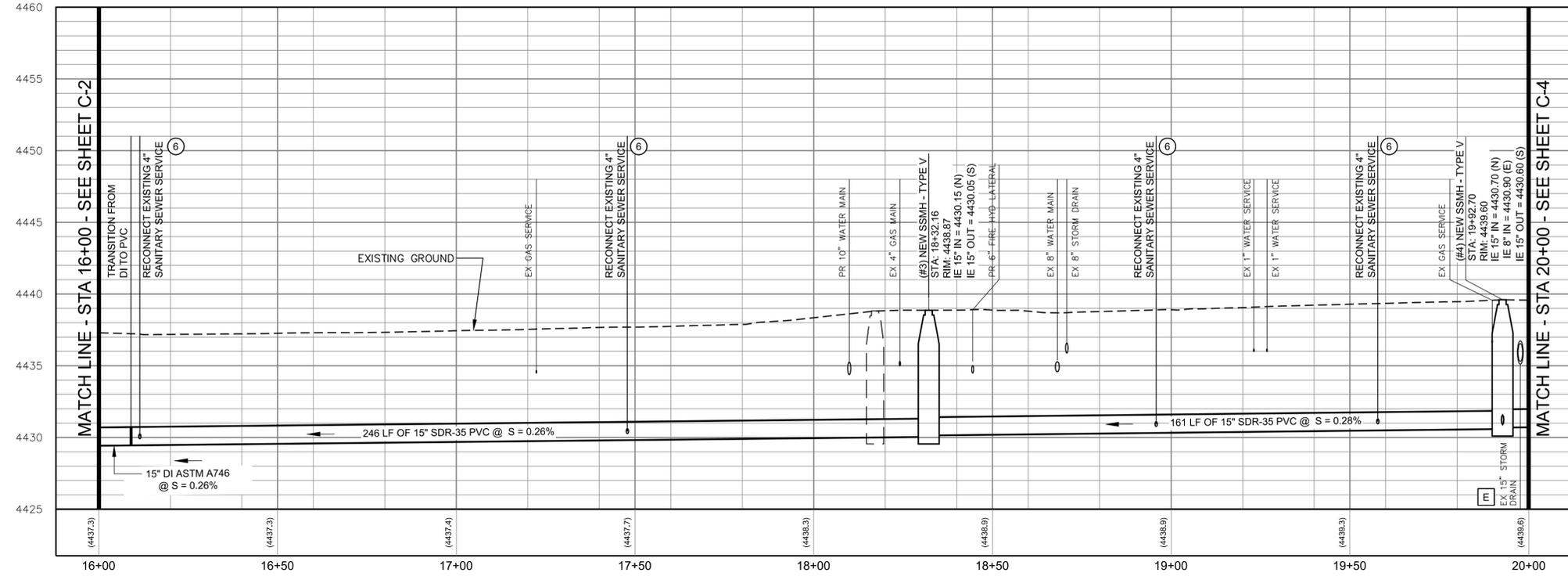


GENERAL NOTES:

- PIPE LENGTHS AND SLOPES ARE MEASURED FROM CENTER OF MANHOLE TO CENTER OF MANHOLE.
- THE LOCATIONS OF THE SANITARY SEWER SERVICES AS SHOWN ON THE PLANS WERE TAKEN FROM PIPE GRAPHIC REPORTS AND VIDEO OBTAINED FROM THE CITY OF SPARKS. PLEASE NOTE THAT THE EXISTING CLEANOUT (C.O.) LOCATIONS MAY NOT REPRESENT THE PIPE PENETRATION (P.P.) LOCATIONS. THE LOCATIONS OF THE CLEANOUTS (C.O.) AS SHOWN ON THESE PLANS WERE TAKEN FROM FIELD OBSERVATION ONLY; IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL CLEANOUTS AND TO VERIFY THE SIZE OF ALL LATERALS WHICH CONNECT TO THE MAIN LINE.
- VERIFY AND INSTALL SANITARY SEWER LATERAL USING A WYE FITTING (REFERENCE DETAIL 2 ON SHEET D-2). "TAP SADDLE" OR "INSERT A TEE" CONNECTIONS WILL NOT BE USED. LATERALS SHOWN SHALL BE VERIFIED AS ACTIVE LATERALS.
- THE CONTRACTOR SHALL VERIFY THAT ALL SANITARY SEWER LATERALS ARE ACTIVE OR INACTIVE PRIOR TO THE INSTALLATION OF THE MAIN LINE. ALL ACTIVE LATERALS WHERE FLOW IS EVIDENT BY SIMPLE VISUAL INSPECTION SHALL BE DYE TESTED TO IDENTIFY SERVICE ADDRESS.
- IF NO INDICATIONS OF FLOW ARE PRESENT, A PUSH TYPE CAMERA WITH VIDEO TAPE INSPECTION CAPABILITY SHALL BE USED IN CONJUNCTION WITH CCTV AND DYE/SMOKE TESTING TO CONFIRM IF LATERAL IS ACTIVE OR INACTIVE. THE CONTRACTOR SHALL MAINTAIN A LOG OF ALL INACTIVE OR ACTIVE LATERALS PRIOR TO RECONNECTION OR ABANDONMENT PER THE SPECIFICATIONS AND AN INSPECTOR SHALL BE PRESENT DURING ALL LATERAL VERIFICATIONS AND CONNECTIONS TO PROVIDE LOCATION MARK UP FOR GPS.
- ALL NEW LATERALS SHALL BE CONNECTED TO THE EXISTING LATERAL WITHIN THE TRENCH LIMITS. IF THE LATERAL CONNECTION CANNOT BE MADE WITHIN THE TRENCH LIMITS FOR ANY REASON, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUANCE OF WORK (REFERENCE DETAIL 2 ON SHEET D-2).
- PROTECTION OF ALL UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE EXACT LOCATION AND/OR ELEVATION OF EXISTING UTILITIES SHOWN ON THESE DRAWINGS IS APPROXIMATE AND ARE NOT TO BE RELIED ON AS EXACT OR COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO POTHOLE AND VERIFY THE LOCATIONS AND/OR ELEVATIONS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES BETWEEN THE EXISTING CONDITIONS IN THE FIELD AND THE INFORMATION SHOWN ON THESE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
- ALL MANHOLE PIPE PENETRATIONS SHALL BE SDR-35 PVC (EXCEPTING THE INSIDE DROP MANHOLES), SEE DETAIL 4, SHEET D-2 FOR EXISTING PIPE CONNECTIONS OUTSIDE OF MANHOLE.

- B EXISTING PIPE CONNECTION - OUTSIDE MANHOLE (NDP) - SEE DETAIL 4, SHEET D-2
- E CONTRACTOR TO REMOVE 15" SD AS NEEDED TO COMPLETE SANITARY SEWER WORK (NDP)

TYLER WAY & 18TH STREET SEWER PROFILE - STA: 16+00 TO 20+00  
HORIZONTAL SCALE: 1"=20' 22x34 PLANS / 1"=40' 11x17 PLANS  
VERTICAL SCALE: 1"=5' 22x34 PLANS / 1"=10' 11x17 PLANS

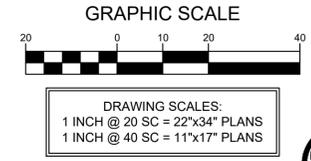


**BID SET**  
03-25-20



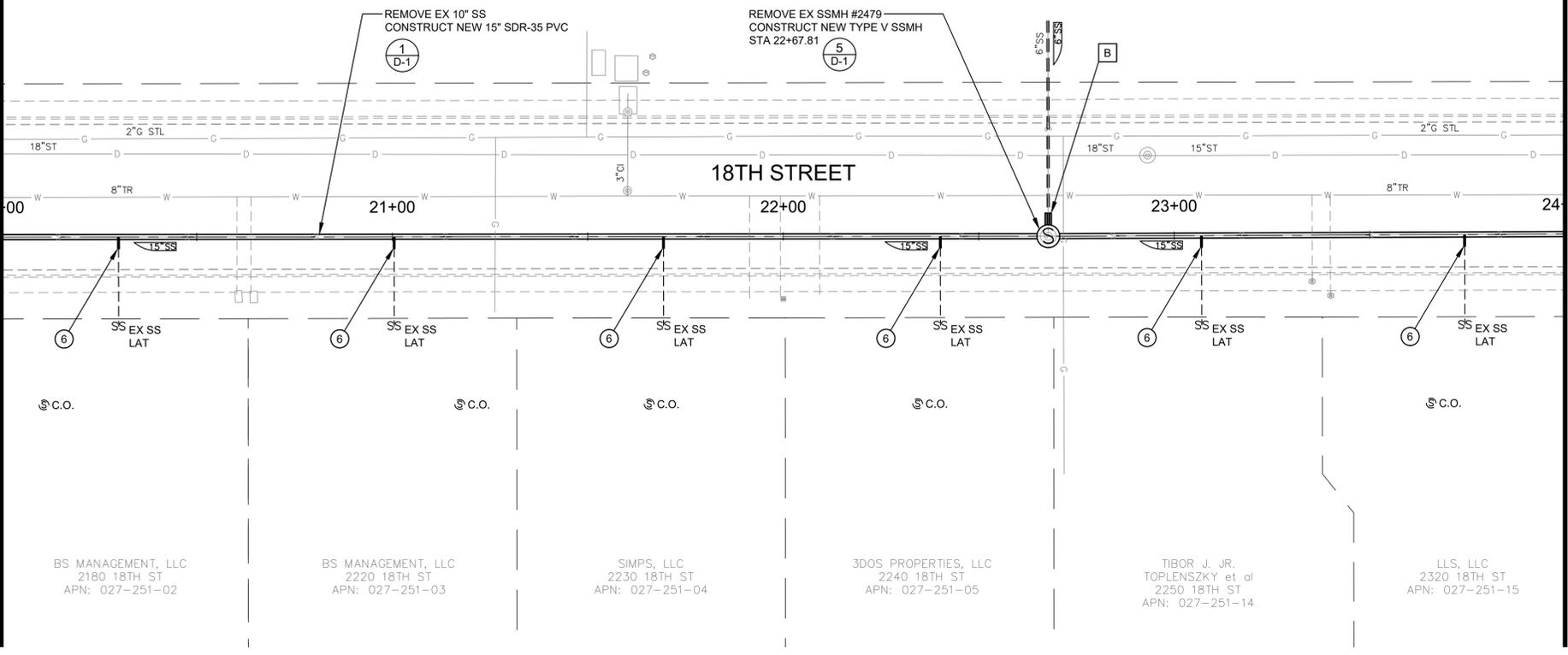
9160 Double Diamond Parkway  
Reno, Nevada 89521 775-852-1440

SPARKS MIDDLE SCHOOL  
1900 SULLIVAN LANE  
APN: 027-150-02



MATCH LINE - STA 20+00 - SEE SHEET C-3

MATCH LINE - STA 24+00 - SEE SHEET C-5



**GENERAL NOTES:**

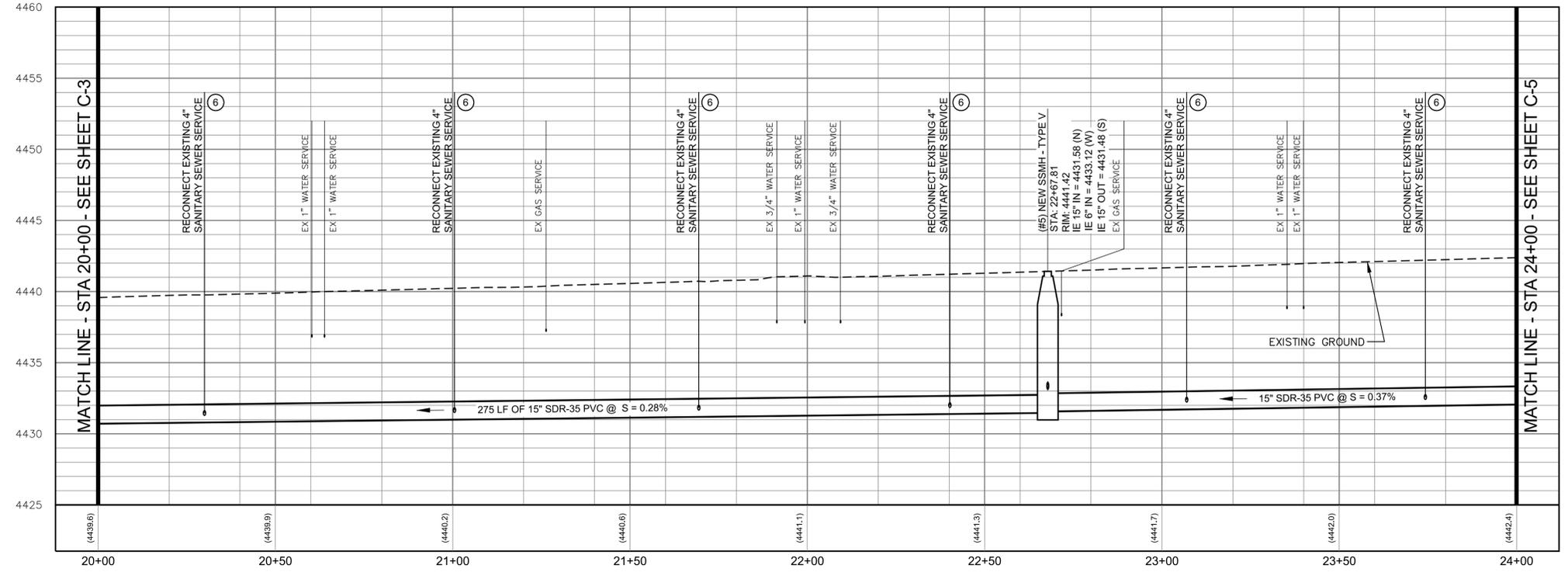
- PIPE LENGTHS AND SLOPES ARE MEASURED FROM CENTER OF MANHOLE TO CENTER OF MANHOLE.
- THE LOCATIONS OF THE SANITARY SEWER SERVICES AS SHOWN ON THE PLANS WERE TAKEN FROM PIPE GRAPHIC REPORTS AND VIDEO OBTAINED FROM THE CITY OF SPARKS. PLEASE NOTE THAT THE EXISTING CLEANOUT (C.O.) LOCATIONS MAY NOT REPRESENT THE PIPE PENETRATION (P.P.) LOCATIONS. THE LOCATIONS OF THE CLEANOUTS (C.O.) AS SHOWN ON THESE PLANS WERE TAKEN FROM FIELD OBSERVATION ONLY; IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL CLEANOUTS AND TO VERIFY THE SIZE OF ALL LATERALS WHICH CONNECT TO THE MAIN LINE.
- VERIFY AND INSTALL SANITARY SEWER LATERAL USING A WYE FITTING (REFERENCE DETAIL 2 ON SHEET D-2). "TAP SADDLE" OR "INSERT A TEE" CONNECTIONS WILL NOT BE USED. LATERALS SHOWN SHALL BE VERIFIED AS ACTIVE LATERALS.
- THE CONTRACTOR SHALL VERIFY THAT ALL SANITARY SEWER LATERALS ARE ACTIVE OR INACTIVE PRIOR TO THE INSTALLATION OF THE MAIN LINE. ALL ACTIVE LATERALS WHERE FLOW IS EVIDENT BY SIMPLE VISUAL INSPECTION SHALL BE DYE TESTED TO IDENTIFY SERVICE ADDRESS.
- IF NO INDICATIONS OF FLOW ARE PRESENT, A PUSH TYPE CAMERA WITH VIDEO TAPE INSPECTION CAPABILITY SHALL BE USED IN CONJUNCTION WITH CCTV AND DYE/SMOKE TESTING TO CONFIRM IF LATERAL IS ACTIVE OR INACTIVE. THE CONTRACTOR SHALL MAINTAIN A LOG OF ALL INACTIVE OR ACTIVE LATERALS PRIOR TO RECONNECTION OR ABANDONMENT PER THE SPECIFICATIONS AND AN INSPECTOR SHALL BE PRESENT DURING ALL LATERAL VERIFICATIONS AND CONNECTIONS TO PROVIDE LOCATION MARK UP FOR GPS.
- ALL NEW LATERALS SHALL BE CONNECTED TO THE EXISTING LATERAL WITHIN THE TRENCH LIMITS. IF THE LATERAL CONNECTION CANNOT BE MADE WITHIN THE TRENCH LIMITS FOR ANY REASON, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUANCE OF WORK (REFERENCE DETAIL 2 ON SHEET D-2).
- PROTECTION OF ALL UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE EXACT LOCATION AND/OR ELEVATION OF EXISTING UTILITIES SHOWN ON THESE DRAWINGS IS APPROXIMATE AND ARE NOT TO BE RELIED ON AS EXACT OR COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO POTHOLE AND VERIFY THE LOCATIONS AND/OR ELEVATIONS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES BETWEEN THE EXISTING CONDITIONS IN THE FIELD AND THE INFORMATION SHOWN ON THESE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
- ALL MANHOLE PIPE PENETRATIONS SHALL BE SDR-35 PVC (EXCEPTING THE INSIDE DROP MANHOLES), SEE DETAIL 4, SHEET D-2 FOR EXISTING PIPE CONNECTIONS OUTSIDE OF MANHOLE.



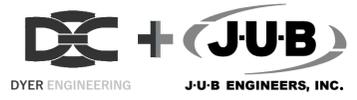
NO.	DATE	INITIALS	DESCRIPTION

**TYLER WAY & 18TH STREET SEWER PROFILE - STA: 20+00 TO 24+00**  
HORIZONTAL SCALE: 1"=20' 22x34 PLANS / 1"=40' 11x17 PLANS  
VERTICAL SCALE: 1"=5' 22x34 PLANS / 1"=10' 11x17 PLANS

**B** EXISTING PIPE CONNECTION - OUTSIDE MANHOLE (NDP) - SEE DETAIL 4, SHEET D-2



**BID SET**  
03-25-20



9160 Double Diamond Parkway  
Reno, Nevada 89521 775-852-1440

CITY OF SPARKS - TYLER WAY & 18TH STREET  
SEWER CAPACITY IMPROVEMENTS  
**PLAN & PROFILE**  
STATION 20+00 TO STATION 24+00  
SPARKS NEVADA

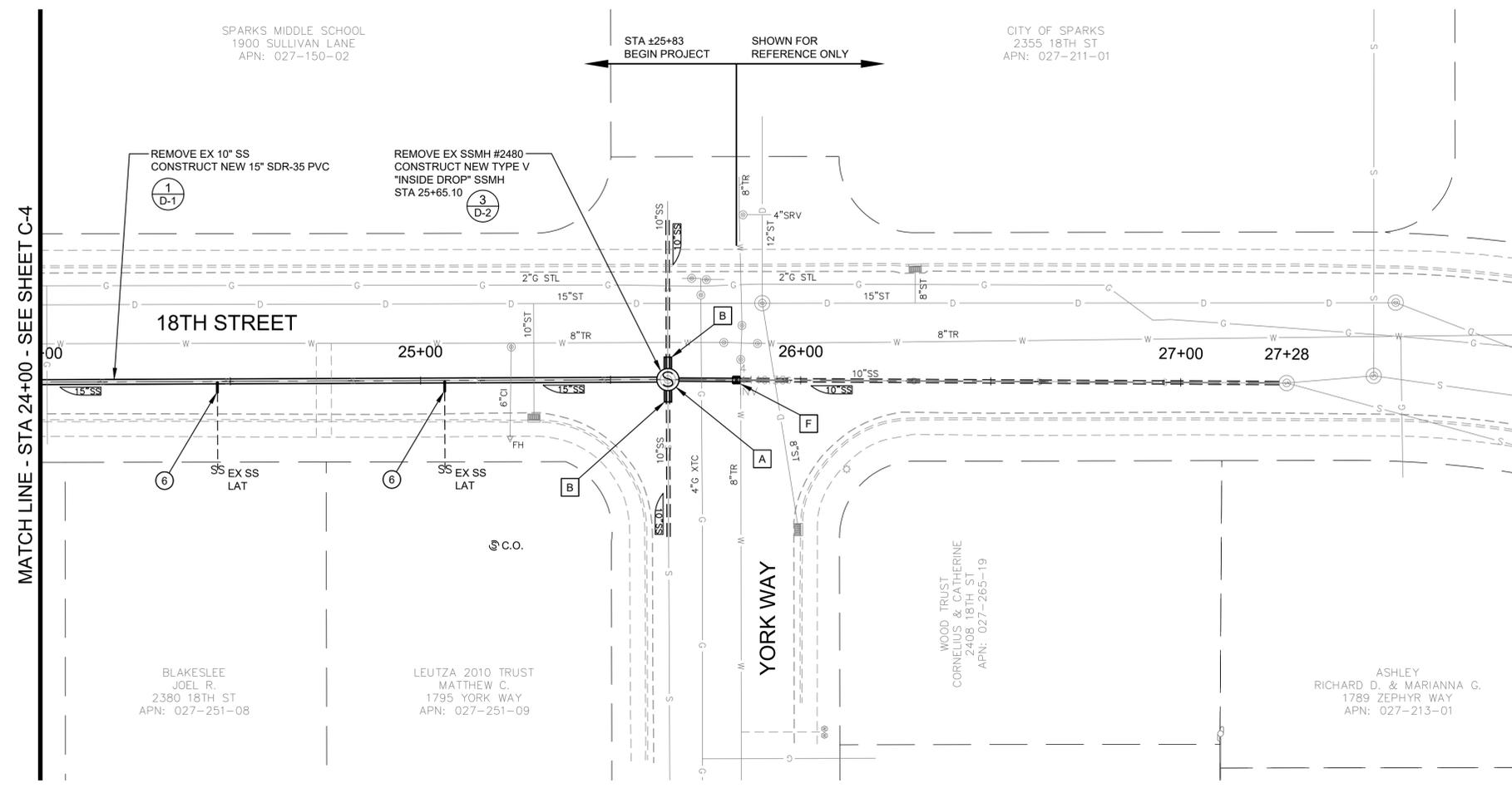
DESIGNED BY: LJ  
DRAWN BY: KBK  
CHECKED BY: MW  
DATE: 03-25-2020  
JOB NO. SPKS-TYLERSS19

SHEET NO.  
**C-4**  
7 OF 25

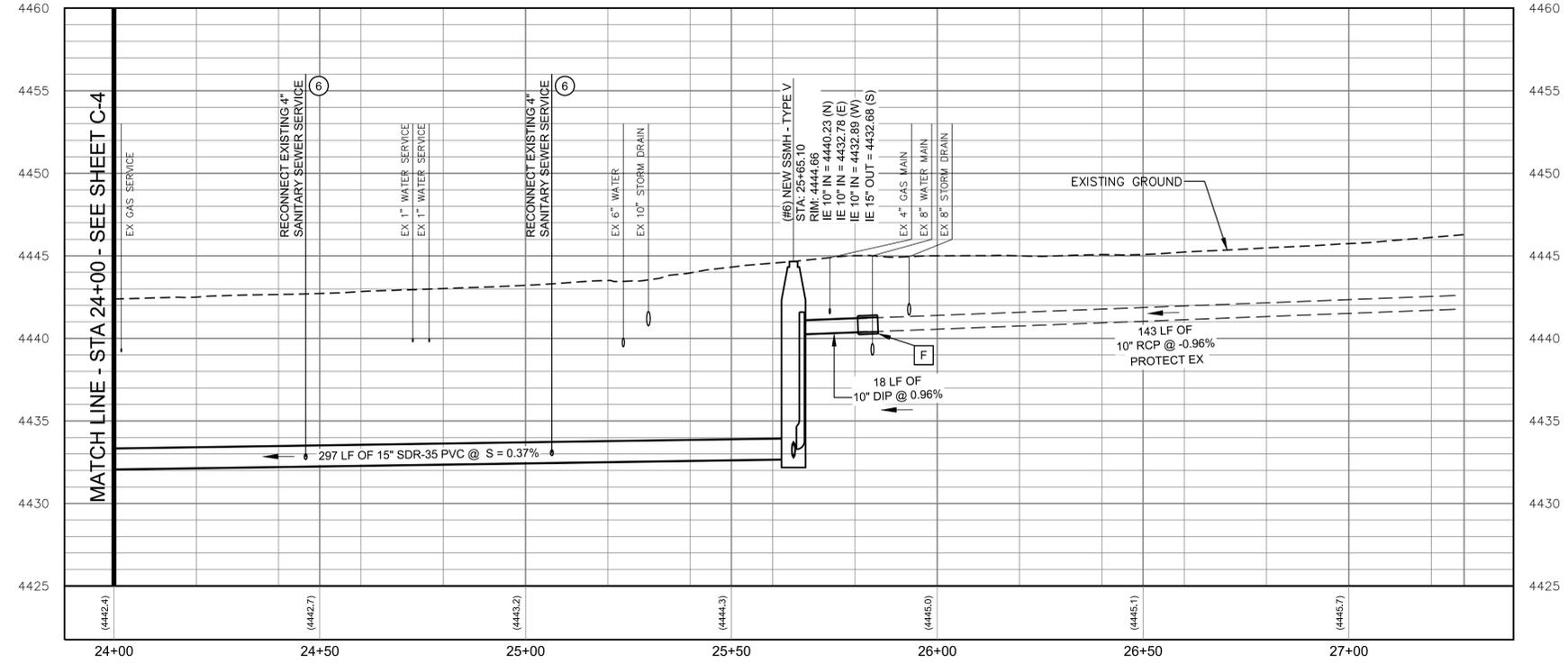
GRAPHIC SCALE



DRAWING SCALES:  
1 INCH @ 20 SC = 22'x34" PLANS  
1 INCH @ 40 SC = 11'x17" PLANS



TYLER WAY & 18TH STREET SEWER PROFILE - STA: 24+00 TO 27+28  
HORIZONTAL SCALE: 1"=20' 22x34 PLANS / 1"=40' 11x17 PLANS  
VERTICAL SCALE: 1"=5' 22x34 PLANS / 1"=10' 11x17 PLANS



