

CITY OF SPARKS