GENERAL NOTES:

- PIPE LENGTHS AND SLOPES ARE MEASURED FROM CENTER OF MANHOLE TO CENTER OF MANHOLE.
- THE LOCATIONS OF THE SANITARY SEWER SERVICES AS SHOWN ON THE PLANS WERE TAKEN FROM PIPE GRAPHIC REPORTS AND VIDEO OBTAINED FROM THE CITY OF SPARKS. PLEASE NOTE THAT THE EXISTING CLEANOUT (C.O.) LOCATIONS MAY NOT REPRESENT THE PIPE PENETRATION (P.P.) LOCATIONS. THE LOCATIONS OF THE CLEANOUTS (C.O.) AS SHOWN ON THESE PLANS WERE TAKEN FROM FIELD OBSERVATION ONLY; IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL CLEANOUTS AND TO VERIFY THE SIZE OF ALL LATERALS WHICH CONNECT TO THE MAIN LINE.
- VERIFY AND INSTALL SANITARY SEWER LATERAL USING A WYE FITTING (REFERENCE DETAIL 2 ON SHEET D-2). "TAP SADDLE" OR "INSERT A TEE" CONNECTIONS WILL NOT BE USED. LATERALS SHOWN SHALL BE VERIFIED AS ACTIVE LATERALS.
- THE CONTRACTOR SHALL VERIFY THAT ALL SANITARY SEWER LATERALS ARE ACTIVE OR INACTIVE PRIOR TO THE INSTALLATION OF THE MAIN LINE. ALL ACTIVE LATERALS WHERE FLOW IS EVIDENT BY SIMPLE VISUAL INSPECTION SHALL BE DYE TESTED TO IDENTIFY SERVICE ADDRESS.
- IF NO INDICATIONS OF FLOW ARE PRESENT, A PUSH TYPE CAMERA WITH VIDEO TAPE INSPECTION CAPABILITY SHALL BE USED IN CONJUNCTION WITH CCTV AND DYE/SMOKE TESTING TO CONFIRM IF LATERAL IS ACTIVE OR INACTIVE. THE CONTRACTOR SHALL MAINTAIN A LOG OF ALL INACTIVE OR ACTIVE LATERALS PRIOR TO RECONNECTION OR ABANDONMENT PER THE SPECIFICATIONS AND AN INSPECTOR SHALL BE PRESENT DURING ALL LATERAL VERIFICATIONS AND CONNECTIONS TO PROVIDE LOCATION MARK UP FOR GPS.
- ALL NEW LATERALS SHALL BE CONNECTED TO THE EXISTING LATERAL WITHIN THE TRENCH LIMITS. IF THE LATERAL CONNECTION CANNOT BE MADE WITHIN THE TRENCH LIMITS FOR ANY REASON, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUANCE OF WORK (REFERENCE DETAIL 2 ON SHEET D-2).
- PROTECTION OF ALL UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE EXACT LOCATION AND/OR ELEVATION OF EXISTING UTILITIES SHOWN ON THESE DRAWINGS IS APPROXIMATE AND ARE NOT TO BE RELIED ON AS EXACT OR COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO POTHOLE AND VERIFY THE LOCATIONS AND/OR ELEVATIONS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES BETWEEN THE EXISTING CONDITIONS IN THE FIELD AND THE INFORMATION SHOWN ON THESE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
- ALL MANHOLE PIPE PENETRATIONS SHALL BE SDR-35 PVC (EXCEPTING THE INSIDE DROP MANHOLES), SEE DETAIL 4, SHEET D-2 FOR EXISTING PIPE CONNECTIONS OUTSIDE OF MANHOLE.

- A** TYPE V "INSIDE DROP" MANHOLE - SEE DETAIL 3, SHEET D-2
- B** EXISTING PIPE CONNECTION - OUTSIDE MANHOLE (NDP) - SEE DETAIL 4, SHEET D-2
- F** EXISTING PIPE CONNECTION - DIP TO RCP (NDP) SEE DETAIL 3, SHEET D-2



PROFESSIONAL SEAL:  
ENGINEER  
JOHNSON  
Exp: 6-30-21  
CIVIL  
No. 19440  
03-25-2020

NO.	DATE	INITIALS	DESCRIPTION

CITY OF SPARKS - TYLER WAY & 18TH STREET  
SEWER CAPACITY IMPROVEMENTS  
PLAN & PROFILE  
STATION 24+00 TO STATION 27+28

DESIGNED BY: LJJ  
DRAWN BY: KBK  
CHECKED BY: MW  
DATE: 03-25-2020  
JOB NO. SPKS-TYLERSS19

SHEET NO.  
**C-5**  
8 OF 25

**BID SET**  
03-25-20



9160 Double Diamond Parkway  
Reno, Nevada 89521 775-852-1440

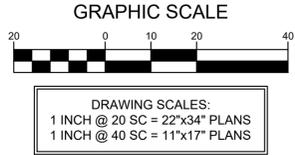


NO.	DATE	INITIALS	DESCRIPTION

CITY OF SPARKS - TYLER WAY & 18TH STREET  
SEWER CAPACITY IMPROVEMENTS  
STREET RESTORATION  
STATION 8+00 TO STATION 16+00

DESIGNED BY: LJ  
DRAWN BY: KBK  
CHECKED BY: MW  
DATE: 03-25-2020  
JOB NO. SPKS-TYLERSS19

SHEET NO.  
R-1  
9 OF 25

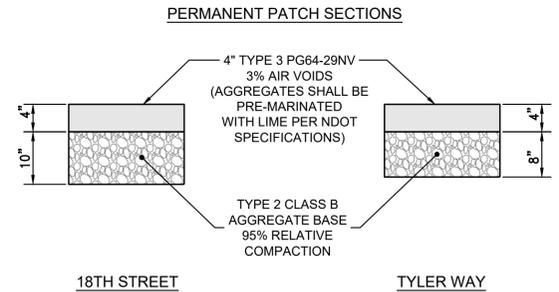


RESTORATION LEGEND

- PERMANENT PAVEMENT PATCH, SEE DETAIL 4 ON SHEET D-1 AND SECTIONS BELOW, APPROX. LIMITS SHOWN, CONTRACTOR SHALL FIELD ADJUST
- 2" GRIND AND OVERLAY FOR ROADWAY (WIDTH VARIES), APPROX. LIMITS SHOWN, CONTRACTOR SHALL FIELD ADJUST

NOTES:

1. ALL LONGITUDINAL LINES SHALL BE PAINTED WITH (2) COATS OF NDOT TYPE II PAINT OR APPROVED EQUAL.
2. PERFORMED THERMOPLASTIC PAVEMENT MARKINGS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND IN ACCORDANCE WITH SECTION 634 OF THE LATEST EDITION OF "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" PUBLISHED BY THE STATE OF NEVADA, DEPARTMENT OF TRANSPORTATION (NDOT), EXCEPT ALL THERMOPLASTIC MARKINGS WILL BE 0.090 INCHES THICK. HOT-APPLIED EXTRUDED THERMOPLASTIC SHALL NOT BE USED.
3. ALL LETTERED SCHOOL MARKINGS SHALL BE PERFORMED THERMOPLASTIC LEGENDS.
4. ANY REMOVAL OR DAMAGE TO STRIPING OUTSIDE OF LIMITS AS SHOWN, WILL BE RE-STRIPED AT THE CONTRACTOR'S EXPENSE.
5. ALL PAVEMENT MARKINGS AND STRIPING SHALL CONFORM TO (ASSTO & MUTCD) SPECIFICATIONS AND REQUIREMENTS FOR STREETS AND HIGHWAYS, LATEST ADDITION.
6. ADJUST MANHOLE COLLAR TO FINISHED GRADE. REFERENCE DETAIL 3, SHEET D-1. (NDP - TYPICAL)
7. ADJUST WATER VALVE COLLAR OR GAS VALVE COLLAR TO FINISHED GRADE. REFERENCE DETAIL 10J-2, SHEET W11. (NDP - TYPICAL)



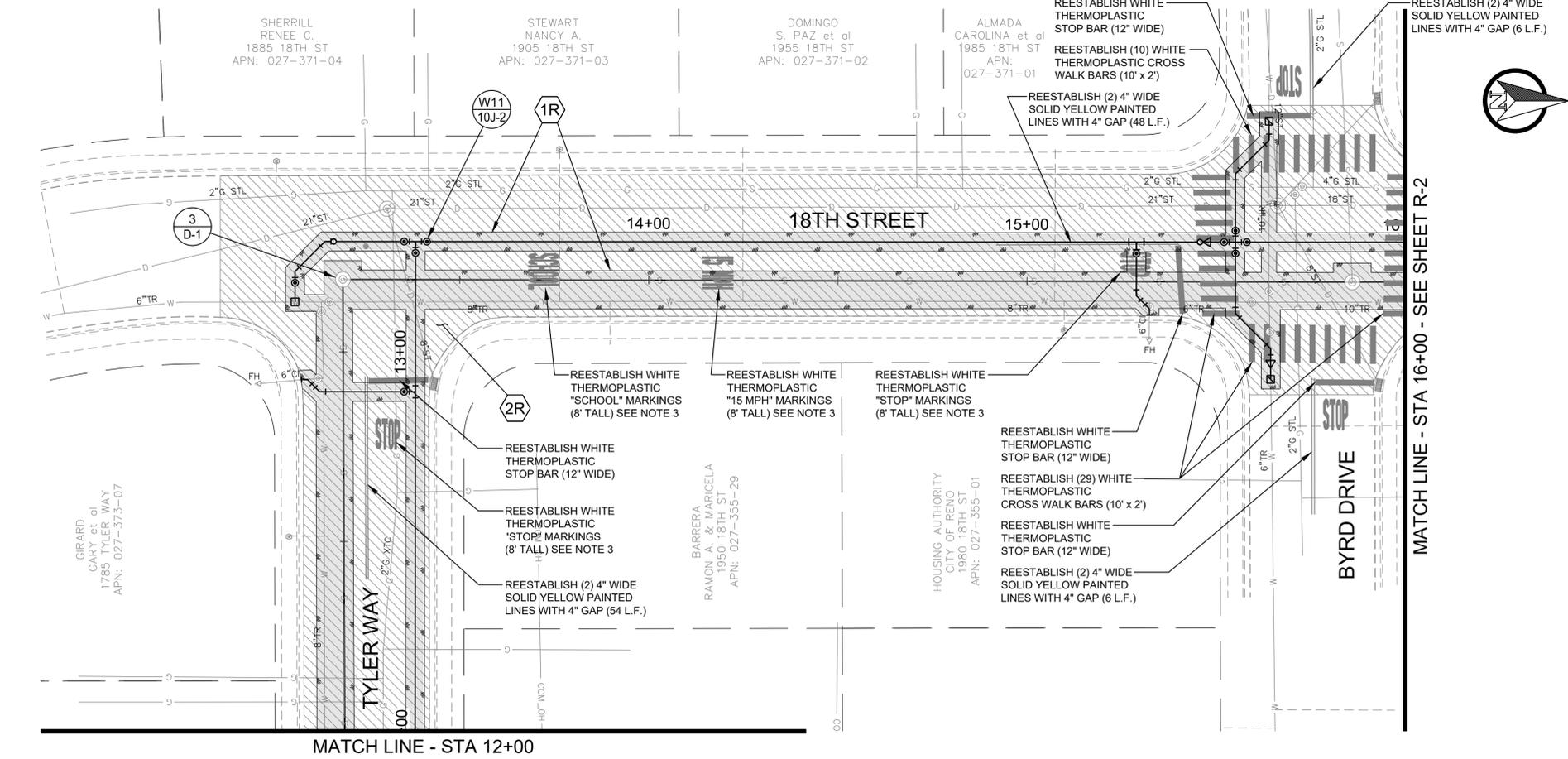
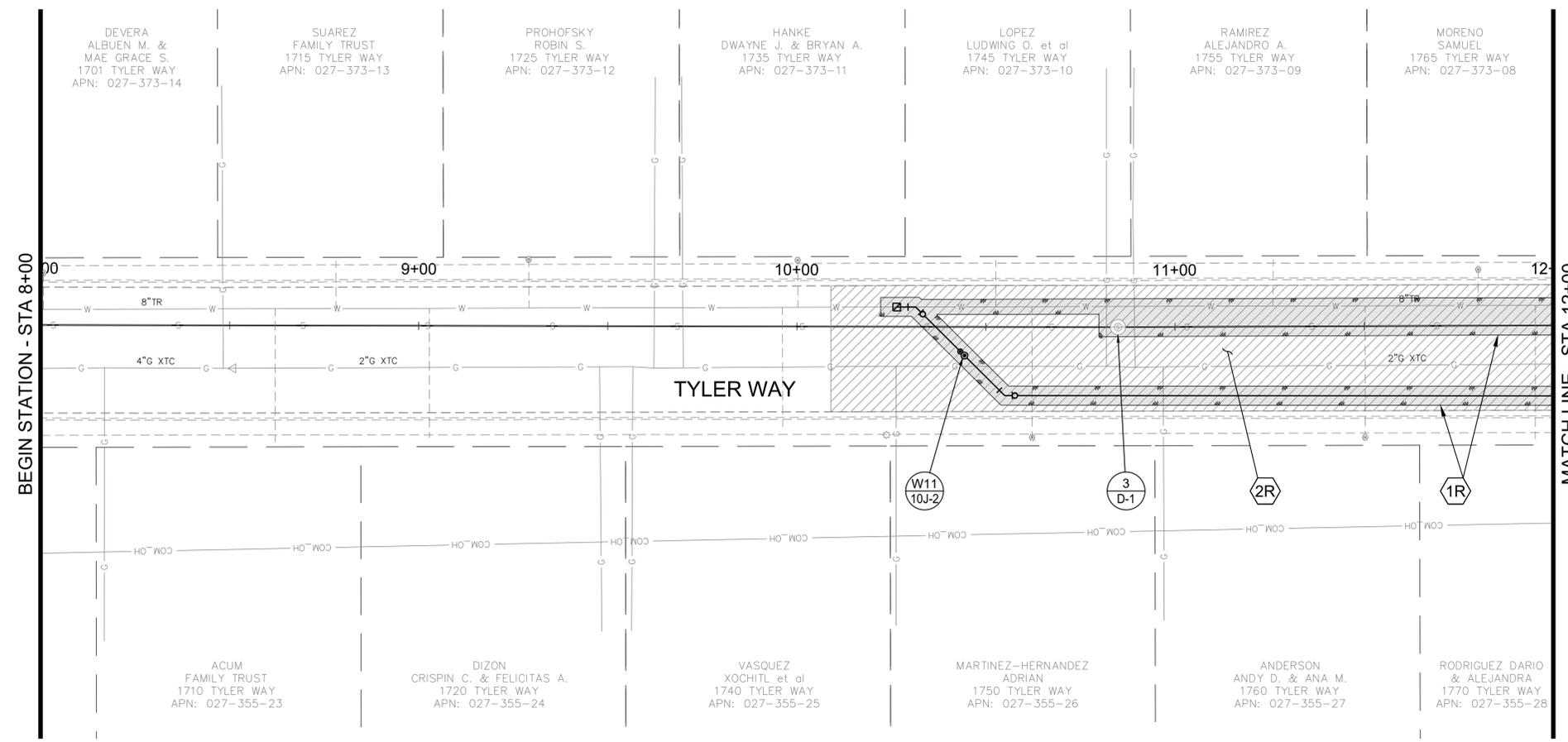
NOTES:

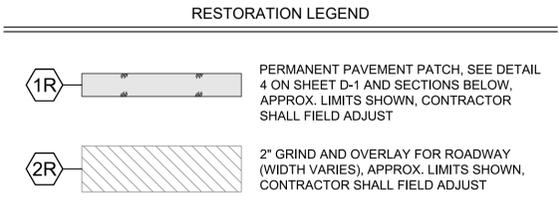
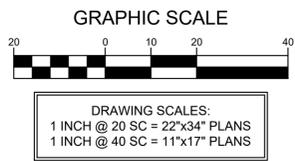
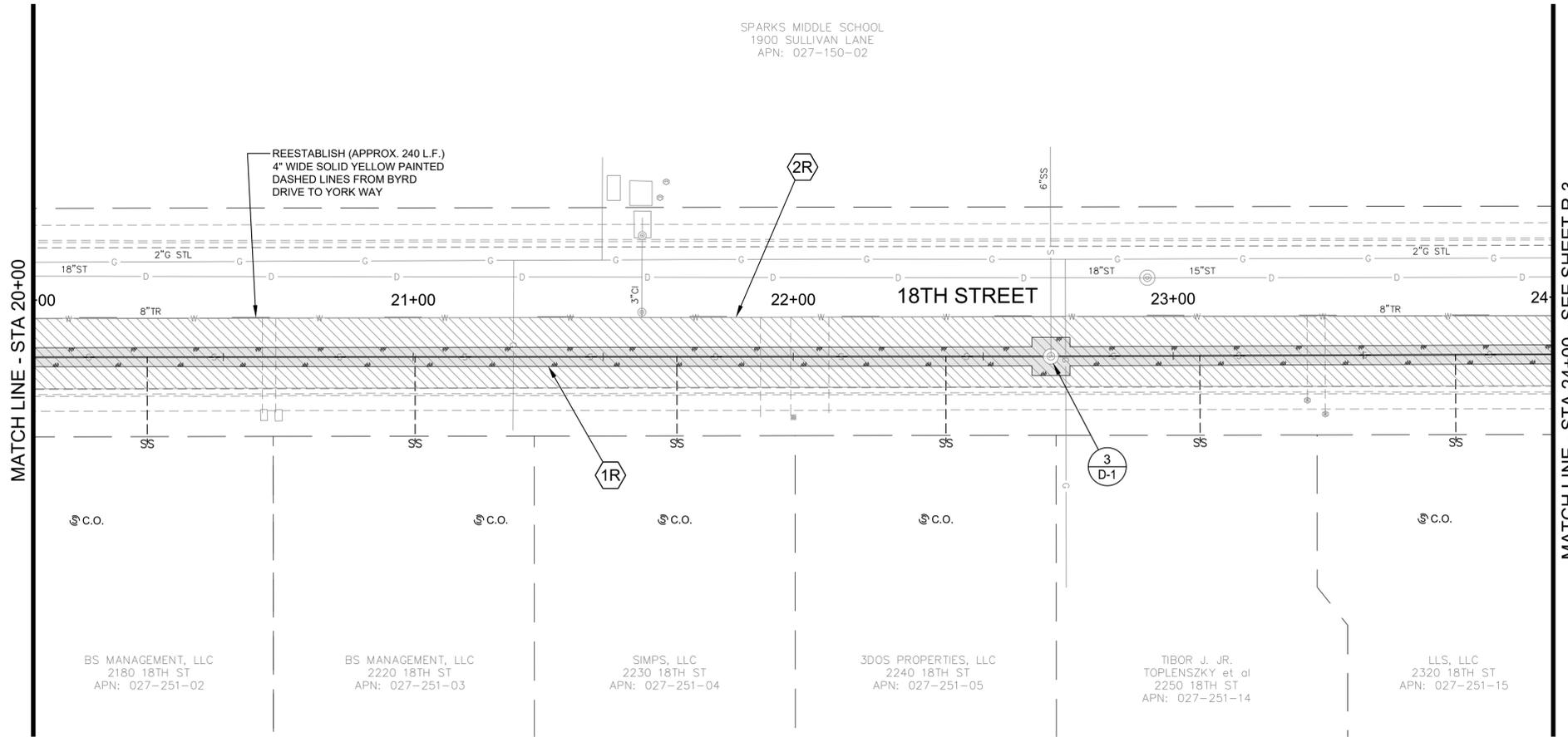
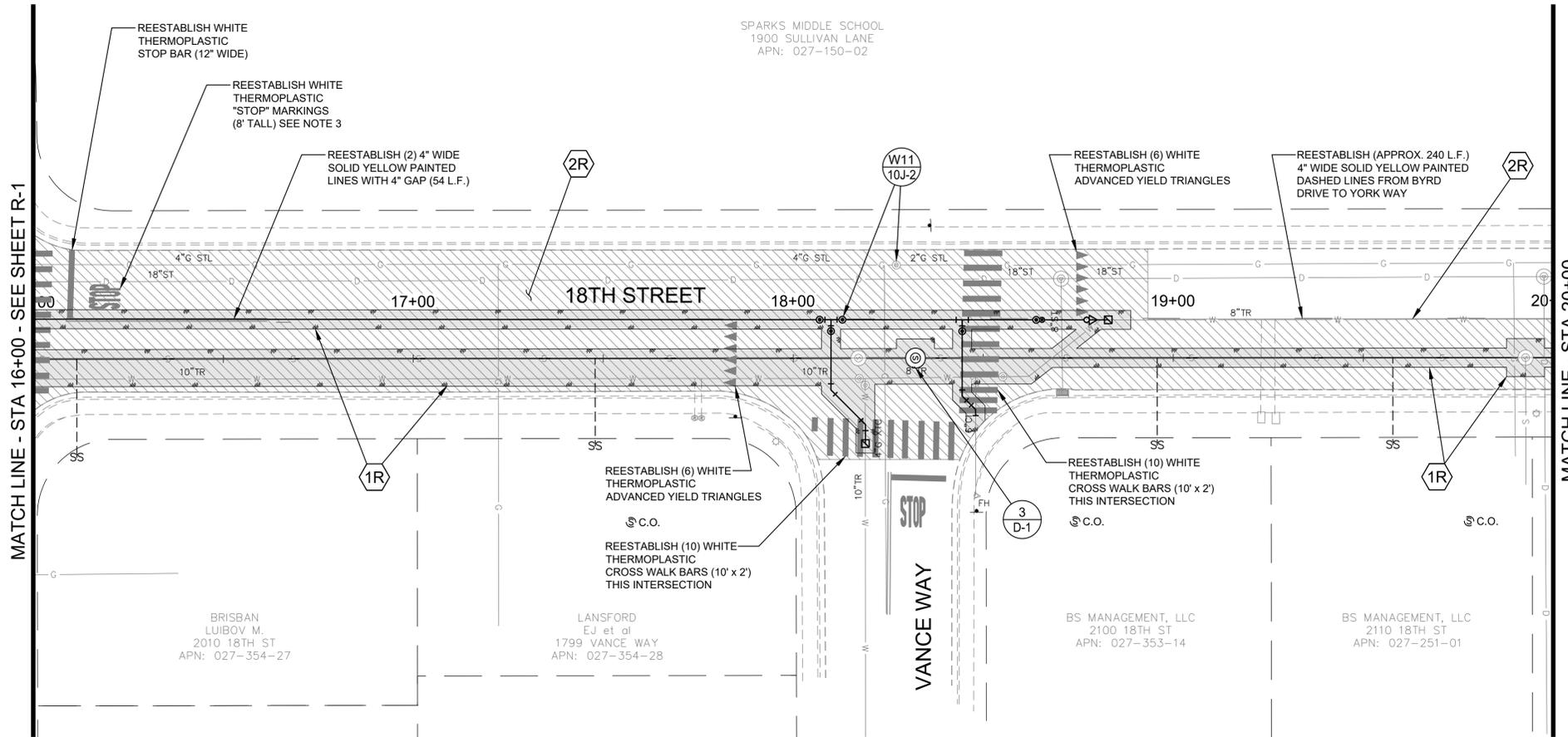
1. REFERENCE GEOTECH INVESTIGATION BY BLACK EAGLE CONSTRUCTION.
2. CONTRACTOR SHALL CONSTRUCT MINIMUM AGGREGATE BASE DEPTHS SHOWN OR MATCH EXISTING, WHICHEVER IS GREATER.

**BID SET**  
03-25-20

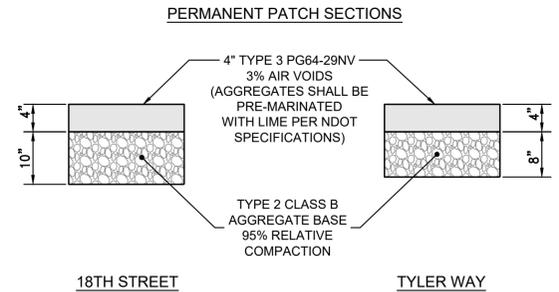


9160 Double Diamond Parkway  
Reno, Nevada 89521 775-852-1440





- NOTES:
- ALL LONGITUDINAL LINES SHALL BE PAINTED WITH (2) COATS OF NDOT TYPE II PAINT OR APPROVED EQUAL.
  - PERFORMED THERMOPLASTIC PAVEMENT MARKINGS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND IN ACCORDANCE WITH SECTION 634 OF THE LATEST EDITION OF "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" PUBLISHED BY THE STATE OF NEVADA, DEPARTMENT OF TRANSPORTATION (NDOT), EXCEPT ALL THERMOPLASTIC MARKINGS WILL BE 0.090 INCHES THICK. HOT-APPLIED EXTRUDED THERMOPLASTIC SHALL NOT BE USED.
  - ALL LETTERED SCHOOL MARKINGS SHALL BE PERFORMED THERMOPLASTIC LEGENDS.
  - ANY REMOVAL OR DAMAGE TO STRIPING OUTSIDE OF LIMITS AS SHOWN, WILL BE RE-STRIPED AT THE CONTRACTOR'S EXPENSE.
  - ALL PAVEMENT MARKINGS AND STRIPING SHALL CONFORM TO (ASSHTO & MUTCD) SPECIFICATIONS AND REQUIREMENTS FOR STREETS AND HIGHWAYS, LATEST ADDITION.
  - ADJUST MANHOLE COLLAR TO FINISHED GRADE. REFERENCE DETAIL 3, SHEET D-1. (NDP - TYPICAL)
  - ADJUST WATER VALVE COLLAR OR GAS VALVE COLLAR TO FINISHED GRADE. REFERENCE DETAIL 10J-2, SHEET W11. (NDP - TYPICAL)



- NOTES:
- REFERENCE GEOTECH INVESTIGATION BY BLACK EAGLE CONSTRUCTION.
  - CONTRACTOR SHALL CONSTRUCT MINIMUM AGGREGATE BASE DEPTHS SHOWN OR MATCH EXISTING, WHICHEVER IS GREATER.

**BID SET**  
03-25-20



9160 Double Diamond Parkway  
Reno, Nevada 89521 775-852-1440



PROFESSIONAL SEAL:  
 ENGINEER  
 JOHNSON  
 Exp: 6-30-21  
 CIVIL  
 No. 19440  
 03-25-2020

NO.	DATE	INITIALS	DESCRIPTION

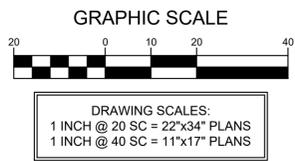
CITY OF SPARKS - TYLER WAY & 18TH STREET  
 SEWER CAPACITY IMPROVEMENTS  
**STREET RESTORATION**  
 STATION 16+00 TO STA 24+00

DESIGNED BY: LJ  
 DRAWN BY: KBK  
 CHECKED BY: MW  
 DATE: 03-25-2020  
 JOB NO. SPKS-TYLERSS19

SHEET NO.  
**R-2**  
 10 OF 25

SPARKS MIDDLE SCHOOL  
1900 SULLIVAN LANE  
APN: 027-150-02

CITY OF SPARKS  
2355 18TH ST  
APN: 027-211-01



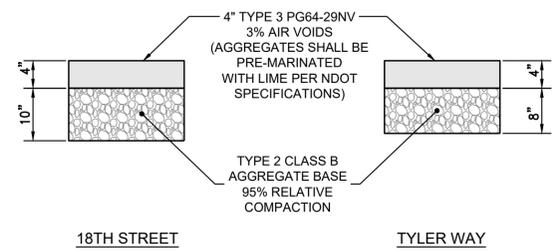
RESTORATION LEGEND

- PERMANENT PAVEMENT PATCH, SEE DETAIL 4 ON SHEET D-1 AND SECTIONS BELOW, APPROX. LIMITS SHOWN, CONTRACTOR SHALL FIELD ADJUST
- 2" GRIND AND OVERLAY FOR ROADWAY (WIDTH VARIES), APPROX. LIMITS SHOWN, CONTRACTOR SHALL FIELD ADJUST

NOTES:

1. ALL LONGITUDINAL LINES SHALL BE PAINTED WITH (2) COATS OF NDOT TYPE II PAINT OR APPROVED EQUAL.
2. PREFORMED THERMOPLASTIC PAVEMENT MARKINGS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND IN ACCORDANCE WITH SECTION 634 OF THE LATEST EDITION OF "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" PUBLISHED BY THE STATE OF NEVADA, DEPARTMENT OF TRANSPORTATION (NDOT), EXCEPT ALL THERMOPLASTIC MARKINGS WILL BE 0.090 INCHES THICK. HOT-APPLIED EXTRUDED THERMOPLASTIC SHALL NOT BE USED.
3. ALL LETTERED SCHOOL MARKINGS SHALL BE PREFORMED THERMOPLASTIC LEGENDS.
4. ANY REMOVAL OR DAMAGE TO STRIPING OUTSIDE OF LIMITS AS SHOWN, WILL BE RE-STRIPED AT THE CONTRACTOR'S EXPENSE.
5. ALL PAVEMENT MARKINGS AND STRIPING SHALL CONFORM TO (ASSHTO & MUTCD) SPECIFICATIONS AND REQUIREMENTS FOR STREETS AND HIGHWAYS, LATEST ADDITION.
6. ADJUST MANHOLE COLLAR TO FINISHED GRADE. REFERENCE DETAIL 3, SHEET D-1. (NDP - TYPICAL)
7. ADJUST WATER VALVE COLLAR OR GAS VALVE COLLAR TO FINISHED GRADE. REFERENCE DETAIL 10J-2, SHEET W11. (NDP - TYPICAL)

PERMANENT PATCH SECTIONS



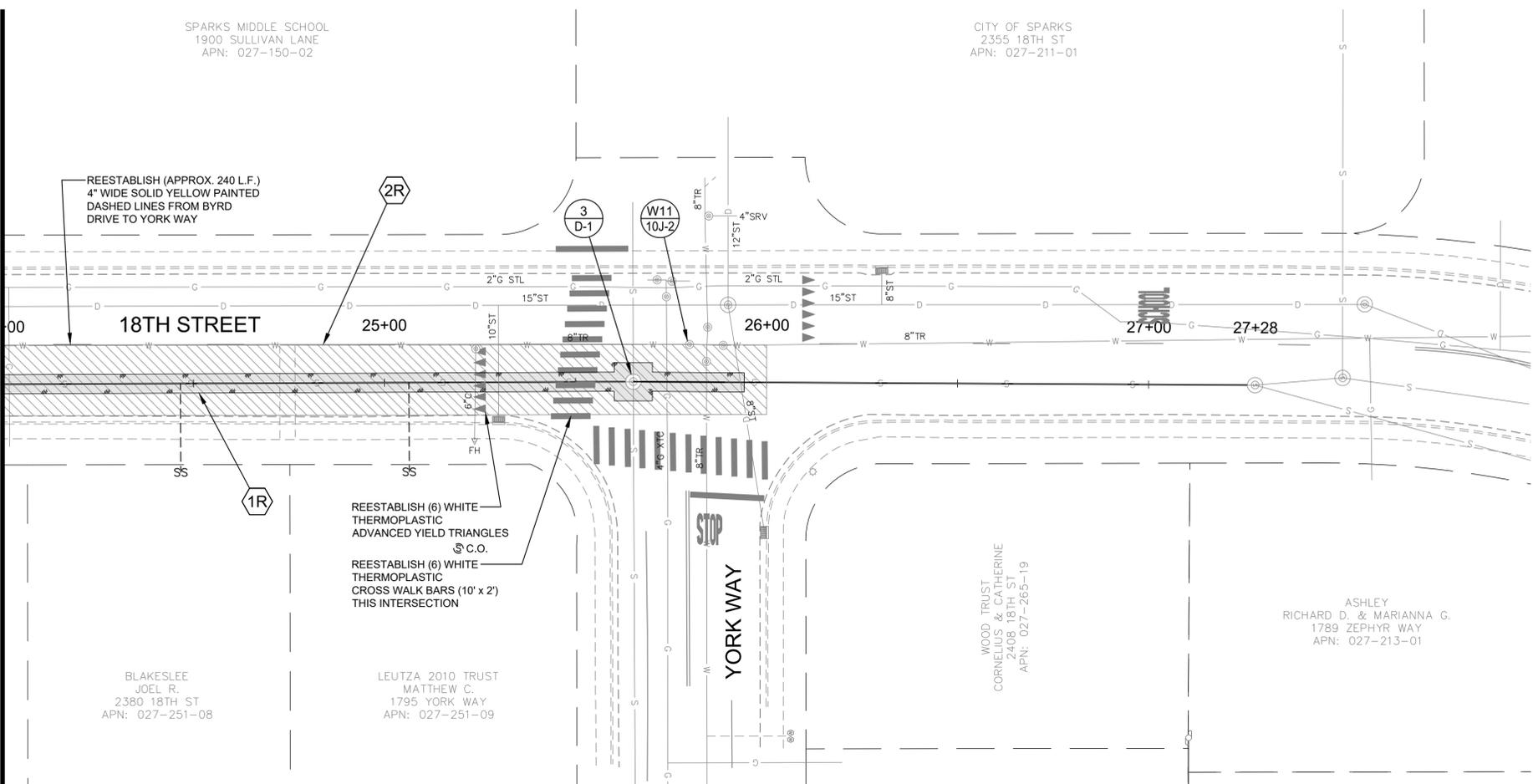
18TH STREET

TYLER WAY

NOTES:

1. REFERENCE GEOTECH INVESTIGATION BY BLACK EAGLE CONSTRUCTION.
2. CONTRACTOR SHALL CONSTRUCT MINIMUM AGGREGATE BASE DEPTHS SHOWN OR MATCH EXISTING, WHICHEVER IS GREATER.

MATCH LINE - STA 24+00 - SEE SHEET R-2



BLAKESLEE  
JOEL R.  
2380 18TH ST  
APN: 027-251-08

LEUTZA 2010 TRUST  
MATTHEW C.  
1795 YORK WAY  
APN: 027-251-09

WOOD TRUST  
CORNELIUS & CATHERINE  
2408 18TH ST  
APN: 027-265-19

ASHLEY  
RICHARD D. & MARIANNA G.  
1789 ZEPHYR WAY  
APN: 027-213-01



PROFESSIONAL SEAL:  
ENGINEER  
JOHNSON  
Exp: 6-30-21  
CIVIL  
No. 19440  
03-25-2020

NO.	DATE	INITIALS	DESCRIPTION

CITY OF SPARKS - TYLER WAY & 18TH STREET  
SEWER CAPACITY IMPROVEMENTS  
STREET RESTORATION  
STATION 24+00 TO STATION 27+28  
NEVADA  
SPARKS

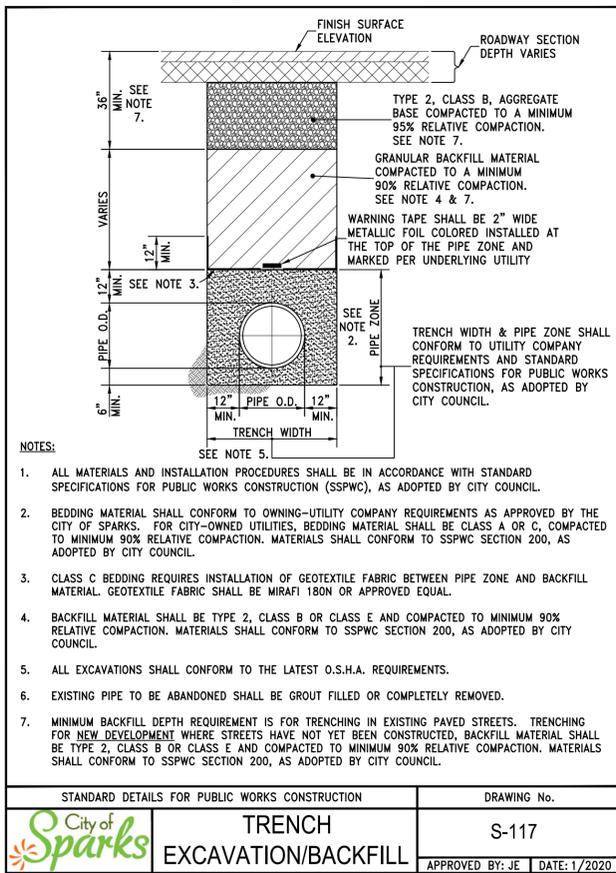
**BID SET**  
03-25-20



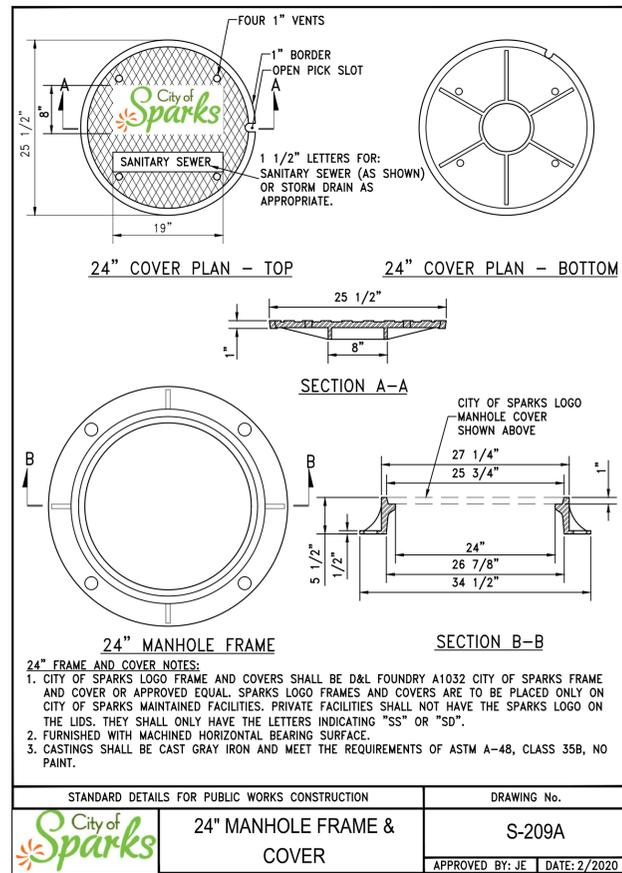
1960 Double Diamond Parkway  
Reno, Nevada 89521 775-852-1440

DESIGNED BY: LJ  
DRAWN BY: KBK  
CHECKED BY: MW  
DATE: 03-25-2020  
JOB NO. SPKS-TYLERSS19

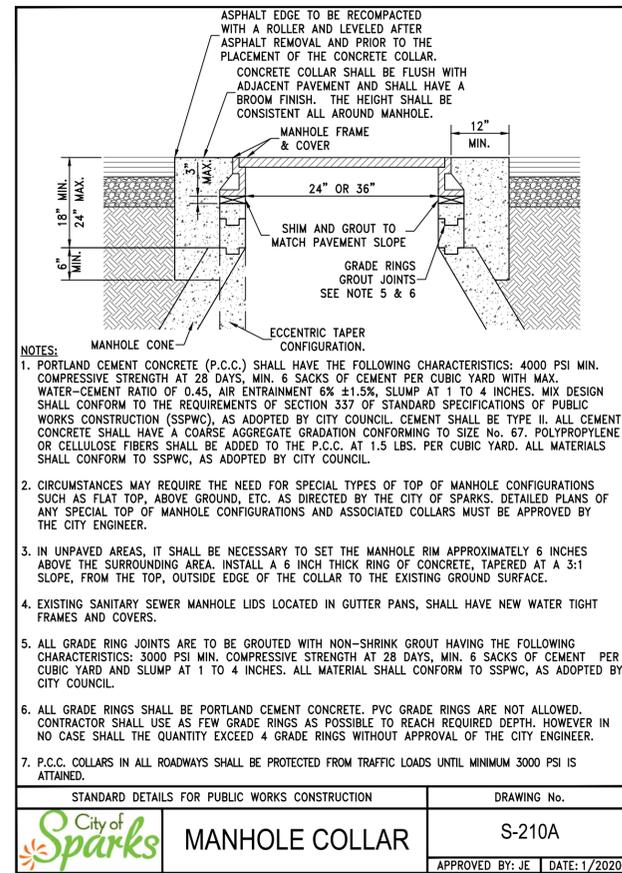
SHEET NO.  
**R-3**  
11 OF 25



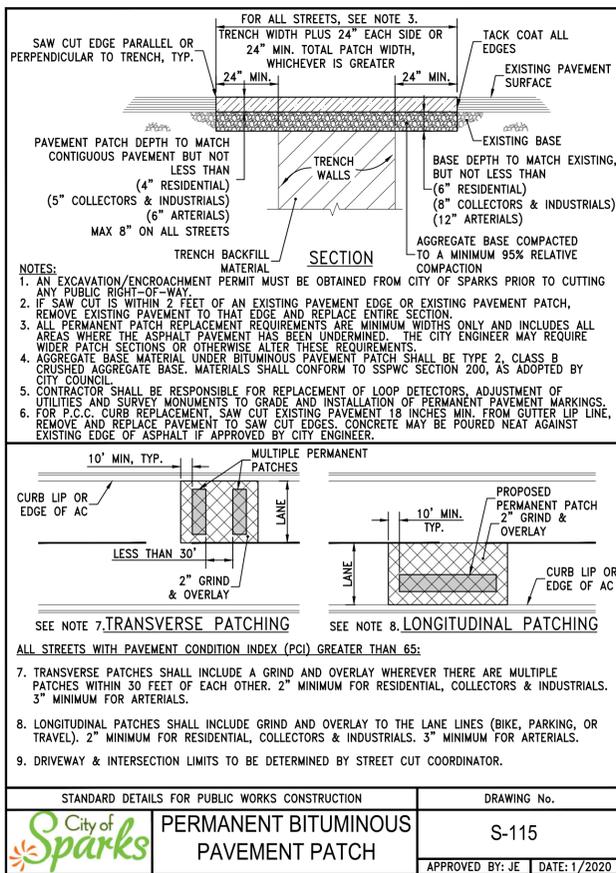
1 TRENCH EXCAVATION / BACKFILL  
D-1 S-117



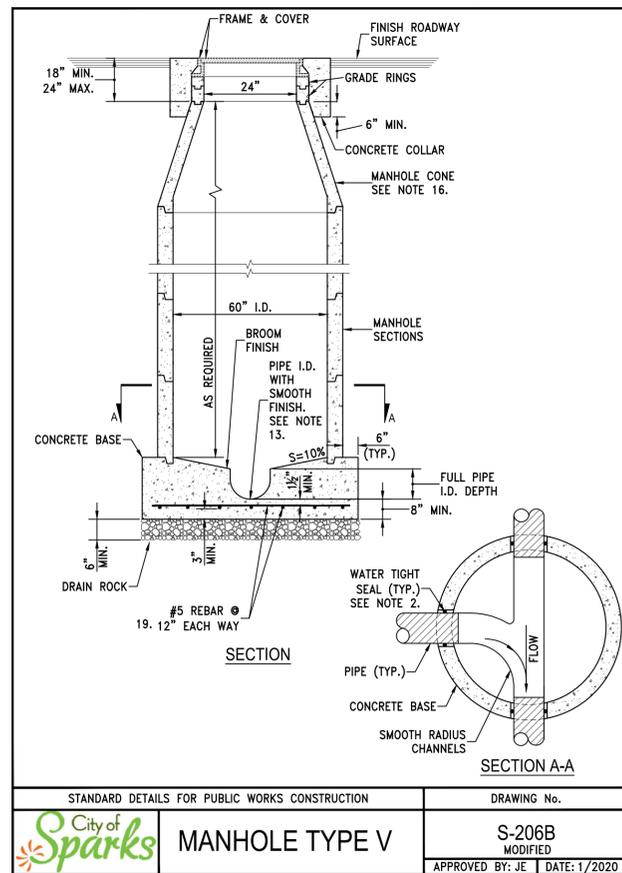
2 24\"/>



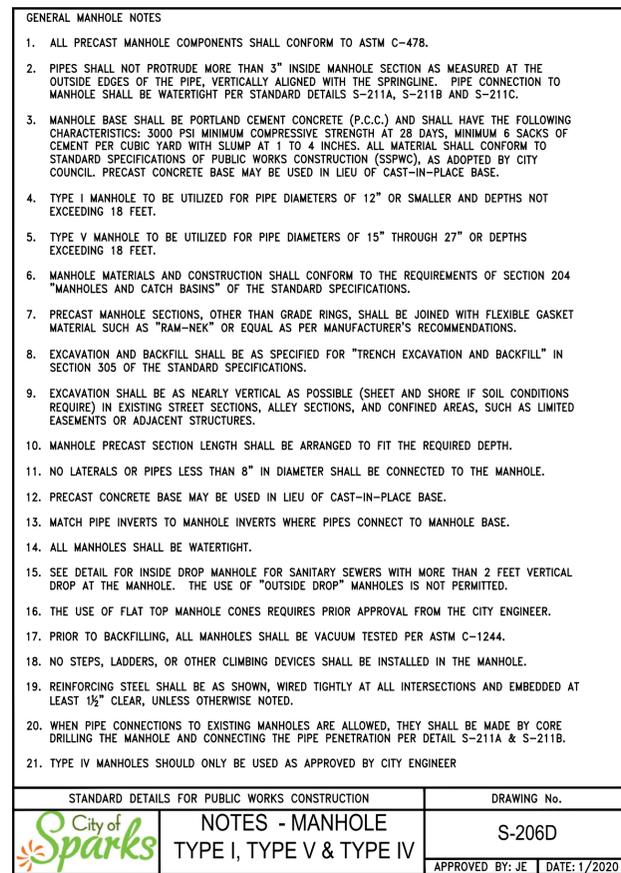
3 MANHOLE COLLAR  
D-1 S-210A



4 PERMANENT BITUMINOUS PAVEMENT PATCH  
D-1 S-115



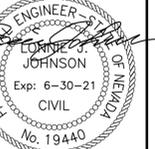
5 MANHOLE TYPE V  
D-1 S-206B & S206D



NOTES - MANHOLE  
TYPE I, TYPE V & TYPE IV



PROFESSIONAL SEAL:



03-25-2020

NO.	DATE	INITIALS	DESCRIPTION

NEVADA

CITY OF SPARKS - TYLER WAY & 18TH STREET  
SEWER CAPACITY IMPROVEMENTS  
DETAILS

SPARKS

**BID SET**  
03-25-20

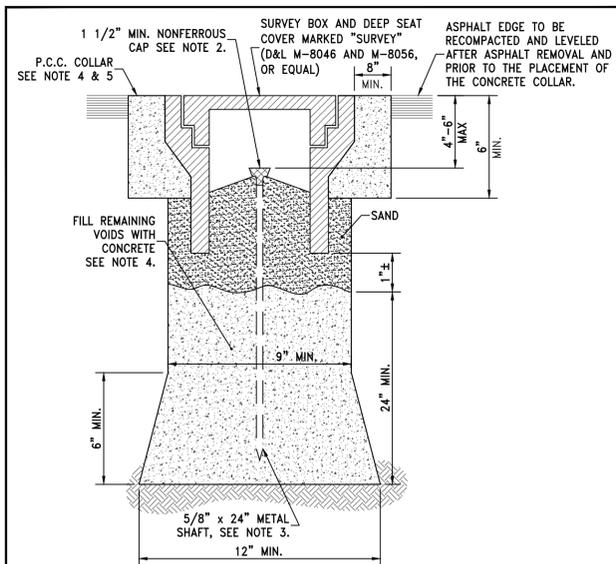


DYER ENGINEERING J-U-B ENGINEERS, INC.  
9160 Double Diamond Parkway  
Reno, Nevada 89521 775-852-1440

DESIGNED BY: LJ  
DRAWN BY: KBK  
CHECKED BY: MW  
DATE: 03-25-2020  
JOB NO. SPKS-TYLERSS19

SHEET NO. D-1  
12 OF 25





- NOTES:
1. FERROUS METAL OVER MONUMENT FOR RECOVERY BY DIP NEEDLE OR MAGNETIC INSERT IN CAP.
  2. 1 1/2" MIN. NONFERROUS CAP WITH PROFESSIONAL LAND SURVEYOR NO. PERMANENTLY ATTACHED PRIOR TO PLACEMENT. PRE-PUNCHED CAPS SHALL NOT BE PERMITTED.
  3. 5/8" METALLIC SHAFT (SMOOTH SHAFTS TO BE DEFORMED).
  4. 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), AS ADOPTED BY CITY COUNCIL. 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, AS ADOPTED BY CITY COUNCIL.
  5. P.C.C. COLLARS IN ALL ROADWAYS SHALL BE PROTECTED FROM TRAFFIC LOADS UNTIL MINIMUM 3000 PSI IS ATTAINED.

STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION	DRAWING No.
MONUMENTS	S-118
APPROVED BY: JE DATE: 1/2020	

1 MONUMENT DETAIL  
D-3 S-118



NO.	DATE	INITIALS	DESCRIPTION

CITY OF SPARKS - TYLER WAY & 18TH STREET  
SEWER CAPACITY IMPROVEMENTS  
DETAILS

NEVADA  
SPARKS

**BID SET**  
03-25-20

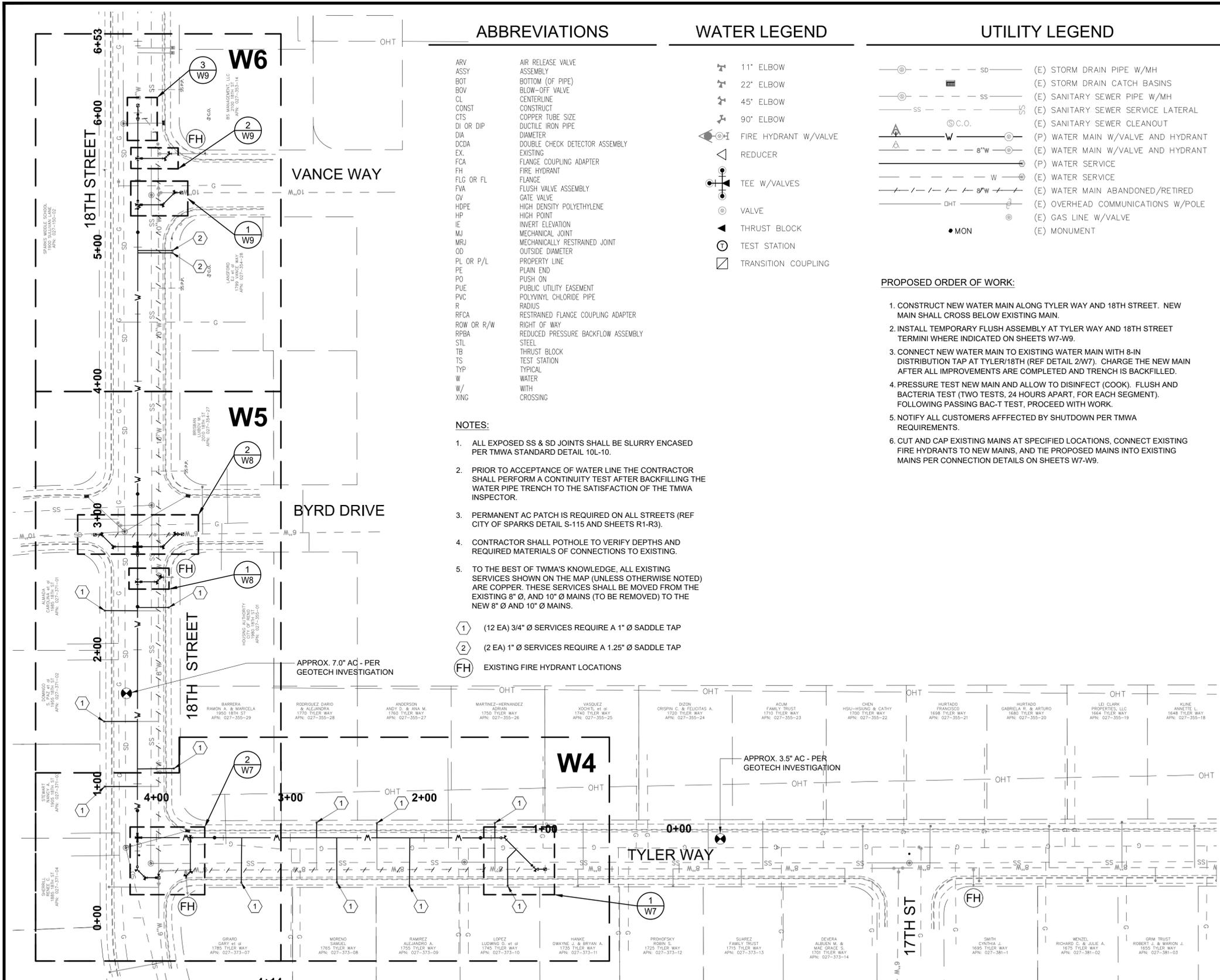


DYER ENGINEERING J-U-B ENGINEERS, INC.  
9160 Double Diamond Parkway  
Reno, Nevada 89521 775-852-1440

DESIGNED BY:	LJ
DRAWN BY:	KBK
CHECKED BY:	MW
DATE:	03-25-2020
JOB NO.	SPKS-TYLERSS19

SHEET NO.  
**D-3**  
14 OF 25

V:\Projects\City of Sparks\Tyler Way & 18th St Sanitary Sewer\04-CAD-TMWA\Plan Sheets\OSPK-TMWA19-F&Ps.dwg  
 Mar 25, 2020 3:40pm



**ABBREVIATIONS**

ARV	AIR RELEASE VALVE
ASSY	ASSEMBLY
BOT	BOTTOM (OF PIPE)
BOV	BLOW-OFF VALVE
CL	CENTERLINE
CONST	CONSTRUCT
CTS	COPPER TUBE SIZE
DI OR DIP	DUCTILE IRON PIPE
DIA	DIAMETER
DCDA	DOUBLE CHECK DETECTOR ASSEMBLY
EX.	EXISTING
FCA	FLANGE COUPLING ADAPTER
FH	FIRE HYDRANT
FLG OR FL	FLANGE
FVA	FLUSH VALVE ASSEMBLY
GV	GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE
HP	HIGH POINT
IE	INVERT ELEVATION
MJ	MECHANICAL JOINT
MRJ	MECHANICALLY RESTRAINED JOINT
OD	OUTSIDE DIAMETER
PL OR P/L	PROPERTY LINE
PE	PLAIN END
PO	PUSH ON
PUE	PUBLIC UTILITY EASEMENT
PVC	POLYVINYL CHLORIDE PIPE
R	RADIUS
RCA	RESTRAINED FLANGE COUPLING ADAPTER
ROW OR R/W	RIGHT OF WAY
RPBA	REDUCED PRESSURE BACKFLOW ASSEMBLY
SBL	STEEL
STL	THRUST BLOCK
TS	TEST STATION
TYP	TYPICAL
W	WATER
W/	WITH
XING	CROSSING

**NOTES:**

- ALL EXPOSED SS & SD JOINTS SHALL BE SLURRY ENCASED PER TMWA STANDARD DETAIL 10L-10.
- PRIOR TO ACCEPTANCE OF WATER LINE THE CONTRACTOR SHALL PERFORM A CONTINUITY TEST AFTER BACKFILLING THE WATER PIPE TRENCH TO THE SATISFACTION OF THE TMWA INSPECTOR.
- PERMANENT AC PATCH IS REQUIRED ON ALL STREETS (REF CITY OF SPARKS DETAIL S-115 AND SHEETS R1-R3).
- CONTRACTOR SHALL POTHOLE TO VERIFY DEPTHS AND REQUIRED MATERIALS OF CONNECTIONS TO EXISTING.
- TO THE BEST OF TMWA'S KNOWLEDGE, ALL EXISTING SERVICES SHOWN ON THE MAP (UNLESS OTHERWISE NOTED) ARE COPPER. THESE SERVICES SHALL BE MOVED FROM THE EXISTING 8" Ø, AND 10" Ø MAINS (TO BE REMOVED) TO THE NEW 8" Ø AND 10" Ø MAINS.

- ① (12 EA) 3/4" Ø SERVICES REQUIRE A 1" Ø SADDLE TAP
- ② (2 EA) 1" Ø SERVICES REQUIRE A 1.25" Ø SADDLE TAP
- FH EXISTING FIRE HYDRANT LOCATIONS

**WATER LEGEND**

	11" ELBOW
	22" ELBOW
	45" ELBOW
	90" ELBOW
	FIRE HYDRANT W/VALVE
	REDUCER
	TEE W/VALVES
	VALVE
	THRUST BLOCK
	TEST STATION
	TRANSITION COUPLING

**UTILITY LEGEND**

	SD	(E) STORM DRAIN PIPE W/MH
	SS	(E) STORM DRAIN CATCH BASINS
	SS	(E) SANITARY SEWER PIPE W/MH
	SS	(E) SANITARY SEWER SERVICE LATERAL
	SS	(E) SANITARY SEWER CLEANOUT
	W	(P) WATER MAIN W/VALVE AND HYDRANT
	W	(E) WATER MAIN W/VALVE AND HYDRANT
	W	(P) WATER SERVICE
	W	(E) WATER SERVICE
	W	(E) WATER MAIN ABANDONED/RETIRED
	OHT	(E) OVERHEAD COMMUNICATIONS W/POLE
	MON	(E) GAS LINE W/VALVE
	MON	(E) MONUMENT

**PROPOSED ORDER OF WORK:**

- CONSTRUCT NEW WATER MAIN ALONG TYLER WAY AND 18TH STREET. NEW MAIN SHALL CROSS BELOW EXISTING MAIN.
- INSTALL TEMPORARY FLUSH ASSEMBLY AT TYLER WAY AND 18TH STREET TERMINI WHERE INDICATED ON SHEETS W7-W9.
- CONNECT NEW WATER MAIN TO EXISTING WATER MAIN WITH 8-IN DISTRIBUTION TAP AT TYLER/18TH (REF DETAIL 2/W7). CHARGE THE NEW MAIN AFTER ALL IMPROVEMENTS ARE COMPLETED AND TRENCH IS BACKFILLED.
- PRESSURE TEST NEW MAIN AND ALLOW TO DISINFECT (COOK). FLUSH AND BACTERIA TEST (TWO TESTS, 24 HOURS APART, FOR EACH SEGMENT). FOLLOWING PASSING BAC-T TEST, PROCEED WITH WORK.
- NOTIFY ALL CUSTOMERS AFFECTED BY SHUTDOWN PER TMWA REQUIREMENTS.
- CUT AND CAP EXISTING MAINS AT SPECIFIED LOCATIONS. CONNECT EXISTING FIRE HYDRANTS TO NEW MAINS, AND TIE PROPOSED MAINS INTO EXISTING MAINS PER CONNECTION DETAILS ON SHEETS W7-W9.

NORTH  
 2 working days  
**Call before you Dig.**  
 1-800-227-2600

**TMWA PROJECT NO.: 10-0001.072**

**TRUCKEE MEADOWS WATER AUTHORITY**  
 1355 CAPITAL BLVD. / PO BOX 30013  
 RENO, NEVADA 89520-3013  
 PH 775-834-8000 / FX 775-834-8003

**TRUCKEE MEADOWS WATER AUTHORITY**

**MARK FOREE**  
GENERAL MANAGER

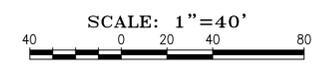
**TRUCKEE MEADOWS WATER AUTHORITY**  
 NOT REPRODUCIBLE  
 PROPERTY OF  
 TRUCKEE MEADOWS WATER AUTHORITY  
 RETURN UPON COMPLETION OF PROJECT  
 (Per Homeland Security Act)

**CONSTRUCTION PROJECT COORDINATOR**

**STEVE VOLK**  
Office Phone: 775-834-8024

**INSPECTOR**  
**NEAL MCINTYRE**  
Cell Phone: 775-771-5323

**DC + JUB**  
 DYER ENGINEERING J-U-B ENGINEERS, INC.  
 9160 Double Diamond Parkway  
 Reno, Nevada 89521 775-852-1440



**BID SET**  
 03-25-20

REVISION	DESCRIPTION	BY	APP	DATE

WORK ORDER NO.	
DESIGNED	MW/LJJ
DRAWN	KBK
DATE	03-25-2020
CHECKED	MW/LJJ
SUBMITTED	
RECOMMENDED	
APPROVED	

**TRUCKEE MEADOWS WATER AUTHORITY**  
 1355 CAPITAL BLVD. / PO BOX 30013  
 RENO, NEVADA 89520-3013  
 PH 775-834-8000 / FX 775-834-8003

**NOT REPRODUCIBLE**  
 PROPERTY OF  
 TRUCKEE MEADOWS WATER AUTHORITY, RETURN UPON COMPLETION OF PROJECT  
 (Per Homeland Security Act)

**WATER MAIN REPLACEMENT PROJECT**  
**TYLER WAY & 18TH ST., SPARKS NV**  
**TMWA**  
**INDEX PLAN SHEET**

ENGINEER  
 JOHNSON  
 Exp: 6-30-21  
 CIVIL  
 No. 19440  
 03-25-2020

SHEET NUMBER  
**W1**  
 15 OF 25

## GENERAL NOTES

1. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, EQUIPMENT, LABOR, AND INCIDENTALS REQUIRED TO CONSTRUCT THE IMPROVEMENTS AS SHOWN ON THE IMPROVEMENT PLANS AND ALL WORK SHALL BE ACCOMPLISHED IN STRICT ACCORDANCE WITH THE SPECIFICATIONS SET FORTH IN THE TMWA ENGINEERING & CONSTRUCTION STANDARDS. THE CONTRACTOR SHALL SECURE COPIES OF THE AFOREMENTIONED CONSTRUCTION SPECIFICATIONS ON HIS/HER OWN BEHALF AND THEY SHALL BE AVAILABLE AT THE JOB SITE AT ALL TIMES. THE ENGINEERING & CONSTRUCTION STANDARDS MAY BE DOWNLOADED FROM: WWW.TMWA.COM/STANDARDS
2. LATEST EDITION OF THE TMWA GENERAL CONDITIONS SHALL APPLY AND CAN BE DOWNLOADED FROM TMWA WEBSITE AT: HTTP://TMWA.COM/ABOUT\_US/DOINGBUSINESSWITHTMWA
3. ALL CONSTRUCTION SHALL CONFORM TO TMWA AND CITY OF SPARKS STANDARDS.
4. INSPECTION WILL BE BY THE ASSIGNED TMWA INSPECTOR. CONTRACTOR IS TO NOTIFY THE TMWA PROJECT REPRESENTATIVE AT LEAST FIVE BUSINESS DAYS BEFORE STARTING CONSTRUCTION.
5. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND FEATURES AS SHOWN ON THESE IMPROVEMENT PLANS IS BASED UPON THE BEST INFORMATION AVAILABLE TO THE ENGINEER. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THESE LOCATIONS AND/OR ELEVATIONS BY POTHOLING AT THE PROPOSED POINTS OF CONNECTION AND IN AREAS OF POSSIBLE CONFLICT PRIOR TO BEGINNING CONSTRUCTION. SHOULD THE CONTRACTOR FIND ANY DISCREPANCIES BETWEEN THE CONDITIONS EXISTING IN THE FIELD AND THE INFORMATION SHOWN ON THE IMPROVEMENT PLANS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE TMWA ENGINEER. CONTRACTOR SHALL POTHOLE SUFFICIENTLY IN ADVANCE OF CONSTRUCTION TO ALLOW THREE (3) WORKING DAYS FOR TMWA ENGINEERING TO PREPARE A RE-DESIGNED PLAN SHOULD A CONFLICT BE ENCOUNTERED. ABSOLUTELY NO STAND-BY TIME WILL BE PAID TO THE CONTRACTOR DURING THIS THREE (3) DAY RE-DESIGN PERIOD.
6. AT LEAST 3 WORKING DAYS BEFORE STARTING CONSTRUCTION, THE CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT AT 811 AND REQUEST UTILITY MARKING. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE COST OF REPAIRING EXISTING FACILITIES THAT ARE DAMAGED BY HIS/HER OPERATIONS.
7. DYER + JUB ENGINEERS, INC. WILL NOT PROVIDE CONSTRUCTION SURVEY STAKING. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN HIS/HER OWN SURVEY STAKING CONTRACTOR.
8. ANY DISCREPANCIES BETWEEN THE IMPROVEMENT PLANS AND THE ACTUAL FIELD CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE TMWA INSPECTOR AND/OR TMWA PROJECT REPRESENTATIVE. PROCEEDING WITH WORK THAT DEVIATES FROM THE PLANS, EXCEPT FOR AN EMERGENCY LIFE-SAFETY CONDITION, SHALL BE AT THE SOLE RISK OF THE CONTRACTOR FOR THE COST TO REPLACE, IF DEEMED UNACCEPTABLE BY THE TMWA PROJECT REPRESENTATIVE.
9. CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND TMWA 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 TMWA.
10. CONTRACTOR SHALL CONTROL DUST IN ACCORDANCE WITH WASHOE COUNTY DISTRICT HEALTH DEPARTMENT REGULATIONS. CONTRACTOR IS ALSO RESPONSIBLE FOR ANY STORMWATER PERMIT (SWPPP) REQUIREMENTS.
11. THE CONTRACTOR SHALL MAINTAIN A NEAT AND LEGIBLE DRAWING SET DENOTING ANY FIELD CHANGES THAT DEVIATE FROM THE CONFORMED DESIGN (AS-BUILT DRAWINGS). PRIOR TO TMWA'S ACCEPTANCE OF THE IMPROVEMENTS, THE CONTRACTOR IS TO PRESENT THE AS-BUILT DRAWINGS, WHICH REFLECT ALL FIELD CHANGES, TO THE TMWA INSPECTOR.
12. THE CONTRACTOR SHALL OBTAIN ALL STREET CUT EXCAVATION/ENCROACHMENT PERMITS, AND SHALL BE RESPONSIBLE FOR PREPARING AND SUBMITTING ALL AGENCY REQUIRED TRAFFIC CONTROL PLANS.
13. THE REMOVAL AND DISPOSAL OF EXISTING FACILITIES AND APPURTENANCES REQUIRED TO MAKE CONNECTIONS TO EXISTING MAINS/FACILITIES AND/OR FOR THE INSTALLATION OF NEW WATER FACILITIES SHALL BE CONSIDERED INCIDENTAL TO THE WORK WITH NO DIRECT PAYMENT. THE EXPOSED CUT ENDS OF ANY EXISTING FACILITIES THAT WILL BE ABANDONED IN PLACE SHALL BE PLUGGED WITH CONCRETE OR OTHER METHOD AS APPROVED BY THE TMWA INSPECTOR. COSTS FOR THESE ITEMS SHALL BE INCLUDED IN THE MOST APPROPRIATE BID ITEM. THIS ALSO INCLUDES REMOVAL AND DISPOSAL OF EXISTING VALVE/CURB VALVE BOXES, CONDUCTOR PIPES, METER BOXES, AND ANY OTHER FACILITIES IDENTIFIED IN THE IMPROVEMENT PLANS, INCLUDING BACKFILL WITH TYPE 2, CLASS B CRUSHED AGGREGATE BASE AND PLACEMENT OF PERMANENT HOT-MIX AC PAVEMENT PATCH PER TYPICAL TRENCH DETAIL. ALL ABANDONED TRANSITE MAINS SHALL BE REMOVED.
14. ALL VALVES SHALL BE SUPPORTED WITH A CONCRETE PAD AND COLLAR AS DEPICTED IN TMWA STANDARD DETAIL 10J-2.
15. ALL SERVICE TAPS SHALL BE MADE USING A TAPPING MACHINE DESIGNED SPECIFICALLY FOR TAPPING PURPOSES WITH THE CORRECT CUTTING BIT FOR THE TYPE OF PIPE IN WHICH THE TAPS WILL BE MADE. THE USE OF A DRILL WITH HOLE-SAW BIT OR SIMILAR WILL NOT BE PERMITTED UNDER ANY CIRCUMSTANCES. TMWA TO PROVIDE HOT TAP LABOR FOR TAPS GREATER THAN 2".
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR JOB SITE SAFETY DURING CONSTRUCTION, AND ALL WORK SHALL CONFORM TO PERTINENT SAFETY REGULATIONS AND CODES. FENCE AND OR BARRICADE THE CONSTRUCTION AREA AS REQUIRED TO PROTECT ADJACENT SITES, VEHICULAR TRAFFIC AND PEDESTRIAN TRAFFIC. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE PROVISIONS OF OSHA AND NRS CHAPTER 618, IN THE CONSTRUCTION PRACTICES FOR ALL EMPLOYEES DIRECTLY ENGAGED IN THE CONSTRUCTION OF THIS PROJECT.
17. LOCATE AND/OR PROTECT ALL EXISTING AND PROPOSED PIPING, UTILITIES, TRAFFIC SIGNAL EQUIPMENT (BOTH ABOVE GROUND AND BELOW GROUND), STRUCTURES ADJACENT TO STREETS, AND ALL OTHER EXISTING IMPROVEMENTS THROUGHOUT CONSTRUCTION.
18. ALL CONSTRUCTION SHALL BE CLOSELY COORDINATED WITH TMWA SO THAT THE QUALITY OF WORK CAN BE CHECKED FOR APPROVAL.
19. THE CONTRACTOR SHALL INCORPORATE ADEQUATE DRAINAGE PROCEDURES DURING THE CONSTRUCTION PROCESS TO ELIMINATE EXCESSIVE PONDING AND/OR EROSION.
20. THE CONTRACTOR SHALL MAINTAIN THE SITE IN A NEAT AND ORDERLY MANNER THROUGHOUT THE CONSTRUCTION PROCESS. ALL MATERIALS SHALL BE STORED WITHIN APPROVED CONSTRUCTION AREAS ON PAVED SURFACES ONLY.
21. THE CONTRACTOR SHALL OBTAIN ALL PERMITS AS REQUIRED BY THE JURISDICTIONAL AGENCY, NOT SPECIFICALLY ADDRESSED IN THE PROJECT MANUAL.
22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL EXISTING SURVEY MONUMENTS AND SHALL REPLACE ANY MONUMENTS OBLITERATED OR DAMAGED DURING CONSTRUCTION AT HIS EXPENSE. REPLACEMENT SHALL BE PERFORMED BY A LICENSED PROFESSIONAL LAND SURVEYOR.
23. NO FILL SHALL BE PLACED OR COMPACTED IN UNFAVORABLE WEATHER CONDITIONS. OVERLY WET, DRY, OR FROZEN FILL SHALL NOT BE PLACED.
24. THE CONTRACTOR SHALL UTILIZE CONSTRUCTION TECHNIQUES TO MINIMIZE GRADING, VEGETATION REMOVAL, AND SURFACE DISTURBANCE. CONTRACTOR WILL BE RESPONSIBLE FOR THE RESTORATION OF ALL LANDSCAPING, SOD, CURBS, ASPHALT, DRIVEWAY PAVERS, RIP RAP, RETAINING WALLS, IRRIGATION PIPING AND LANDSCAPE LIGHTING TO EQUAL OR BETTER THAN EXISTING CONDITION. ALL COST FOR RESTORATION WILL BE INCLUDED IN THE TRENCHING BID ITEM.
25. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN AT ALL TIMES EMERGENCY ACCESS TO THE PROJECT SITE TO THE SATISFACTION OF THE OWNER.
26. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL MATERIALS TO BE USED ON THE SITE TO THE PROJECT ENGINEER FOR APPROVAL PRIOR TO THE MANUFACTURER OR USE OF SUCH ITEMS.
27. CONTRACTOR SHALL COMPLY WITH CITY OF SPARKS WORKING HOURS, SEE NOTE 11, SHEET G-2.
28. MATERIAL TESTING AND FIELD DENSITY TESTING WILL BE PROVIDED BY THE CITY OF SPARKS.

## WATER GENERAL NOTES

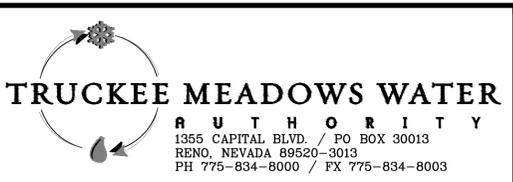
1. LOCATE ALL EXISTING UTILITIES WHICH MAY CONFLICT WITH THE NEW WORK IN ADVANCE SO AS TO ALLOW ADJUSTMENT, REALIGNMENT AND OR REDESIGN OF THE NEW WORK AROUND THE EXISTING UTILITY AND OR STRUCTURE. UTILITY LINES WHICH CONFLICT WITH THE NEW WORK SHALL BE REROUTED AS REQUIRED AFTER UTILITY AGENCY APPROVALS ARE OBTAINED. TEMPORARY REROUTES SHALL BE MADE PERMANENT AFTER ALL NEW WORK HAS BEEN COMPLETED IN ACCORDANCE WITH APPLICABLE STANDARDS. REROUTING OF WATER LINES SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE AWWA STANDARDS.
2. THE CONTRACTOR SHALL UTILIZE EVERY MEANS POSSIBLE TO MINIMIZE WATER SERVICE OUTAGES TO CUSTOMERS. THE CONTRACTOR SHALL NOTIFY CUSTOMERS OF PLANNED WATER OUTAGES AT LEAST 24 HOURS PRIOR TO AN OUTAGE. THE NOTICE SHALL INCLUDE THAT OUTAGES WILL OCCUR DURING THE DAY BETWEEN 9:00 AM AND 4:00 PM AND NAME AND PHONE NUMBER OR CONTRACTOR FOR QUESTIONS AND CONCERNS. ALL NOTICES SHALL BE POSTED ON NOTICE BOARDS AND PLACED FACING TRAFFIC AT ALL STREET ENTRANCES TO THE PROPOSED WORK AREAS. CONTRACTOR SHALL COORDINATE WITH OWNER FOR A LIST OF AFFECTED CUSTOMERS.
3. IF WATER OUTAGES EXTEND BEYOND ALLOWABLE/NOTIFIED TIMES, CONTRACTOR SHALL PROVIDE BOTTLED DRINKING WATER TO THE UTILITY CUSTOMERS AT A LOCATION CONVENIENT TO THE CUSTOMERS AFFECTED, AND AS APPROVED BY THE OWNER.
4. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT THE INTEGRITY OF EXISTING WATER LINES DURING CONSTRUCTION.
5. ALL WATER MAINS SHALL BE TESTED FOR PRESSURE AND LEAKAGE PER AWWA C600 & C605. TEST PRESSURE SHALL BE 150 PSI.
6. DUCTILE IRON PIPELINES MUST BE PRESSURE TESTED ACCORDING TO AWWA STANDARD C600 AND PVC PIPELINES MUST BE PRESSURE TESTED ACCORDING TO AWWA STANDARD C605 PER NAC 445A.67245 (7). FOR OTHER MATERIALS, THE PIPELINES MUST BE PRESSURE TESTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION PER NAC 445A.67145 (7)(C).
7. BACTERIOLOGICAL TESTING, DISINFECTION, AND FLUSHING, FOR POTABLE WATER LINE CONSTRUCTION, SHALL BE PERFORMED PER AWWA C651. THE OWNER SHALL BE RESPONSIBLE FOR PERFORMING AND FUNDING UP TO TWO BACTERIOLOGICAL TESTS PER RUN OF PIPE CONSTRUCTED. IF MORE THAN TWO TESTS ARE REQUIRED, THE COST SHALL BE PLACED UPON THE CONTRACTOR. TWO (2) BACTERIOLOGICAL TESTS SHALL BE CONDUCTED PER TEST SEGMENT. BACTERIOLOGICAL TEST SAMPLES WILL NOT BE COLLECTED ON FRIDAYS, WEEKENDS, TMWA OBSERVED HOLIDAYS, OR THE DAY BEFORE A TMWA OBSERVED HOLIDAY, UNLESS AUTHORIZED BY THE TMWA INSPECTOR.
8. PER NAC 445A.67145(6),  
WATER MAIN MUST NOT BE PLACED INTO SERVICE AFTER ITS INITIAL CONSTRUCTION UNTIL:
  - 8.1. THE WATER MAIN HAS BEEN DISINFECTED AND FLUSHED IN ACCORDANCE WITH AWWA STANDARD C651
  - 8.2. THE DISPOSAL OF ANY SPENT CHLORINE SOLUTIONS MUST BE COORDINATED WITH NDEP'S BUREAU OF WATER POLLUTION CONTROL (BWPC).
  - 8.3. ANALYSES OF THE WATER MAIN WHICH INDICATE THAT THE WATER MEETS PRIMARY DRINKING WATER STANDARDS FOR COLIFORM BACTERIA (ABSENT FOR COLIFORM BACTERIA) HAVE BEEN OBTAINED AND REPORTED TO THE BSDW, PER AWWA STANDARD C651, TWO SETS OF CONSECUTIVE SAMPLES MUST BE TAKEN AT LEAST 24 HOURS APART FROM EVERY 1200 FEET OF MAIN, AT THE END OF THE LINE, AND FROM EACH BRANCH.
9. PROVIDE ALL MISCELLANEOUS PIPE, FITTINGS AND APPURTENANCES AS REQUIRED TO COMPLETE THE UTILITY WORK AS SHOWN.
10. THE CONTRACTOR SHALL SEAL ANY OPENINGS IN UNFINISHED PIPING OR APPURTENANCES AT THE END OF EACH WORKING DAY IN SUCH A MANNER AS TO PREVENT THE ENTRY OF BIRDS, OTHER ANIMALS, DIRT, TRENCH WATER, AND OTHER SOURCES OF POLLUTION OR CONTAMINATION.
11. THE CONTRACTOR SHALL NOTIFY THE FIRE DEPARTMENT OF FIRE HYDRANTS AFFECTED DURING CONSTRUCTION.
12. PIPELINE DEPTHS SHALL BE INSTALLED PER PLAN TO AVOID ADDITIONAL HIGHPOINTS IN THE WATERLINE AND TO SUPPORT AIR RELIEF VALVE LOCATIONS SHOWN IN THE PLANS.
13. THE CONTRACTOR SHALL VERIFY CONSTRUCTION METHODS AND OVERALL JOB APPROACH WITH TMWA AND ENGINEER PRIOR TO CONSTRUCTION.
14. SYMBOLS ARE NOT TO SCALE AND DO NOT NECESSARILY REPRESENT ACTUAL LOCATIONS OF FACILITIES.
15. THIS MAP ILLUSTRATES DATA COLLECTED FROM VARIOUS SOURCES AND MAY NOT REPRESENT A SURVEY OF THE PREMISES. NO RESPONSIBILITY IS ASSUMED AS TO THE SUFFICIENCY OR ACCURACY OF THE DATA DISPLAYED HEREON.
16. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND COORDINATING WORK AROUND ALL EXISTING UTILITIES
17. SOILS RETENTION MAY BE REQUIRED AROUND WATER METER BOXES, FIRE HYDRANTS, AND OTHER FACILITIES IF SLOPES EXCEED 15%.
18. UNUSED SERVICE LATERALS SHALL NOT BE CONNECTED TO NEW MAIN.
19. SEPARATION BETWEEN WATER SERVICES: SEE DETAIL SHEETS.
20. PRODUCTS INTENDED FOR CONTACT WITH POTABLE WATER SHALL BE CERTIFIED TO THE REQUIREMENTS OF NSF/ANSI 61 AND BE CERTIFIED LEAD-FREE PER NAC 445A.66825 WHEN APPLICABLE. CERTIFICATIONS SHALL BE PROVIDED TO TMWA PRIOR TO INSTALLATION OF MATERIALS IN THE FIELD.
21. WHEN WORKING WITH TRANSITE (ACP) CONTRACTOR SHALL CONFORM TO THE TMWA GENERAL CONDITIONS 4.05.G. & 6.11.I. @TMWA.COM/ABOUT\_US/DOINGBUSINESSWITHTMWA/. **THE CONTRACTOR SHALL HAVE POLLUTION LIABILITY INSURANCE COVERAGE FOR THIS WORK PER TMWA GENERAL CONDITION 5.02.G.4. LIABILITY INSURANCE SHALL SPECIFICALLY INCLUDE/ADDRESS EXPOSURE TO TRANSITE/ASBESTOS CEMENT PIPE.**
  - 21.1. CONTRACTOR MAY BE REQUIRED TO HANDLE, DISTURB OR REMOVE CERTAIN WATER PIPES CONSTRUCTED OF TRANSITE AND ASBESTOS CONTAINING MATERIALS REGULATED AS A POTENTIALLY HAZARDOUS MATERIAL AS PART OF THE WORK ASBESTOS OR TRANSITE PIPE WHICH HAS NOT BEEN CUT OR DAMAGED OR WHICH IS NOT TAPPED, CUT, DAMAGED OR REMOVED DURING PERFORMANCE OF THE WORK, SHALL NOT BE DEEMED "HAZARDOUS MATERIALS" FOR PURPOSES OF THESE GENERAL CONDITIONS. IF THE CONTRACTOR IS REQUIRED TO CUT, REMOVE OR TAP TRANSITE OR ASBESTOS PIPE AS PART OF THE WORK, DURING THE WORK, CONTRACTOR MUST UTILIZE THE SERVICES OF PERSONNEL OR A SUBCONTRACTOR THAT HAS RECEIVED SPECIALIZED OSHA TRAINING IN THE HANDLING AND DISPOSAL OF ASBESTOS TO PERFORM ANY WORK ON SUCH PIPE, INCLUDING CUTTING, TAPPING, REPAIRING OR REMOVING. TMWA MUST BE PROVIDED WITH CHAIN OF CUSTODY FORMS FOR ALL TRANSITE OR ASBESTOS PIPE DISPOSED OF BY CONTRACTOR OR ITS SUBCONTRACTORS. ANY DISTURBANCE, REMOVAL, DISPOSAL, HANDLING OR WORK ACTIVITY ON TRANSITE PIPE MUST BE DONE IN STRICT COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS GOVERNING THE SAFE HANDLING PRACTICES FOR DISTURBANCE, REMOVAL, HANDLING AND DISPOSAL OF ASBESTOS-CONTAINING MATERIAL, AND CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL COSTS AND ACTIONS NECESSARY TO COMPLY WITH SUCH LAWS AND REGULATIONS. CONTRACTOR SHALL PROVIDE THE DISPOSAL MANIFEST TO THE TMWA INSPECTOR SHOWING ALL TRANSITE PIPE MATERIAL HAS BEEN DISPOSAL OF IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REGULATIONS. CONTRACTOR SHALL INDEMNIFY AND HOLD TMWA HARMLESS FROM ANY CLAIMS, INJURIES, DEMANDS OR LIABILITIES ARISING FROM CONTRACTORS HANDLING, REMOVAL, DISPOSAL OR WORK ON OR ABOUT TRANSIT PIPE.
22. ANTICIPATED WATER PRESSURES ARE BETWEEN 70 PSI AND 80 PSI IN THE PROJECT AREA.
23. THE WATER SYSTEM SHALL CONFORM TO TMWA STANDARDS AND THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 2012 EDITION, LATEST REVISION AS ADOPTED BY THE CITY OF SPARKS.
24. SUBMITTALS FOR ALL WATER PIPE AND APPURTENANCES SHALL BE SUBMITTED AND APPROVED BY TMWA PRIOR TO CONSTRUCTION.

V:\Projects\City of Sparks\Tyler Way & 18th St Sanitary Sewer\04-CAD-TMWA\Plan Sheets\oSPK-TMWA19\_TNLA\_3422.dwg  
Mar 25, 2020 3:40pm

**BID SET**  
03-25-20

REVISION	DESCRIPTION	BY	APP	DATE

WORK ORDER NO. \_\_\_\_\_  
 DESIGNED     MW/LJJ      
 DRAWN     KBK      
 DATE     03-25-2020      
 CHECKED     MW/LJJ      
 SUBMITTED \_\_\_\_\_  
 RECOMMENDED \_\_\_\_\_  
 APPROVED \_\_\_\_\_



**NOT REPRODUCIBLE**  
 PROPERTY OF  
 TRUCKEE MEADOWS WATER  
 AUTHORITY. RETURN UPON  
 COMPLETION OF PROJECT  
 (Per Homeland Security Act)

**WATER MAIN REPLACEMENT PROJECT**  
**TYLER WAY & 18TH ST., SPARKS NV**

**TMWA**  
**GENERAL NOTES**



SHEET NUMBER  
W2  
 16 OF 25



# MATERIAL SPECIFICATIONS

**1. ALL MATERIALS IN CONTACT WITH WATER SHALL BE NSF61 CERTIFIED.**

2. THESE MATERIAL SPECIFICATIONS SUPPLEMENT THE TECHNICAL SPECIFICATIONS, THE TRUCKEE MEADOWS WATER AUTHORITY ENGINEERING & CONSTRUCTION STANDARDS, AND THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION "ORANGE BOOK", LATEST EDITION. AND DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE TMWA PROJECT REPRESENTATIVE FOR RESOLUTION.

**3. DUCTILE IRON PIPE, C-900 PVC PIPE, AND HIGH DENSITY POLYETHYLENE (HDPE) SERVICE LINE TUBING:**

ALL PIPE MATERIALS AND APPURTENANCES SHALL BE PER THE TMWA ENGINEERING & CONSTRUCTION STANDARDS, UNLESS MODIFIED/AMENDED HEREIN. INSTALLATION, WORKMANSHIP, PRESSURE TESTING AT 150 PSI, AND DISINFECTION SHALL BE PER THE TMWA ENGINEERING & CONSTRUCTION STANDARDS.

ALL DUCTILE IRON PIPE SHALL MEET THE REQUIREMENTS OF AWWA STANDARDS C151, C104 AND C111 WITH PRESSURE CLASS AS SPECIFIED IN THE IMPROVEMENT PLANS. ALL DUCTILE IRON PIPE SHALL BE POLYETHYLENE ENCASED WITH V-BIO ENHANCED POLYWRAP WITH A THICKNESS OF 8 MIL. FILM SHALL BE A 3 LAYER CO-EXTRUDED LINEAR LOW DENSITY POLYETHYLENE (LLDPE) FILM THAT CONFORMS TO ANSI/AWWA/ASTM (C105/A21.5/A674). DUCTILE IRON PIPE SHALL BE EQUIPPED WITH TYTON TYPE BELL AND SPIGOT JOINTS. DUCTILE IRON PIPE SHALL BE TYTON JOINT DUCTILE IRON PIPE AS MANUFACTURED BY U.S. PIPE, GRIFFIN TYTON JOINT DUCTILE IRON PIPE AS MANUFACTURED BY GRIFFIN PIPE PRODUCTS CO., INC. OR APPROVED EQUAL.

ALL C900 PVC WATER PIPE SHALL BE MANUFACTURED FROM NSF APPROVED COMPOUNDS CONFORMING TO ASTM D1784 WITH A CELL CLASSIFICATION OF 12454. C900 PVC WATER PIPE SHALL MEET ALL THE DIMENSIONAL, CHEMICAL AND PHYSICAL REQUIREMENTS AS OUTLINED IN THE AWWA C900 AND WILL BE SUPPLIED IN 20 FOOT LAYING LENGTHS. JOINTS SHALL MEET THE REQUIREMENTS OF ASTM D3139 AND SHALL BE FORMED USING RIEBER TECHNOLOGY. GASKETS SHALL MEET THE REQUIREMENTS OF ASTM F477. C900 PVC WATER PIPE SHALL BE PRESSURE CLASS 235 (DR 18) PER AWWA C900. C900 PVC WATER PIPE SHALL BE AS MANUFACTURED BY DIAMOND PLASTICS CORPORATION, VINYLTECH PVC PIPE, NORTH AMERICAN PIPE CORPORATION, OR APPROVED EQUAL. NOTE - C900 PVC WATER PIPE MANUFACTURED BY JM EAGLE WILL NOT BE ACCEPTED BY TMWA FOR THIS PROJECT.

ALL HIGH DENSITY POLYETHYLENE (HDPE) SERVICE LINE TUBING SHALL BE PRESSURE CLASS 200 (SDR 9) COPPER TUBING SIZE (CTS) PER AWWA C901.

**4. GATE VALVES:**

GATE VALVES FOR SIZES UP TO AND INCLUDING 12-INCHES SHALL MEET AWWA C509 OR C515, NON-RISING STEM, RESILIENT-SEATED VALVES WITH 2-INCH OPERATING NUT FOR BURIED SERVICE. VALVES MEETING THE AWWA C515 STANDARD SHALL HAVE A DUCTILE IRON BODY. 14-INCH AND LARGER GATE VALVES SHALL MEET AWWA C515, DUCTILE IRON BODY AND BONNET, NON-RISING STEM, RESILIENT-SEATED VALVES WITH 2-INCH OPERATING NUT FOR BURIED SERVICE. VALVE ENDS SHALL BE AS SPECIFIED IN THE IMPROVEMENT PLANS. ALL GATE VALVES SHALL BE FUSION EPOXY LINED AND COATED. ALL VALVES SHALL BE POLYETHYLENE ENCASED PER AWWA C105. GATE VALVES UP TO AND INCLUDING 12-INCHES SHALL BE MUELLER 2360 SERIES RESILIENT WEDGE GATE VALVES, AMERICAN AVK COMPANY SERIES 25 RESILENT WEDGE GATE VALVES, OR APPROVED EQUAL.

**5. FITTINGS:**

ALL FITTINGS SHALL BE DUCTILE IRON AND MEET THE REQUIREMENTS OF AWWA STANDARDS C110/C153 AND C104 WITH END CONFIGURATIONS AS SPECIFIED IN THE IMPROVEMENT PLANS. FITTINGS SHALL BE POLYETHYLENE ENCASED WITH V-BIO ENHANCED POLYWRAP WITH A THICKNESS OF 8 MIL. FILM SHALL BE A 3 LAYER CO-EXTRUDED LINEAR LOW DENSITY POLYETHYLENE (LLDPE) FILM THAT CONFORMS TO ANSI/AWWA/ASTM (C105/A21.5/A674). FITTINGS SHALL BE ASPHALTIC COATED WITH CEMENT-MORTAR LINING PER AWWA C110/C153 AND C104. FOR FITTINGS WHERE CEMENT-MORTAR LININGS ARE NOT NORMALLY SUPPLIED, SUCH AS CAPS, PLUGS, AND SLEEVES, THE INSIDE OF THESE FITTINGS SHALL BE ASPHALTIC COATED PER AWWA C110/C153 CONFORMING TO ALL APPROPRIATE REQUIREMENTS FOR SEAL COAT PER AWWA C104.

**6. RESTRAINED JOINT PIPE AND RESTRAINED JOINT FITTINGS:**

ALL RESTRAINED JOINT PIPING SHALL BE DUCTILE IRON PIPE, UNLESS OTHERWISE SPECIFIED IN THE IMPROVEMENT PLANS. BELL AND SPIGOT PUSH-ON TYPE DUCTILE IRON TYTON JOINTS SHALL BE RESTRAINED USING RUBBER GASKETS WITH STAINLESS STEEL LOCKING SEGMENTS VULCANIZED INTO THE RUBBER GASKETS. RESTRAINED JOINT RUBBER GASKETS FOR PIPE DIAMETER 12" OR SMALLER SHALL BE FIELD LOK 350 GASKETS AS MANUFACTURED BY U.S. PIPE, THE GRIPPER GASKET AS MANUFACTURED BY GRIPPER GASKET LLC, OR APPROVED EQUAL. RESTRAINED JOINT FITTINGS SHALL BE MECHANICAL JOINT (MJ) DUCTILE IRON WITH MECHANICAL JOINT WEDGE ACTION RESTRAINT GLANDS COMPATIBLE WITH ALL MECHANICAL JOINTS CONFORMING TO ANSI/AWWA C111/A21.11. GLAND BODY, WEDGES, AND WEDGE ACTUATING COMPONENTS SHALL BE CAST FROM GRADE 65-45-12 DUCTILE IRON IN ACCORDANCE WITH ASTM A536. DUCTILE IRON GRIPPING WEDGES SHALL BE HEAT TREATED WITHIN A RANGE OF 370 TO 470 BHN. WEDGE ASSEMBLIES SHALL BE XYLAN FLUOROPOLYMER COATED. CASTING BODIES SHALL BE COATED WITH A POLYESTER BASED POWDER TO PROVIDE CORROSION PROTECTION THAT IS ELECTROSTATICALLY APPLIED AND HEAT CURED. MECHANICAL JOINT WEDGE ACTION RESTRAINT GLANDS SHALL BE MEGALUG SERIES 1100 FOR DUCTILE IRON PIPE OR MEGALUG SERIES 2000PV FOR C900 PVC PIPE AS MANUFACTURED BY EBAA IRON, INC., STARGRIP SERIES 3000 WITH STANDARD COATING FOR DUCTILE IRON PIPE OR PVC STARGRIP SERIES 4500 WITH STANDARD COATING FOR C900 PVC PIPE AS MANUFACTURED BY STAR PIPE PRODUCTS, OR APPROVED EQUAL.

**7. STRAIGHT AND TRANSITION COUPLINGS:**

STRAIGHT AND TRANSITION COUPLINGS SHALL MEET THE REQUIREMENTS FOR AWWA C219. SLEEVE MATERIAL SHALL BE CARBON STEEL OR DUCTILE IRON WITH NSF-61 REGISTERED FUSION-BONDED EPOXY COATING. BOLTS AND NUTS FOR BURIED SERVICE APPLICATIONS SHALL BE 304 STAINLESS STEEL. COUPLINGS SHALL BE DESIGNED SPECIFICALLY FOR THE PIPE MATERIAL/SIZE AND APPLICATION. COUPLINGS SHALL INSTALL WITH A MAXIMUM OF ONE BOLT AT EACH END. STRAIGHT AND TRANSITION COUPLINGS SHALL BE HYMAX 2000 SERIES AS MANUFACTURED BY TOTAL PIPE SOLUTIONS, INC., ROMAC MACRO TWO-BOLT WIDE RANGE DUCTILE IRON COUPLING AS MANUFACTURED BY ROMAC INDUSTRIES, INC., OR APPROVED EQUAL. WHERE CALLED OUT ON PLANS, RESTRAINED FLANGE COUPLING ADAPTERS (RFCA) SHALL BE ROMAC ALPHA, OR APPROVED EQUAL.

**8. FLANGED COUPLING ADAPTERS:**

FLANGED COUPLING ADAPTERS SHALL MEET THE REQUIREMENTS OF AWWA C219. SLEEVE MATERIAL SHALL BE CARBON STEEL WITH NSF-61 REGISTERED FUSION-BONDED EPOXY COATING. BOLTS AND NUTS FOR BURIED SERVICE APPLICATIONS SHALL BE ANSI 304/303 STAINLESS STEEL. FLANGED COUPLING ADAPTERS SHALL BE DESIGNED SPECIFICALLY FOR THE PIPE MATERIAL/SIZE AND APPLICATION AND SHALL INSTALL WITH A MAXIMUM OF ONE BOLT ON THE COMPRESSION END. FLANGED COUPLING ADAPTERS SHALL BE HYMAX 2100 SERIES FLANGED ADAPTERS AS MANUFACTURED BY TOTAL PIPING SOLUTIONS, INC., OR APPROVED EQUAL. WHERE CALLED OUT ON THE PLANS, RESTRAINED FLANGE COUPLING ADAPTERS (RFCA) SHALL BE ROMAC APHA, OR APPROVED EQUAL.

**9. FLANGE AND MECHANICAL JOINT T-HEAD BOLTS AND NUTS:**

FLANGE BOLTS AND NUTS: BOLTS AND NUTS SHALL BE CARBON STEEL WITH A MINIMUM 60,000 PSI TENSILE STRENGTH CONFORMING TO ASTM A307, GRADE A. BOLTS SHALL BE STANDARD ANSI B1.1, CLASS 2A COURSE THREADS. NUTS SHALL CONFORM TO ASTM A563 AND BE STANDARD ANSI B1.1, CLASS 2A COURSE THREADS. ALL BOLT HEADS AND NUTS SHALL BE HEXAGONAL IDENTIFICATION ON THE HEAD OF THE BOLT SHALL BE: A 307 A MECHANICAL JOINT T-HEAD BOLTS AND NUTS; BOLTS SHALL BE ASTM A242 WEATHERING STEEL WITH A MINIMUM YIELD STRENGTH OF 45,000 PSI. ALL T-HEAD BOLTS AND NUTS SHALL BE THREADED IN ACCORDANCE WITH ANSI B1.1, CLASS 2A COURSE THREADS. HEAVY HEX NUTS SHALL BE USED. BOLT HEADS SHALL BE IN ACCORDANCE WITH THE DIMENSIONS OF ANSI/AWWA C111/A21.11-95. FINISH: ALL FLANGE BOLTS AND NUTS AND MECHANICAL JOINT T-HEAD BOLTS AND NUTS SHALL BE FINISHED WITH THE TRIPAC 2000 BLUE COATING SYSTEM TO SIGNIFICANTLY REDUCE THE EFFECTS OF CORROSION, OR APPROVED EQUAL. A MULTI-STEP PROCESS SHALL BE UTILIZED TO CHEMICALLY CLEAN, ABRASIVE BLAST, AND PRIME WITH ZINC/NICKEL PHOSPHATE PRIMER PRIOR TO APPLICATION OF THE XYLAN FLUOROPOLYMER. WEAR RESISTANCE (K-FACTOR) SHALL BE IN THE RANGE OF 6 TO 8 (EXCELLENT) AND MINIMAL EFFECTS SHOULD BE SEEN AFTER A 3,000 HOUR SALT SPRAY TEST CONFORMING TO ASTM B-117. BOLTS AND NUTS FINISHED WITH THE TRIPAC 2000 BLUE COATING SYSTEM DO NOT REQUIRE COATING WITH MASTIC 6" PIPES. FOR 36" PIPES ALL BOLTS AND NUTS SHALL BE COVERED WITH DENSO PETROLEUM TAPE SYSTEM.

**10. CORPORATION STOPS AND SERVICE CONNECTIONS:**

CORPORATION STOPS SHALL BE BALL VALVE, BRASS CONFORMING TO AWWA C800 AND ASTM B-62, AND SUITABLE FOR A WORKING PRESSURE OF 300 PSI. INLET END SHALL BE MALE IRON PIPE THREAD (MIP) OR AWWA I.P. THREAD, OUTLET END SHALL BE COMPRESSION CONNECTION SUITABLE FOR CONNECTION TO CTS O.D. HDPE TUBING, SIZE AS SPECIFIED IN THE IMPROVEMENT PLANS. CORPORATION STOPS FOR SERVICE CONNECTIONS SHALL BE FORD BALLCORP CORPORATION STOPS WITH QUICK JOINT COMPRESSION CONNECTION OULET MODEL # FB1100-X-Q AS MANUFACTURED BY THE FORD METER BOX COMPANY, INC., MUELLER 300 BALL TYPE CORPORATION VALVES WITH MUELLER 110 COMPRESSION CONNECTIONS OUTLET MODEL # B-25028, OR APPROVED EQUAL.

**11. CORPORATION STOPS FOR 2-INCH TEMPORARY FLUSHING AND TESTING ASSEMBLIES:**

CORPORATION STOPS SHALL BE BALL VALVE, BRASS CONFORMING TO AWWA C900 AND ASTM B-62, AND SUITABLE FOR A WORKING PRESSURE OF 300 PSI. INLET END SHALL BE MALE IRON PIPE THREAD, (MIP) OR AWWA I.P. THREAD, OUTLET END SHALL BE MALE IRON PIPE THREAD (MIP). CORPORATION STOPS FOR 2-INCH TEMPORARY FLUSHING AND TESTING ASSEMBLIES SHALL BE FORD BALLCORP CORPORATION STOPS MODEL # FB500-7 AS MANUFACTURED BY THE FORD METER BOX COMPANY, INC., MUELLER 300 BALL TYPE CORPORATIONS VALVES MODEL # B-2969, OR APPROVED EQUAL.

**12. COMPRESSION COUPLINGS AND ADAPTERS FOR SERVICE LINE CONNECTIONS:**

COMPRESSION COUPLINGS AND ADAPTERS FOR CONNECTING NEW CTS HDPE SERVICE LINES TO EXISTING SERVICE LINES OR METER SETTERS SHALL BE QUICK JOINT COUPLINGS AS MANUFACTURED BY THE FORD METER BOX COMPANY, INC., MUELLER 110 COMPRESSION CONNECTIONS, OR APPROVED EQUAL.

**13. HOT-TAP TAPPING SLEEVES:**

TAPPING SLEEVES SHALL BE FULL-CIRCLE STAINLESS STEEL WITH FULL CIRCUMFRENCE GASKETS THROUGHOUT SLEEVE LENGTH WITH DUCTILE IRON OR EPOXY COATED CARBON STEEL FLANGE. TAPPING SLEEVE SHALL BE RATED FOR A TEST PRESSURE 300 PSI AND WORKING PRESSURE OF 200 PSI. TAPPING SLEEVE SHALL BE A ROMAC STYLE "SST" AS MANUFACTURED BY ROMAC INDUSTRIES, INC., SMITH-BLAIR 662 AS MANUFACTURED BY SMITH-BLAIR, INC., OR APPROVED EQUAL.

**14. SERVICE SADDLES:**

SERVICE SADDLE BODY SHALL BE CAST FROM DUCTILE IRON MEETING OR EXCEEDING ASTM A536, WITH A FUSION BONDED NYLON COATING, OR COATED WITH AN IMPACT AND CORROSION RESISTANT FUSION BONDED EPOXY, MIN 10-12 MILS THICK, AND EQUIPPED WITH DOUBLE TYPE 304 STAINLESS STEEL STRAPS. SERVICE SADDLES SHALL HAVE A NPT THREADED INLET FOR INSTALLATIONS ON C900 PVC PIPE, MAXIMUM O.D. OF SERVICE SADDLE'S O.D. RANGE SHALL BE EQUIVALENT TO THE O.D. OF THE C900 PVC PIPE FOR WHICH IT WILL BE INSTALLED. SERVICE SADDLES FOR 6" PIPE SHALL BE SMITH-BLAIR 317 AS MANUFACTURED BY SMITH-BLAIR, INC., OR ROMAC STYLE 202NS AS MANUFACTURED BY ROMAC INDUSTRIES, INC., OR APPROVED EQUAL.

**15. GASKETS:**

NATURAL RUBBER GASKETS WILL NOT BE ACCEPTED. FLANGE GASKETS SHALL BE FULL FACE TYPE WITH PROFILE BY ACIPCO (TORUSEAL®) OR U.S. PIPE (FLANGE-TYTE®), OR APPROVED EQUAL.

**16. STANDARD CONDITIONS - 4.05.G**

CONTRACTOR MAY BE REQUIRED TO HANDLE, DISTURB OR REMOVE CERTAIN WATER PIPES CONSTRUCTED OF TRANSITE AND ASBESTOS CONTAINING MATERIALS REGULATED AS A POTENTIALLY HAZARDOUS MATERIAL AS PART OF THE WORK ASBESTOS OR TRANSITE PIPE WHICH HAS NOT BEEN CUT OR DAMAGED OR WHICH IS NOT TAPPED, CUT, DAMAGED OR REMOVED DURING PERFORMANCE OF THE WORK, SHALL NOT BE DEEMED "HAZARDOUS MATERIALS" FOR PURPOSES OF THESE GENERAL CONDITIONS. IF THE CONTRACTOR IS REQUIRED TO CUT, REMOVE OR TAP TRANSITE OR ASBESTOS PIPE AS PART OF THE WORK, OR IF THE CONTRACTOR OTHERWISE DAMAGES OR CUTS TRANSITE OR ASBESTOS PIPE DURING THE WORK, CONTRACTOR MUST UTILIZE THE SERVICES OF PERSONNEL OR A SUBCONTRACTOR THAT HAS RECEIVED SPECIALIZED OSHA TRAINING IN THE HANDLING AND DISPOSAL OF ASBESTOS TO PERFORM ANY WORK ON SUCH PIPE, INCLUDING CUTTING, TAPPING, REPAIRING OR REMOVING. TMWA MUST BE PROVIDED WITH CHAIN OF CUSTODY FORMS FOR ALL TRANSITE OR ASBESTOS PIPE DISPOSED OF BY CONTRACTOR OR ITS SUBCONTRACTORS. ANY DISTURBANCE, REMOVAL, DISPOSAL, HANDLING OR WORK ACTIVITY ON TRANSITE PIPE MUST BE DONE IN STRICT COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS GOVERNING THE SAFE HANDLING PRACTICES FOR DISTURBANCE, REMOVAL, HANDLING AND DISPOSAL OF ASBESTOS-CONTAINING MATERIAL, AND CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL COSTS AND ACTIONS NECESSARY TO COMPLY WITH SUCH LAWS AND REGULATIONS. CONTRACTOR SHALL PROVIDE THE DISPOSAL MANIFEST TO THE TMWA INSPECTOR SHOWING ALL TRANSITE PIPE MATERIAL HAS BEEN DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REGULATIONS. CONTRACTOR SHALL INDEMNIFY AND HOLD TMWA HARMLESS FROM ANY CLAIMS, INJURIES, DEMANDS OR LIABILITIES ARISING FROM CONTRACTOR'S HANDLING, REMOVAL, DISPOSAL OR WORK ON OR ABOUT TRANSITE PIPE.

**17. STANDARD CONDITIONS - 6.11.I**

CONTRACTOR'S PERSONNEL PERFORMING WORK ON ASBESTOS OR TRANSITE PIPE, INCLUDING WITHOUT LIMITATION CUTTING, TAPPING, REPAIRING, HANDLING OR REMOVING, MUST HAVE SUCCESSFULLY COMPLETED SPECIALIZED OSHA TRAINING IN THE HANDLING AND DISPOSAL OF ASBESTOS PRIOR TO THE PERFORMANCE OF ANY SUCH WORK, OR CONTRACTOR SHALL HIRE A SUBCONTRACTOR THAT HAS SUCCESSFULLY COMPLETED SPECIALIZED OSHA TRAINING IN THE HANDLING AND DISPOSAL OF ASBESTOS TO PERFORM SUCH WORK.

**BID SET**  
03-25-20

V:\Projects\City of Sparks\Tyler Way & 18th St Sanitary Sewer\04-CAD-TMWA\Plan Sheets\SPK-TMWA19\_TNLA\_3422.dwg  
Mar 25, 2020 3:40pm

REVISION	DESCRIPTION	BY	APP	DATE

WORK ORDER NO.	
DESIGNED	MW/LJJ
DRAWN	KBK
DATE	03-25-2020
CHECKED	MW/LJJ
SUBMITTED	
RECOMMENDED	
APPROVED	

  
**TRUCKEE MEADOWS WATER AUTHORITY**  
1355 CAPITAL BLVD. / PO BOX 30013  
RENO, NEVADA 89520-3013  
PH 775-834-8000 / FX 775-834-8003

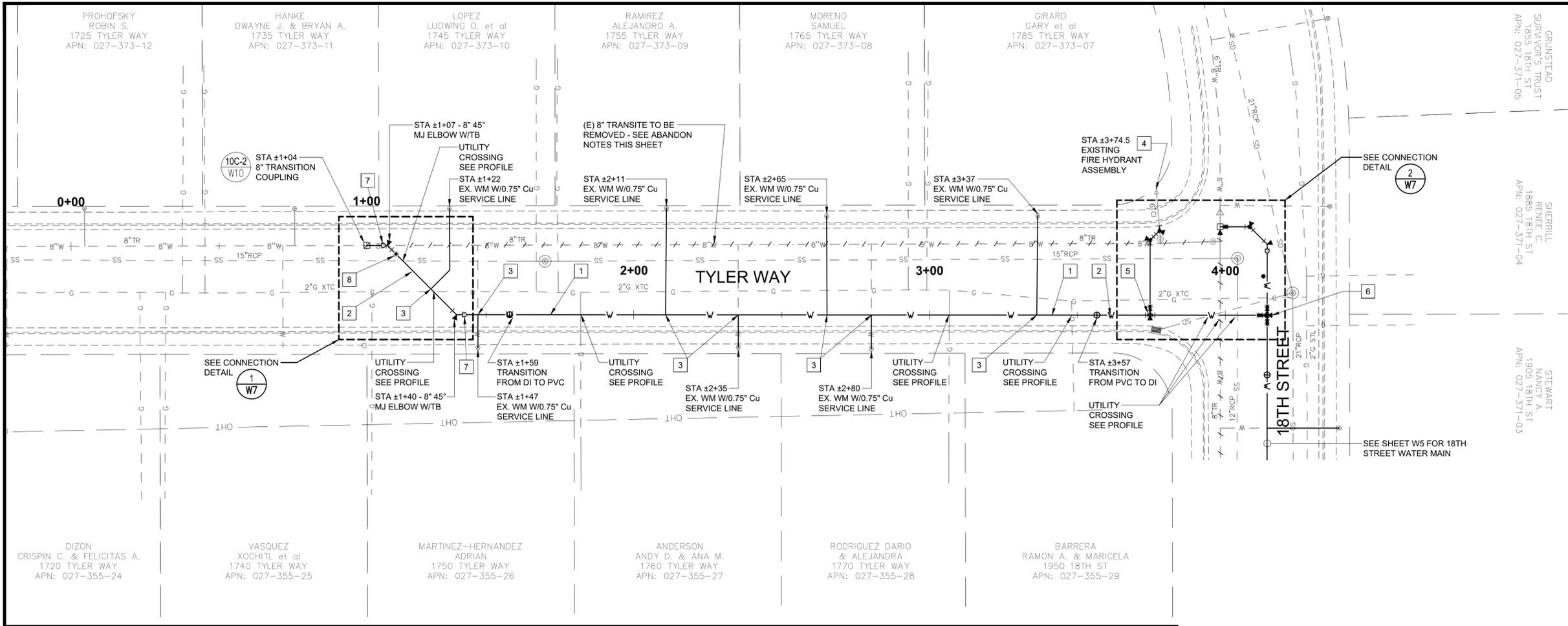
**NOT REPRODUCIBLE**  
PROPERTY OF TRUCKEE MEADOWS WATER AUTHORITY. RETURN UPON COMPLETION OF PROJECT  
(Per Homeland Security Act)

**WATER MAIN REPLACEMENT PROJECT**  
**TYLER WAY & 18TH ST., SPARKS NV**  
**TMWA**  
**MATERIAL SPECIFICATIONS**

  
03-25-2020

SHEET NUMBER  
**W3**  
17 OF 25

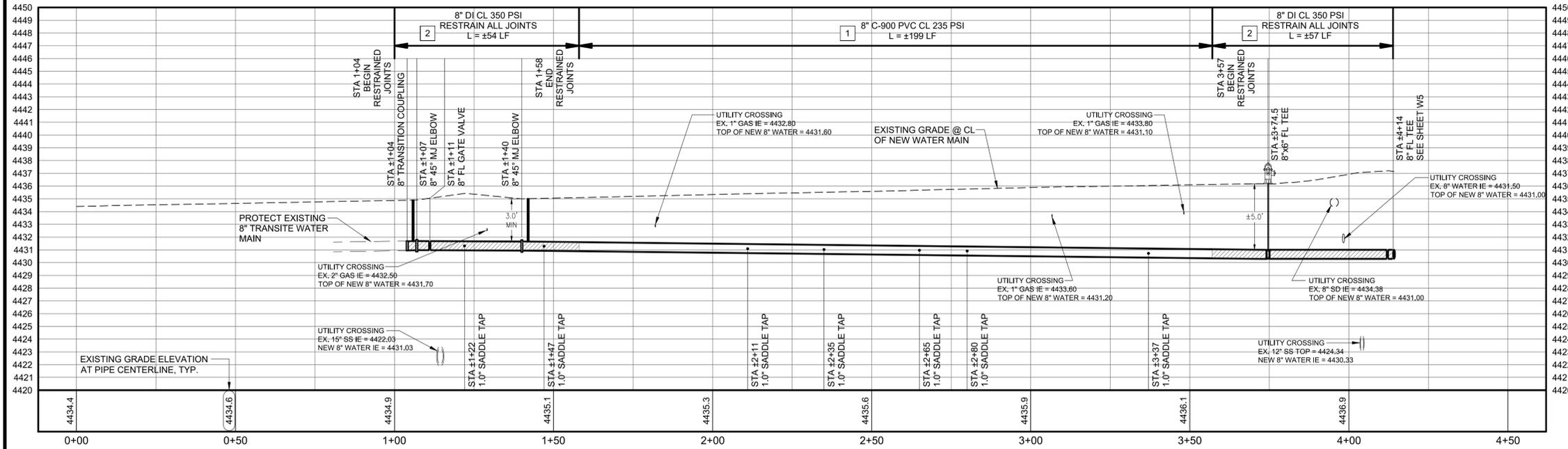
V:\Projects\City of Sparks\Tyler Way & 18th St. Sanitary Sewer\04-CAD-TMWA\Plan Sheets\05PK-TMWA19-F&Ps.dwg  
 Mar 25, 2020 3:40pm



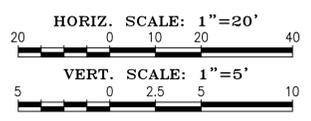
2 working days  
**Call before you Dig.**  
 1-800-227-2600

- CONSTRUCTION NOTES:**
- INSTALL NEW C-900 PVC CL 235 PSI, WATER MAIN (SIZE AS NOTED - SEE PROFILE). (REF. DET. 10L-6, SHEET D1) SAW-CUT EXISTING PAVING AND REPLACE WITH PERM AC (REF. DET. 10L-6, SHEET W10 AND DET. 4, SHEET D-1).
  - INSTALL NEW DI CL 350 PSI, WATER MAIN W/POLY WRAP (SIZE AS NOTED - SEE PROFILE). (REF. DET. 10L-6, SHEET D1) SAW-CUT EXISTING PAVING AND REPLACE WITH PERM AC (REF. DET. 10L-6, SHEET W10 AND DET. 4, SHEET D-1).
  - RECONNECT EX. 3/4" COPPER DOMESTIC SERVICE LINE. INSTALL: 1" SERVICE TAP. (REF. 10H-2, SHEET D1) 1" CTS SDR-9 HDPE SERVICE LINE (LENGTH VARIES) 1"x1" CTS QUICK JOINT COMPRESSION COUPLING
  - EXISTING FIRE HYDRANT RECONNECTION 8"x6" FL TEE (REF. DET. 10B-2 & 10B-3, SHEET W10 AND REF. DET. 10L-2, SHEET W11) (2) 8" R/CA'S 6" FLxMJ GATE VALVE (REF. DET. 10F-2, SHEET W10) 6" DI SERVICE LATERAL WITH MECH. RESTRAINED JOINTS AND (2) 45° MJ ELBOWS W/TB (REF. DET. 10F-2, SHEET W10 AND REF. DET. 10L-6, SHEET W11)
  - STA ± 3+74.5 - 8"x6" FL TEE W/TB
  - STA ± 4+14 8" FL TEE W/TB (3) 8" FLxMJ GATE VALVES (REF. DET. 10B-2, SHEET W10)
  - TEST STATION (REF. DET. 10L-9, SHEET W11) STA ±1+06 STA ±1+42
  - STA ±1+11 - 8" FL GATE VALVE

**CL WATER MAIN - TYLER WAY**  
 SCALE - HORIZ: 1" = 20' VERT: 1" = 5'



- THRUST BLOCKS:**
- NOTE: ALL FITTINGS (ELBOWS AND TEES SHALL HAVE A THRUST BLOCK INSTALLED, REF. DET. 10L-2, SHEET W11).
- ABANDON EXISTING MAINS:**
- VERIFY ALL SERVICES ARE ACTIVE.
  - MAKE FINAL CONNECTIONS TO EXISTING MAINS.
  - REMOVE EXISTING MAINS - SEE GENERAL NOTE 13, SHEET W2.
- RESTRAINED JOINTS NOTES:**
- UNLESS NOTED OTHERWISE, ALL MECHANICAL JOINT FITTINGS SHALL BE RESTRAINED USING JOINT WEDGE ACTION RESTRAINT GLANDS.
- BELL & SPIGOT JOINTS NOTED TO BE RESTRAINED SHALL USE RUBBER GASKETS WITH STAINLESS STEEL LOCKING SEGMENTS VULCANIZED INTO THE RUBBER GASKET.



**BID SET**  
 03-25-20

REVISION	DESCRIPTION	BY	APP	DATE

WORK ORDER NO.	
DESIGNED	MW/LJJ
DRAWN	KBK
DATE	03-25-2020
CHECKED	MW/LJJ
SUBMITTED	
RECOMMENDED	
APPROVED	

**TRUCKEE MEADOWS WATER AUTHORITY**  
 1355 CAPITAL BLVD. / PO BOX 30013  
 RENO, NEVADA 89520-3013  
 PH 775-634-8000 / FX 775-834-8003

**NOT REPRODUCIBLE**  
 PROPERTY OF TRUCKEE MEADOWS WATER AUTHORITY, RETURN UPON COMPLETION OF PROJECT (Per Homeland Security Act)

**WATER MAIN REPLACEMENT PROJECT**  
**TYLER WAY & 18TH ST., SPARKS NV**  
**TMWA PLAN & PROFILE**  
**TYLER WAY - STA 0+00 TO STA 4+17**

ENGINEER  
 JOHNSON  
 Exp: 6-30-21  
 CIVIL  
 No. 19440  
 03-25-2020

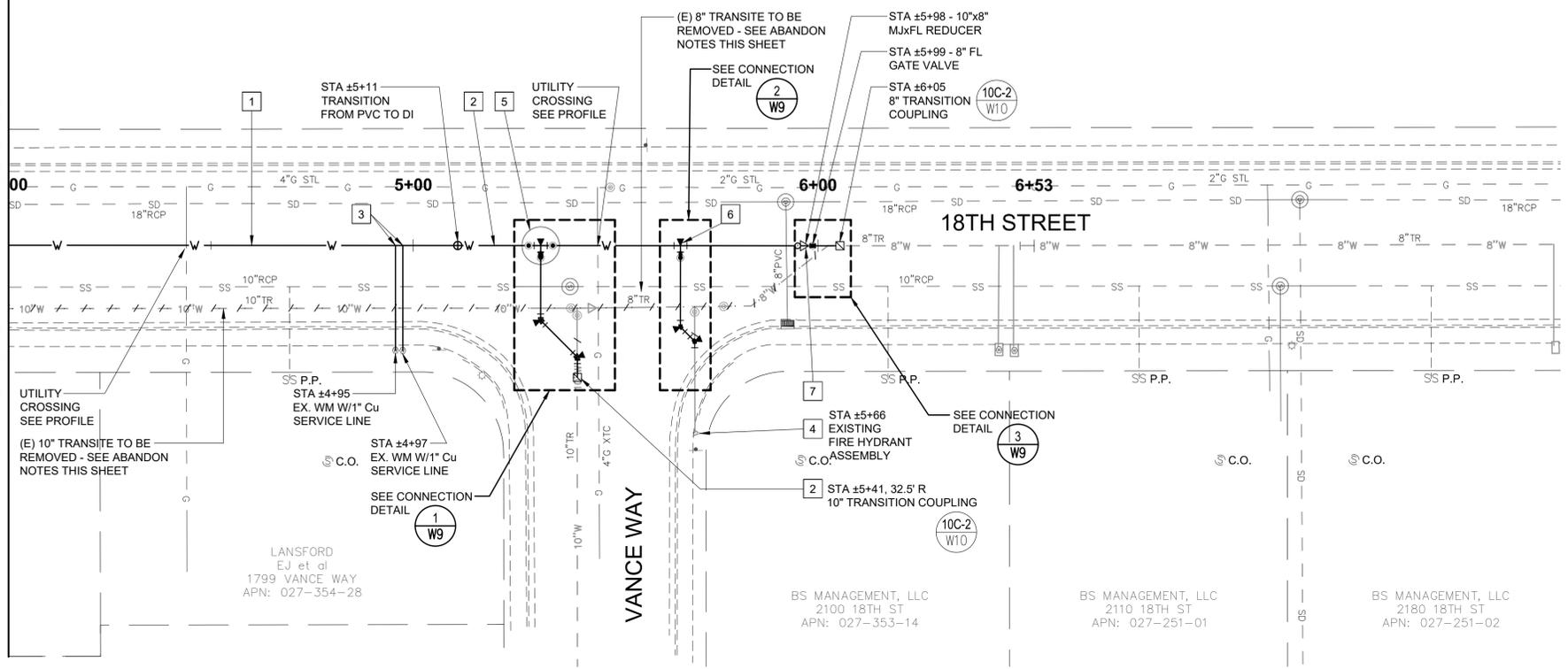
SHEET NUMBER  
**W4**  
 18 OF 25



SPARKS MIDDLE SCHOOL  
1900 SULLIVAN LANE  
APN: 027-150-02

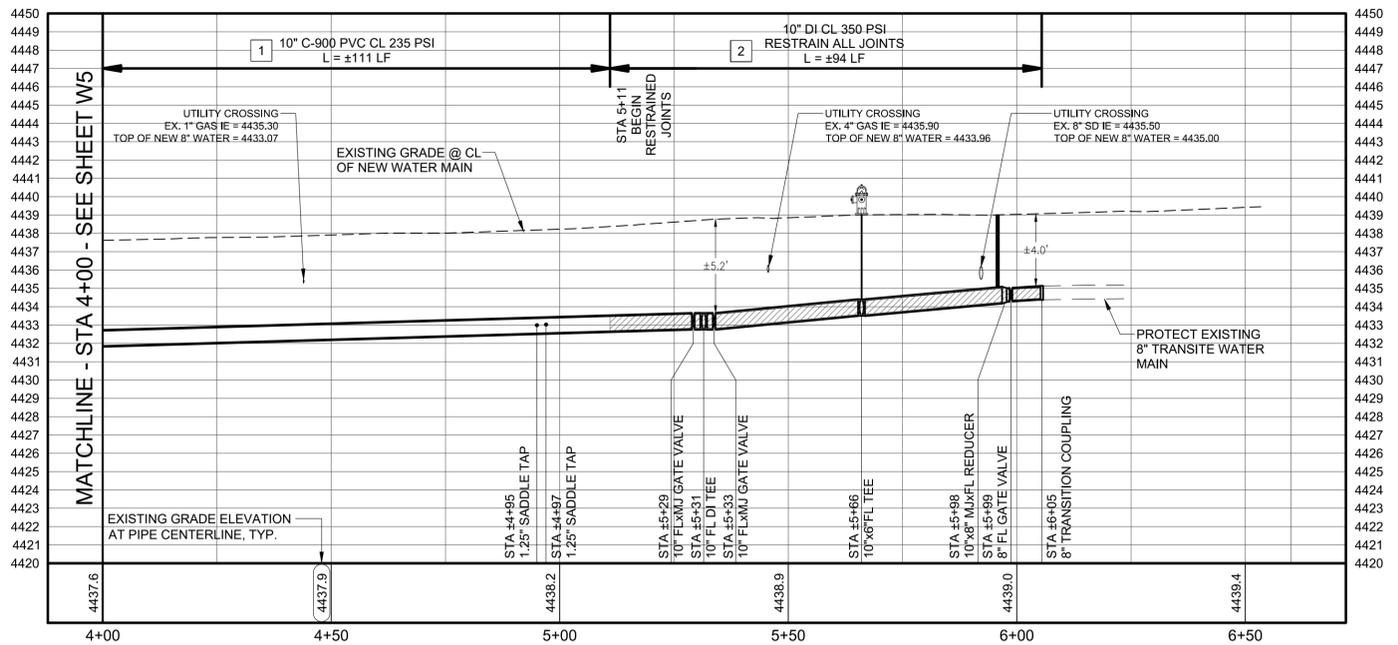
2 working days  
**Call before you Dig.**  
1-800-227-2600

MATCHLINE - STA 4+00 - SEE SHEET W5

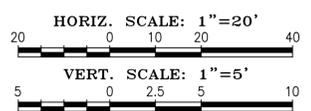


- CONSTRUCTION NOTES:**
- INSTALL NEW C-900 PVC CL 235 PSI, WATER MAIN (SIZE AS NOTED - SEE PROFILE). (REF. DET. 10L-6, SHEET D1) SAW-CUT EXISTING PAVING AND REPLACE WITH PERM AC (REF. DET. 10L-6, SHEET W10 AND DET. 4, SHEET D-1).
  - INSTALL NEW DI CL 350 PSI, WATER MAIN W/POLY WRAP (SIZE AS NOTED - SEE PROFILE). (REF. DET. 10L-6, SHEET D1) SAW-CUT EXISTING PAVING AND REPLACE WITH PERM AC (REF. DET. 10L-6, SHEET W10 AND DET. 4, SHEET D-1).
  - RECONNECT EX. 3/4\"/>

CL WATER MAIN - 18TH STREET  
SCALE - HORIZ: 1" = 20' VERT: 1" = 5'



- THRUST BLOCKS:**
- NOTE: ALL FITTINGS (ELBOWS AND TEES SHALL HAVE A THRUST BLOCK INSTALLED, REF. DET. 10L-2, SHEET W11).
- ABANDON EXISTING MAINS:**
- VERIFY ALL SERVICES ARE ACTIVE.
  - MAKE FINAL CONNECTIONS TO EXISTING MAINS.
  - REMOVE EXISTING MAINS - SEE GENERAL NOTE 13, SHEET W2.
- RESTRAINED JOINTS NOTES:**
- UNLESS NOTED OTHERWISE, ALL MECHANICAL JOINT FITTINGS SHALL BE RESTRAINED USING JOINT WEDGE ACTION RESTRAINT GLANDS.
- BELL & SPIGOT JOINTS NOTED TO BE RESTRAINED SHALL USE RUBBER GASKETS WITH STAINLESS STEEL LOCKING SEGMENTS VULCANIZED INTO THE RUBBER GASKET.



**BID SET**  
03-25-20

V:\Projects\City of Sparks\18th St Sanitary Sewer\04-CAD-TMWA\Plan Sheets\05PK-TMWA19-R&Ps.dwg  
Mar 25, 2020 3:40pm

REVISION	DESCRIPTION	BY	APP	DATE

WORK ORDER NO. \_\_\_\_\_  
DESIGNED: MW/LJJ  
DRAWN: KBK  
DATE: 03-25-2020  
CHECKED: MW/LJJ  
SUBMITTED: \_\_\_\_\_  
RECOMMENDED: \_\_\_\_\_  
APPROVED: \_\_\_\_\_

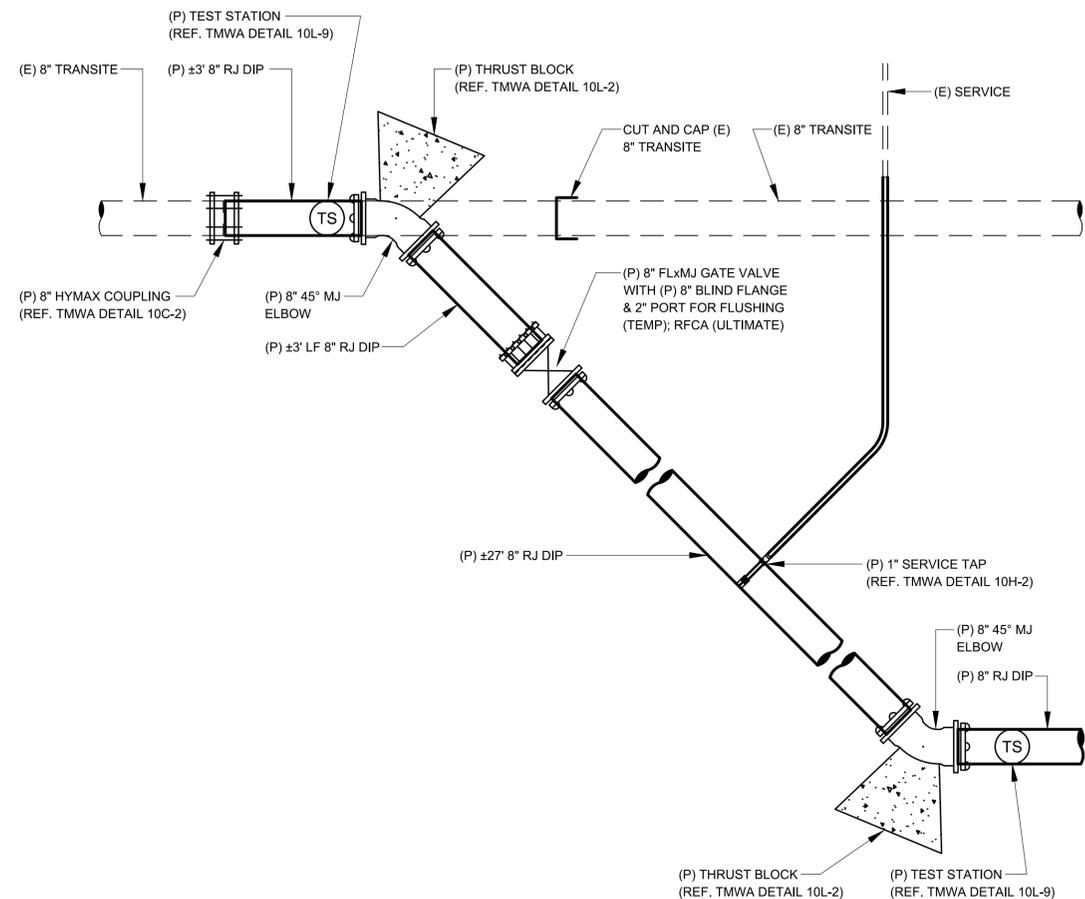
**TRUCKEE MEADOWS WATER AUTHORITY**  
1355 CAPITAL BLVD. / PO BOX 30013  
RENO, NEVADA 89520-3013  
PH 775-634-8000 / FX 775-834-8003

**NOT REPRODUCIBLE**  
PROPERTY OF TRUCKEE MEADOWS WATER AUTHORITY, RETURN UPON COMPLETION OF PROJECT  
(Per Homeland Security Act)

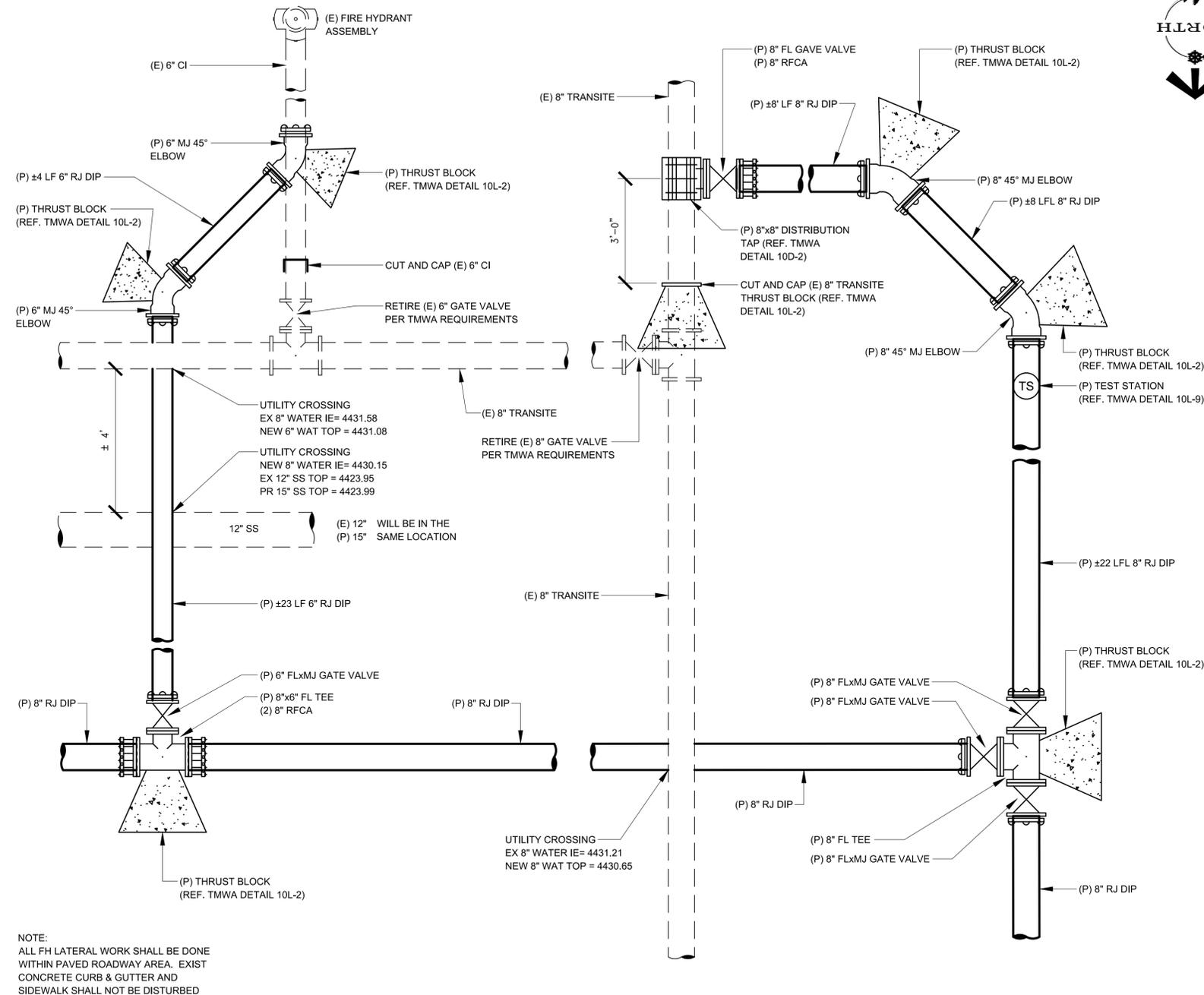
**WATER MAIN REPLACEMENT PROJECT**  
**TYLER WAY & 18TH ST., SPARKS NV**  
**TMWA PLAN & PROFILE**  
**18TH STREET - STA 4+00 TO STA 6+05**

ENGINEER  
JOHNSON  
Exp: 6-30-21  
CIVIL  
No. 19440  
03-25-2020

SHEET NUMBER  
**W6**  
20 OF 25



**1**  
W-7  
**TYLER WAY CONNECTION DETAIL**  
SCALE: 1/2" = 1'-0"  
CONTRACTOR SHALL POTHOLE TO VERIFY DEPTHS AND REQUIRED MATERIALS FOR CONNECTION TO EXISTING.



NOTE:  
ALL FH LATERAL WORK SHALL BE DONE WITHIN PAVED ROADWAY AREA. EXIST CONCRETE CURB & GUTTER AND SIDEWALK SHALL NOT BE DISTURBED

**2**  
W-7  
**TYLER WAY AND 18TH STREET CONNECTION DETAIL**  
SCALE: 1/2" = 1'-0"  
CONTRACTOR SHALL POTHOLE TO VERIFY DEPTHS AND REQUIRED MATERIALS FOR CONNECTION TO EXISTING.

**BID SET**  
03-25-20

V:\Projects\City of Sparks\Tyler Way & 18th St Sanitary Sewer\04-CAD-TMWA\Plan Sheets\OSPK-TMWA19\_PIPE\_DETAILS.dwg  
Mar 25, 2020 3:40pm

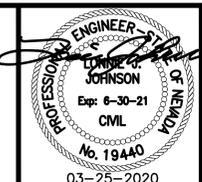
REVISION	DESCRIPTION	BY	APP	DATE

WORK ORDER NO. \_\_\_\_\_  
DESIGNED MW/LJJ  
DRAWN KBK  
DATE 03-25-2020  
CHECKED MW/LJJ  
SUBMITTED \_\_\_\_\_  
RECOMMENDED \_\_\_\_\_  
APPROVED \_\_\_\_\_

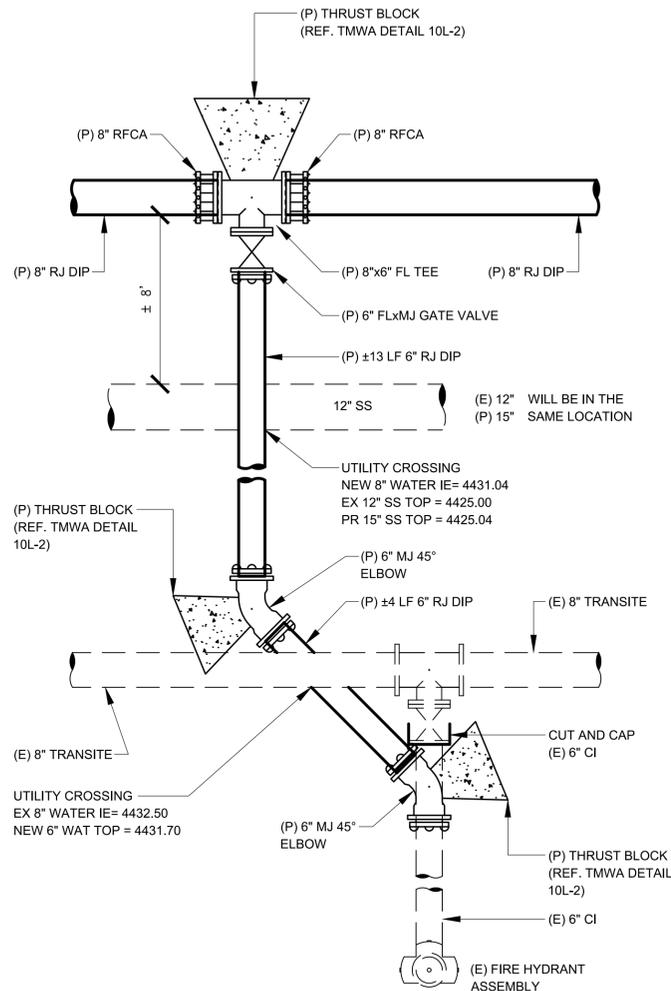
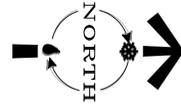
**TRUCKEE MEADOWS WATER AUTHORITY**  
1355 CAPITAL BLVD. / PO BOX 30013  
RENO, NEVADA 89520-3013  
PH 775-834-8000 / FX 775-834-8003

**NOT REPRODUCIBLE**  
PROPERTY OF TRUCKEE MEADOWS WATER AUTHORITY. RETURN UPON COMPLETION OF PROJECT (Per Homeland Security Act)

**WATER MAIN REPLACEMENT PROJECT**  
**TYLER WAY & 18TH ST., SPARKS NV**  
**TMWA**  
**PIPE CONNECTION DETAILS**

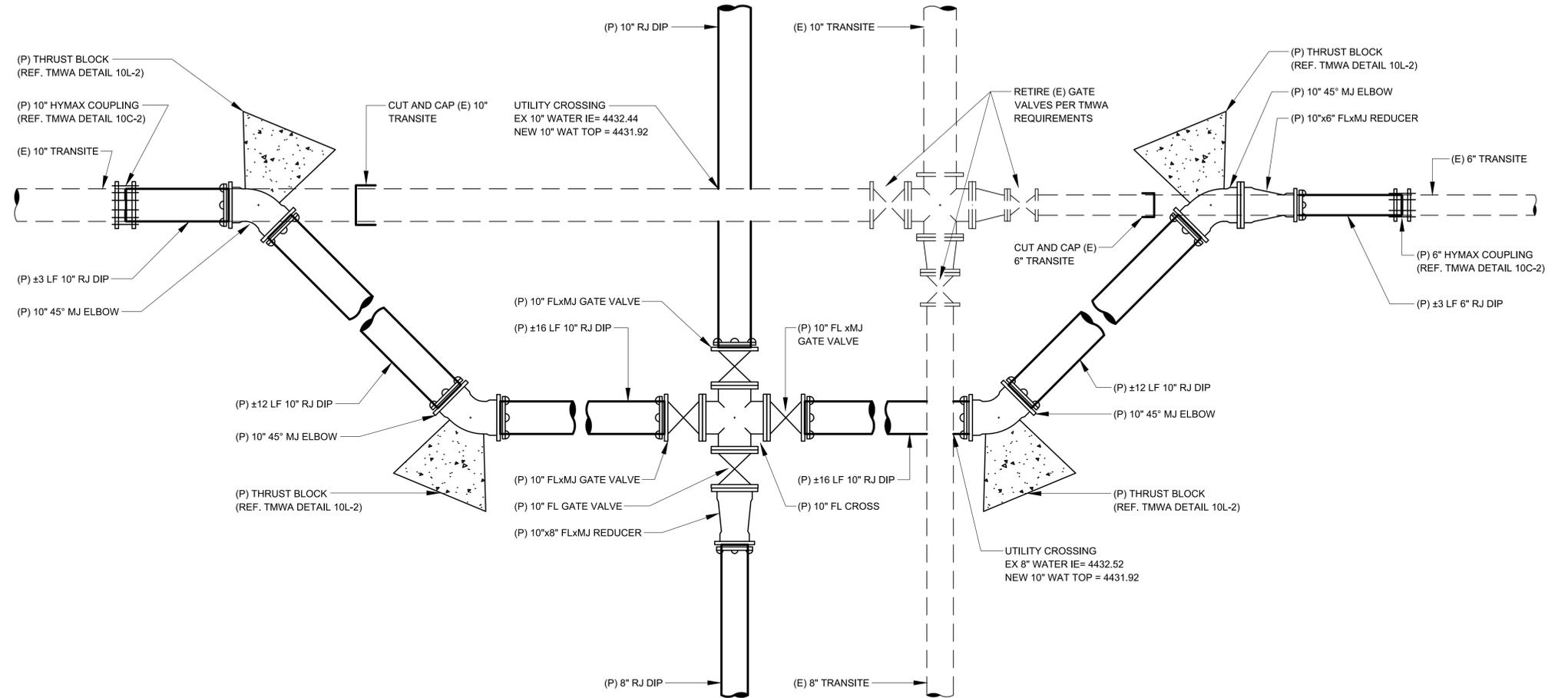


SHEET NUMBER  
**W7**  
21 OF 25



NOTE:  
ALL FH LATERAL WORK SHALL BE DONE WITHIN PAVED ROADWAY AREA. EXIST CONCRETE CURB & GUTTER AND SIDEWALK SHALL NOT BE DISTURBED

**1** 18TH STREET AND BYRD DRIVE F.H. CONNECTION DETAIL  
W-8 SCALE: 1/2" = 1'-0"  
CONTRACTOR SHALL POTHOLE TO VERIFY DEPTHS AND REQUIRED MATERIALS FOR CONNECTION TO EXISTING.



**2** 18TH STREET AND BYRD DRIVE CONNECTION DETAIL  
W-8 SCALE: 1/2" = 1'-0"  
CONTRACTOR SHALL POTHOLE TO VERIFY DEPTHS AND REQUIRED MATERIALS FOR CONNECTION TO EXISTING.

**BID SET**  
03-25-20

V:\Projects\City of Sparks\Tyler Way & 18th St Sanitary Sewer\04-CAD-TMWA\Plan Sheets\OSPK-TMWA19\_PIPE\_DETAILS.dwg Mar 25, 2020 3:40pm

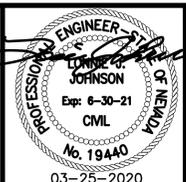
REVISION	DESCRIPTION	BY	APP	DATE

WORK ORDER NO. \_\_\_\_\_  
DESIGNED MW/LJJ  
DRAWN KBK  
DATE 03-25-2020  
CHECKED MW/LJJ  
SUBMITTED \_\_\_\_\_  
RECOMMENDED \_\_\_\_\_  
APPROVED \_\_\_\_\_

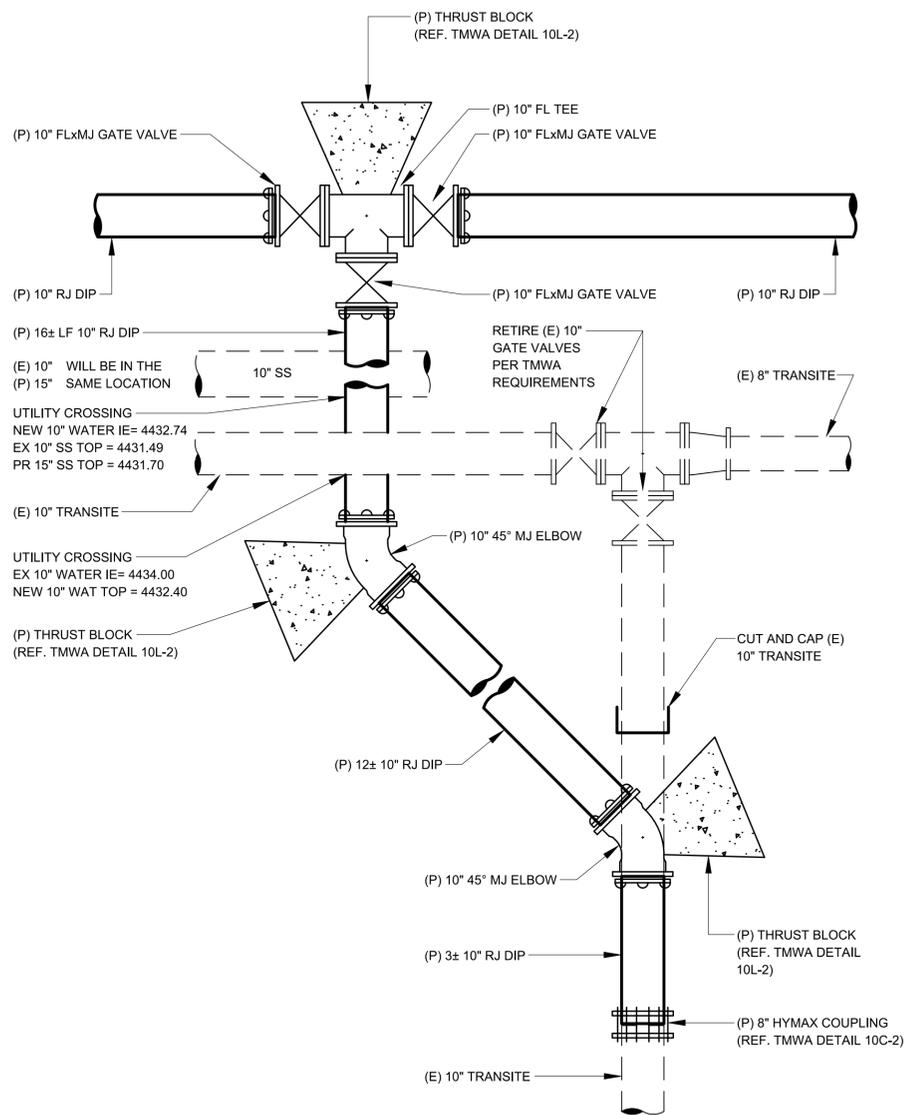
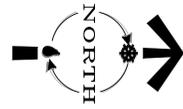
**TRUCKEE MEADOWS WATER AUTHORITY**  
1355 CAPITAL BLVD. / PO BOX 30013  
RENO, NEVADA 89520-3013  
PH 775-834-8000 / FX 775-834-8003

**NOT REPRODUCIBLE**  
PROPERTY OF TRUCKEE MEADOWS WATER AUTHORITY. RETURN UPON COMPLETION OF PROJECT (Per Homeland Security Act)

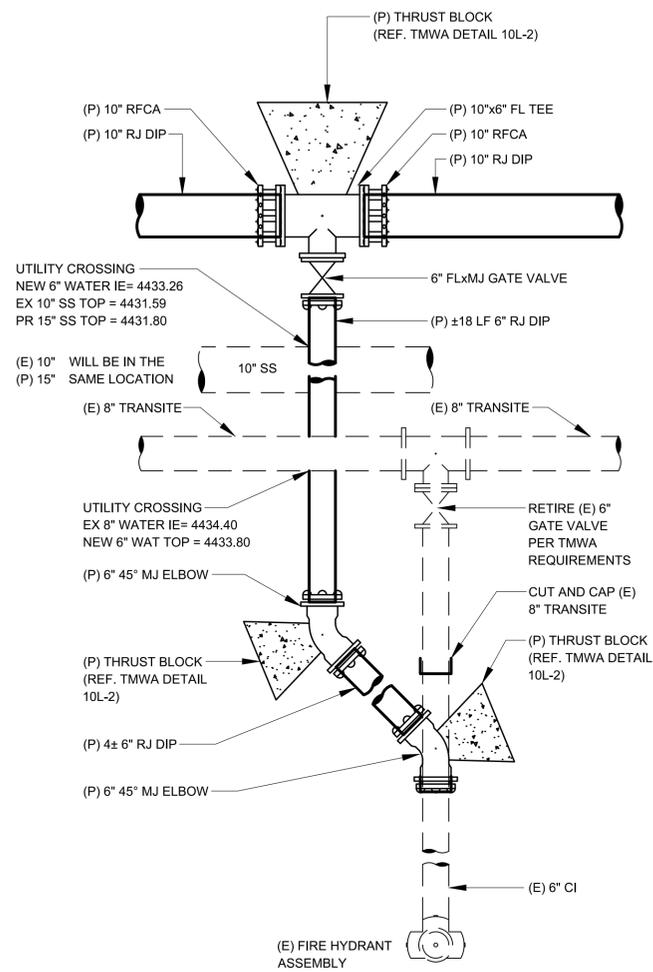
**WATER MAIN REPLACEMENT PROJECT**  
**TYLER WAY & 18TH ST., SPARKS NV**  
**TMWA**  
**PIPE CONNECTION DETAILS**



SHEET NUMBER  
**W8**  
22 OF 25

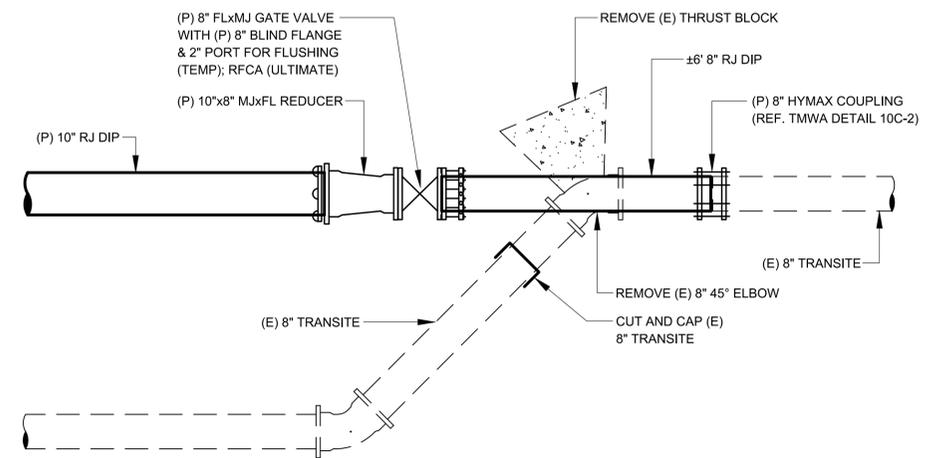


**1**  
W-9  
**18TH STREET AND VANCE WAY CONNECTION DETAIL**  
SCALE: 1/2" = 1'-0"  
CONTRACTOR SHALL POT HOLE TO VERIFY DEPTHS AND REQUIRED MATERIALS FOR CONNECTION TO EXISTING.



**2**  
W-9  
**18TH STREET AND VANCE WAY F.H. CONNECTION DETAIL**  
SCALE: 1/2" = 1'-0"  
CONTRACTOR SHALL POT HOLE TO VERIFY DEPTHS AND REQUIRED MATERIALS FOR CONNECTION TO EXISTING.

NOTE:  
ALL FH LATERAL WORK SHALL BE DONE WITHIN PAVED ROADWAY AREA. EXIST CONCRETE CURB & GUTTER AND SIDEWALK SHALL NOT BE DISTURBED



**3**  
W-9  
**18TH STREET CONNECTION DETAIL**  
SCALE: 1/2" = 1'-0"  
CONTRACTOR SHALL POT HOLE TO VERIFY DEPTHS AND REQUIRED MATERIALS FOR CONNECTION TO EXISTING.

**BID SET**  
03-25-20

V:\Projects\City of Sparks\Tyler Way & 18th St Sanitary Sewer\04-CAD-TMWA\Plan Sheets\OSPK-TMWA19\_PIPE\_DETAILS.dwg  
Mar 25, 2020 3:40pm

REVISION	DESCRIPTION	BY	APP	DATE

WORK ORDER NO.	
DESIGNED	MW/LJJ
DRAWN	KBK
DATE	03-25-2020
CHECKED	MW/LJJ
SUBMITTED	
RECOMMENDED	
APPROVED	

**TRUCKEE MEADOWS WATER AUTHORITY**  
1355 CAPITAL BLVD. / PO BOX 30013  
RENO, NEVADA 89520-3013  
PH 775-834-8000 / FX 775-834-8003

**NOT REPRODUCIBLE**  
PROPERTY OF TRUCKEE MEADOWS WATER AUTHORITY. RETURN UPON COMPLETION OF PROJECT (Per Homeland Security Act)

**WATER MAIN REPLACEMENT PROJECT**  
**TYLER WAY & 18TH ST., SPARKS NV**  
**TMWA**  
**PIPE CONNECTION DETAILS**

PROFESSIONAL ENGINEER  
DANIEL JOHNSON  
Exp: 6-30-21  
CIVIL  
No. 19440  
03-25-2020

SHEET NUMBER  
**W9**  
23 OF 25

NOTES:

- REFERENCE TMWA STANDARD DETAIL 10L-2 FOR THRUST BLOCK SIZING AND REQUIREMENTS.
- ALL BOLTS AND EXPOSED METAL SHALL BE COATED WITH BRUSHED-ON MASTIC.
- TEE, VALVES, FITTINGS, DUCTILE IRON PIPE AND OTHER METAL PARTS SHALL BE ENCASED WITH POLYETHYLENE WRAP PER AWWA C105.
- CONCRETE FOR PADS SHALL HAVE A COMPRESSIVE STRENGTH OF NOT LESS THAN 3,000 PSI AFTER 28 DAYS. BAG CONCRETE MIX IS NOT ACCEPTABLE.
- POSITION OF FLG x MJ VALVE (RUN) AND FLG x MJ ADAPTER MAY SWITCH, REFERENCE WATER IMPROVEMENT PLANS.
- AN ADDITIONAL FLG x MJ VALVE MAY BE REQUIRED IN LIEU OF FLG x MJ ADAPTER, REF. WATER IMPROVEMENT PLANS.

QTY. DESCRIPTION

1	FLG x FLG x FLG DUCTILE IRON TEE (AWWA C110)
1	FLG x MJ GATE VALVE WITH DUCTILE IRON BODY (AWWA C509 OR C515)
1	FLG x MJ ADAPTER
3	MJ WEDGE ACTION RESTRAINT GLAND
2	6\"/>

DATE	7/2011	APPENDIX 10B	DISTRIBUTION BRANCH INSTALLATIONS	DRAWING NUMBER	10B-2
REV		FLANGED TEES	FLG x MJ GATE VALVES		
REV		-RESTRAINED-			

NOTES:

- REFERENCE TMWA STANDARD DETAIL 10L-2 FOR THRUST BLOCK SIZING AND REQUIREMENTS.
- ALL BOLTS AND EXPOSED METAL SHALL BE COATED WITH BRUSHED-ON MASTIC.
- TEE, VALVES, FITTINGS, DUCTILE IRON PIPE AND OTHER METAL PARTS SHALL BE ENCASED WITH POLYETHYLENE WRAP PER AWWA C105.
- CONCRETE FOR PADS SHALL HAVE A COMPRESSIVE STRENGTH OF NOT LESS THAN 3,000 PSI AFTER 28 DAYS. BAG CONCRETE MIX IS NOT ACCEPTABLE.

QTY. DESCRIPTION

1	MJ RUN x FLG BRANCH DUCTILE IRON TEE (AWWA C110 OR C153)
1	FLG x MJ GATE VALVE WITH DUCTILE IRON BODY (AWWA C509 OR C515)
1	MJ WEDGE ACTION RESTRAINT GLAND
1	6\"/>

DATE	7/2011	APPENDIX 10B	DISTRIBUTION BRANCH INSTALLATIONS	DRAWING NUMBER	10B-4
REV		MECHANICAL JOINT x FLANGED TEES	FLG x MJ GATE VALVE		
REV		-RESTRAINED-			

NOTES:

- COUPLINGS SHALL BE HVMX 2000 SERIES COUPLINGS AS MANUFACTURED BY TOTAL PIPING SOLUTIONS, INC. OR TMWA APPROVED EQUIVALENT.
- SNAP MACHINED END OFF TRANSITE (AC) PIPE TO EXPOSE ROUGH BARREL. INSTALL COUPLING ON ROUGH BARREL SECTION OF TRANSITE PIPE.
- FIELD MEASURE ACTUAL PIPE O.D. PRIOR TO ORDERING COUPLING. FOR OTHER TYPES OF PIPE NOT LISTED IN THE CHARTS BELOW AND/OR PIPE O.D.'S WHICH MAY DIFFER FROM THOSE LISTED BELOW, CONSULT MANUFACTURER'S SIZING CHART.

TYPE OF PIPE	6\"/>
--------------	-------

TYPE OF PIPE	8\"/>
--------------	-------

TYPE OF PIPE	10\"/>
--------------	--------

TYPE OF PIPE	12\"/>
--------------	--------

DATE	7/2011	APPENDIX 10C	DISTRIBUTION TRANSITION FITTINGS	DRAWING NUMBER	10C-2
REV		HVMX 2000 SERIES COUPLING CHART	TRANSITE, C900 PVC, DUCTILE IRON PIPE		
REV		FOR MAIN SIZES 6\"/>			

NOTES:

- REQUIRES ONE (1) TAPPING SLEEVE. REFER TO 10D-2.
- WHEN TAPPING STEEL OR OD STEEL BACKING PLATE MUST BE DESIGNED BY ENGINEER. WHEN TAPPING OD STEEL SIZE ON SIZE, REDUCE TAP ONE SIZE THEN BELL UP AFTER TAP.
- REFER TO DETAIL 10L-2 FOR THRUST BLOCK SIZING. BAG CONCRETE IS NOT ACCEPTABLE FOR PAD OR THRUST BLOCK. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3,000 PSI.
- ALL EXPOSED METAL MUST BE COATED WITH BRUSH ON MASTIC.
- REMOVE TEST PLUG AND HYDROSTATICALLY PRESSURE TEST TAPPING SLEEVE NOT TO EXCEED MANUFACTURER'S PRESSURE RATING, APPLY PIPE COMPOUND, AND REINSET PLUG.
- VALVE SHALL BE BLIND FLANGED AND PRESSURE TESTED AT TIME OF TAPPING SLEEVE PRESSURE TEST.
- TAP SHALL BE A MINIMUM OF 24\"/>

QTY. DESCRIPTION

1	FL x FL RESILIENT WEDGE GATE VALVE WITH 2\"/>
---	---

DATE	7/2011	APPENDIX 10D	DISTRIBUTION TAP INSTALLATIONS	DRAWING NUMBER	10D-3
REV		STANDARD TAP 4\"/>			

NOTES:

- REFERENCE NAC 445A, TMWA CONSTRUCTION AND DESIGN STANDARDS AND JURISDICTIONAL FIRE AGENCY FOR REQUIRED PIPE MATERIALS, POLYETHYLENE WRAP TO BE USED ON ALL DUCTILE IRON PIPE AND FITTINGS PER AWWA C105.
- REFER TO PLAN FOR ACTUAL DIAMETER AND LENGTH FOR HYDRANT LATERAL.
- KEEP A MINIMUM OF 2\"/>

DATE	7/2011	APPENDIX 10F	FIRE PROTECTION INSTALLATIONS	DRAWING NUMBER	10F-2
REV		6\"/>			
REV	9/2016				

NOTES:

- SERVICE CLAMP SIZE IS DEPENDENT UPON THE SIZE AND TYPE OF MAIN.
- SDR-9 CTS HDPE TUBING, LENGTH AND DIAMETER TO BE DETERMINED BY ENGINEER. REFER TO APPROVED PLAN.
- STOP CORP IP THREAD INLET, COMPRESSION OUTLET, DIAMETER TO MATCH TAP SIZE AS SHOWN ON PLAN.
- INSERT RIGID STAINLESS STEEL LINER TO SDR-9 CTS HDPE TUBING.
- SERVICE TAPS OFF OF EXISTING PWS MAINS SHALL USE TAPPED-FULL CIRCLE REPAIR CLAMP, MINIMUM LENGTH: 15\"/>

DATE	7/2011	APPENDIX 10H	SERVICE TAP INSTALLATIONS	DRAWING NUMBER	10H-2
REV		FOR 1\", 1.25\", 1.5\"/>			
REV	9/2016				

NOTES:

- CONCRETE COLLAR SHALL BE MINIMUM 6-INCHES THICK OR MATCH PAVEMENT THICKNESS, WHICHEVER IS GREATER, UNLESS OTHERWISE SPECIFIED BY THE JURISDICTIONAL AGENCY RESPONSIBLE FOR THE ROADWAY.
- FOR MULTIPLE VALVE/ RISER BOXES IN CLOSE PROXIMITY, A MONOLITHIC CONCRETE COLLAR MAY BE POURED.
- CONTRACTOR AND/OR DESIGN ENGINEER SHALL CONSULT WITH THE JURISDICTIONAL AGENCY RESPONSIBLE FOR THE ROADWAY FOR REQUIREMENTS THAT MAY VARY FROM THIS STANDARD PRIOR TO CONSTRUCTION.
- ALL BOLTS AND EXPOSED METAL SHALL BE COATED WITH BRUSHED-ON MASTIC.
- GATE VALVE, DUCTILE IRON PIPE, AND OTHER METAL PARTS SHALL BE ENCASED WITH POLYETHYLENE WRAP PER AWWA C105.
- UNLESS OTHERWISE SPECIFIED BY THE JURISDICTIONAL AGENCY RESPONSIBLE FOR THE ROADWAY, PORTLAND CEMENT CONCRETE (P.C.C.) FOR CONCRETE COLLAR SHALL HAVE THE FOLLOWING CHARACTERISTICS: 4,000 PSI MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS, MINIMUM 6 SACKS OF CEMENT PER CUBIC YARD WITH A MAXIMUM WATER/CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6% ±1.5%, SLUMP AT 1 TO 4 INCHES. BAG CONCRETE MIX IS NOT ACCEPTABLE.
- CONCRETE FOR PAD SHALL HAVE A COMPRESSIVE STRENGTH OF NOT LESS THAN 3,000 PSI AFTER 28 DAYS. BAG CONCRETE MIX IS NOT ACCEPTABLE.

QTY. DESCRIPTION

1	MAIN SIZE GATE VALVE (AWWA C509 OR C515, DUCTILE IRON BODY) WITH END CONFIGURATION AS SPECIFIED IN THE WATER IMPROVEMENT PLANS
1	MASTIC (1 GALLON CAN - BRUSH ON)
1	6\"/>

DATE	7/2011	APPENDIX 10J	DISTRIBUTION VALVE INSTALLATION	DRAWING NUMBER	10J-2
REV		IN-LINE GATE VALVE	WITH CONCRETE COLLAR		
REV	7/2011				

THRUST BLOCK DIMENSIONS

BRANCH SIZE (INCHES)	TEE, TAP, OR DEAD END			11.25\"/>		
----------------------	-----------------------	--	--	-----------	--	--

THRUST BLOCK DESIGN CRITERIA:

THRUST BLOCK SIZES HAVE BEEN CALCULATED USING THE METHOD AND EQUATIONS PUBLISHED IN THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE, SIXTH EDITION 2006 BY THE DUCTILE IRON PIPE RESEARCH ASSOCIATION (DIPRA) UTILIZING THE FOLLOWING DESIGN PARAMETERS: DESIGN PRESSURE = 150 PSI (SEE NOTE #4 BELOW), SOIL BEARING CAPACITY = 2,000 PSF (SEE NOTE #4 BELOW), SAFETY FACTOR = 1.5, AND NOMINAL PIPE DIAMETER

THRUST BLOCK NOTES:

- CONCRETE FOR THRUST BLOCKS SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3,000 PSI. REFERENCE SECTION 11.1.13 OF THE TRUCKEE MEADOWS WATER AUTHORITY ENGINEERING & CONSTRUCTION STANDARDS FOR ADDITIONAL REQUIREMENTS. BAG CONCRETE MIX IS NOT ACCEPTABLE.
- ALL FITTINGS SHALL BE WRAPPED WITH POLYETHYLENE WRAP PER AWWA C105. MASTIC (BRUSH-ON) SHALL BE APPLIED TO ALL BOLTS, ETC.
- THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED SOIL. IN CASES WHERE THIS IS NOT PRACTICAL, BACKFILL AREA BEHIND WHERE THRUST BLOCK WILL BE POURED WITH TYPE 2, CLASS B AGGREGATE BASE (PER SECTION 200.01.03 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION - ORANGE BOOK) COMPACTED TO 95% MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY PROCEDURES SET FORTH IN ASTM D 1557, CUT-BACK COMPACTED AGGREGATE BASE TO EXPOSE A FIRM SURFACE, THEN POUR THRUST BLOCK.
- FOR SOIL BEARING CAPACITY LESS THAN 2,000 PSF AND/OR DESIGN PRESSURE IN EXCESS OF 150 PSI, INCREASE THRUST BLOCK BEARING AREA ACCORDINGLY. REVISED THRUST BLOCK SCHEDULE FOR SPECIFIC CONDITIONS SHALL BE SUBMITTED BY THE DESIGN ENGINEER.

DATE	7/2011	APPENDIX 10L	THRUST BLOCKS	DRAWING NUMBER	10L-2
REV		TEES, TAPPING SLEEVES, DEAD ENDS	11.25\", 22.5\", 45 AND 90 DEGREE ELBOWS		
REV		4\"/>			

REVISION	DESCRIPTION	BY	APP	DATE

WORK ORDER NO.

DESIGNED: MW/LJJ

DRAWN: KBK

DATE: 03-25-2020

CHECKED: MW/LJJ

SUBMITTED:

RECOMMENDED:

APPROVED:

**TRUCKEE MEADOWS WATER AUTHORITY**

1355 CAPITAL BLVD. / PO BOX 30013  
 RENO, NEVADA 89520-3013  
 PH 775-834-8000 / FX 775-834-8003

NOT REPRODUCIBLE

PROPERTY OF TRUCKEE MEADOWS WATER AUTHORITY. RETURN UPON COMPLETION OF PROJECT (Per Homeland Security Act)

**WATER MAIN REPLACEMENT PROJECT TYLER WAY & 18TH ST., SPARKS NV**

**TMWA DETAILS**

PROFESSIONAL ENGINEER

CLARENCE JOHNSON

Exp: 6-30-21

CIVIL

No. 19440

03-25-2020

SHEET NUMBER

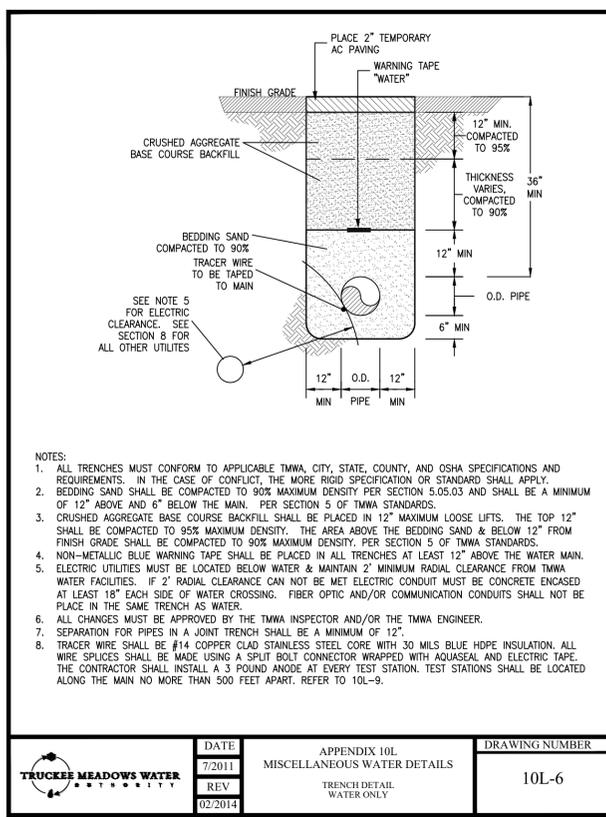
**W10**

24 OF 25

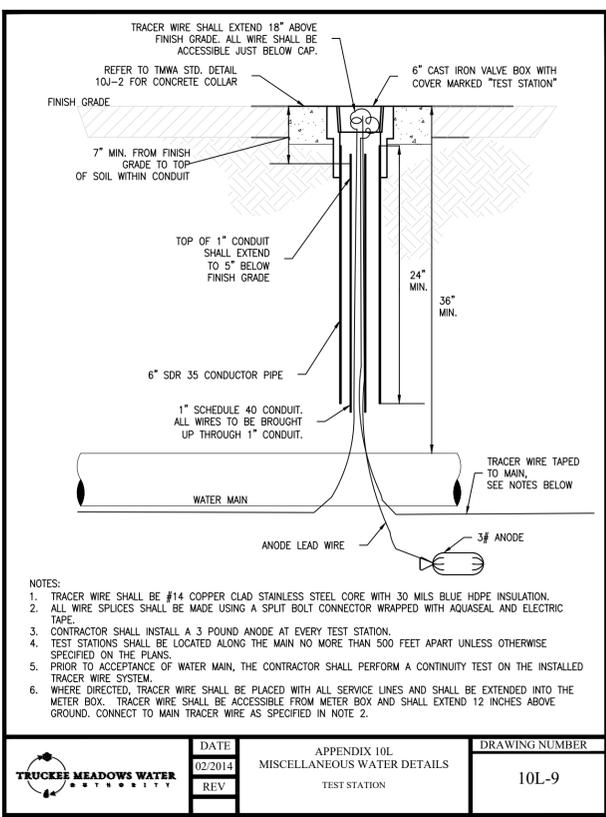
V:\Projects\City of Sparks\Tyler Way & 18th St. Sanitary Sewer\04-CAD-TMWA\Plan Sheets\SPK-TMWA19\_TNLA\_34x22.dwg  
 Mar 25, 2020 3:40pm



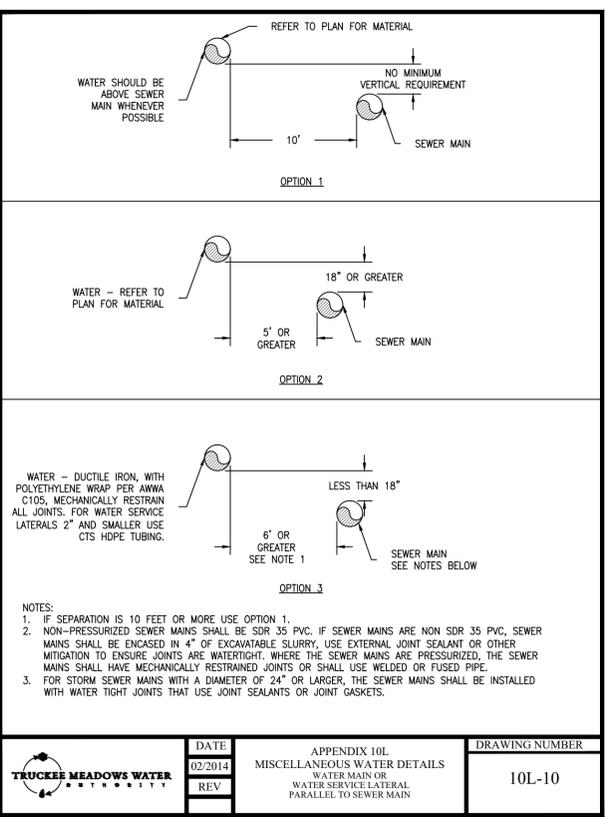
V:\Projects\City of Sparks\Tyler Way & 18th St Sanitary Sewer\04-CAD-TMWA\Plan Sheets\OSPK-TMWA19\_TNLA\_34x22.dwg  
 Mar 25, 2020 3:41 pm



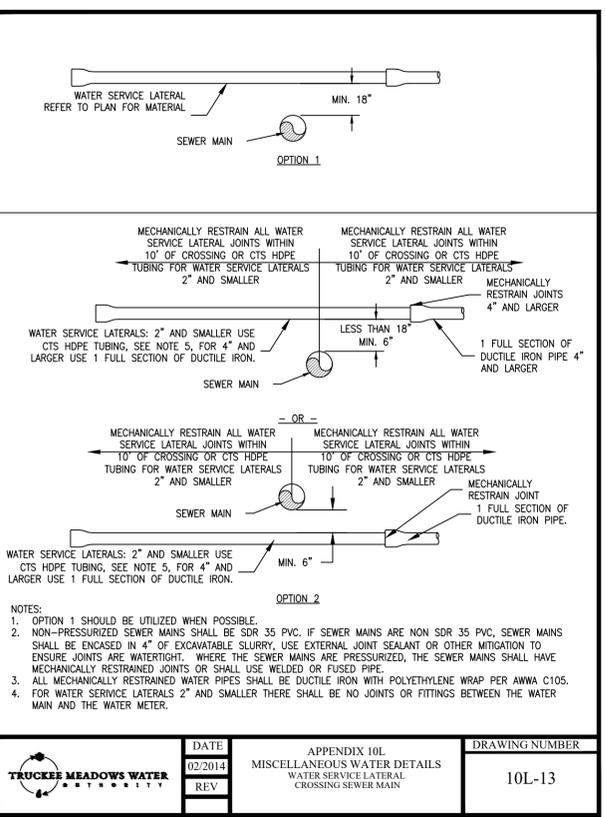
DATE	APPENDIX 10L MISCELLANEOUS WATER DETAILS	DRAWING NUMBER
7/2011	MISCELLANEOUS WATER DETAILS	10L-6
REV	TRENCH DETAIL WATER ONLY	
02/2014		



DATE	APPENDIX 10L MISCELLANEOUS WATER DETAILS	DRAWING NUMBER
02/2014	MISCELLANEOUS WATER DETAILS	10L-9
REV	TEST STATION	



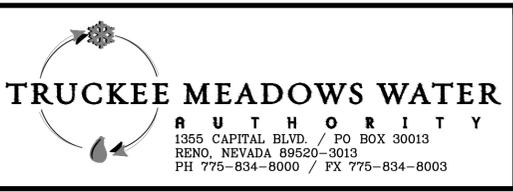
DATE	APPENDIX 10L MISCELLANEOUS WATER DETAILS	DRAWING NUMBER
02/2014	MISCELLANEOUS WATER DETAILS	10L-10
REV	WATER MAIN OR WATER SERVICE LATERAL PARALLEL TO SEWER MAIN	



DATE	APPENDIX 10L MISCELLANEOUS WATER DETAILS	DRAWING NUMBER
02/2014	MISCELLANEOUS WATER DETAILS	10L-13
REV	WATER SERVICE LATERAL CROSSING SEWER MAIN	

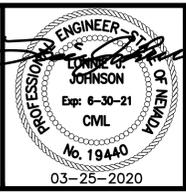
REVISION	DESCRIPTION	BY	APP	DATE

WORK ORDER NO. \_\_\_\_\_  
 DESIGNED \_\_\_\_\_ MW/LJJ  
 DRAWN \_\_\_\_\_ KBK  
 DATE \_\_\_\_\_ 03-25-2020  
 CHECKED \_\_\_\_\_ MW/LJJ  
 SUBMITTED \_\_\_\_\_  
 RECOMMENDED \_\_\_\_\_  
 APPROVED \_\_\_\_\_



**NOT REPRODUCIBLE**  
 PROPERTY OF TRUCKEE MEADOWS WATER AUTHORITY. RETURN UPON COMPLETION OF PROJECT (Per Homeland Security Act)

**WATER MAIN REPLACEMENT PROJECT**  
**TYLER WAY & 18TH ST., SPARKS NV**  
**TMWA**  
**DETAILS**



SHEET NUMBER  
**W11**  
 25 OF 25

**BID SET**  
 03-25-20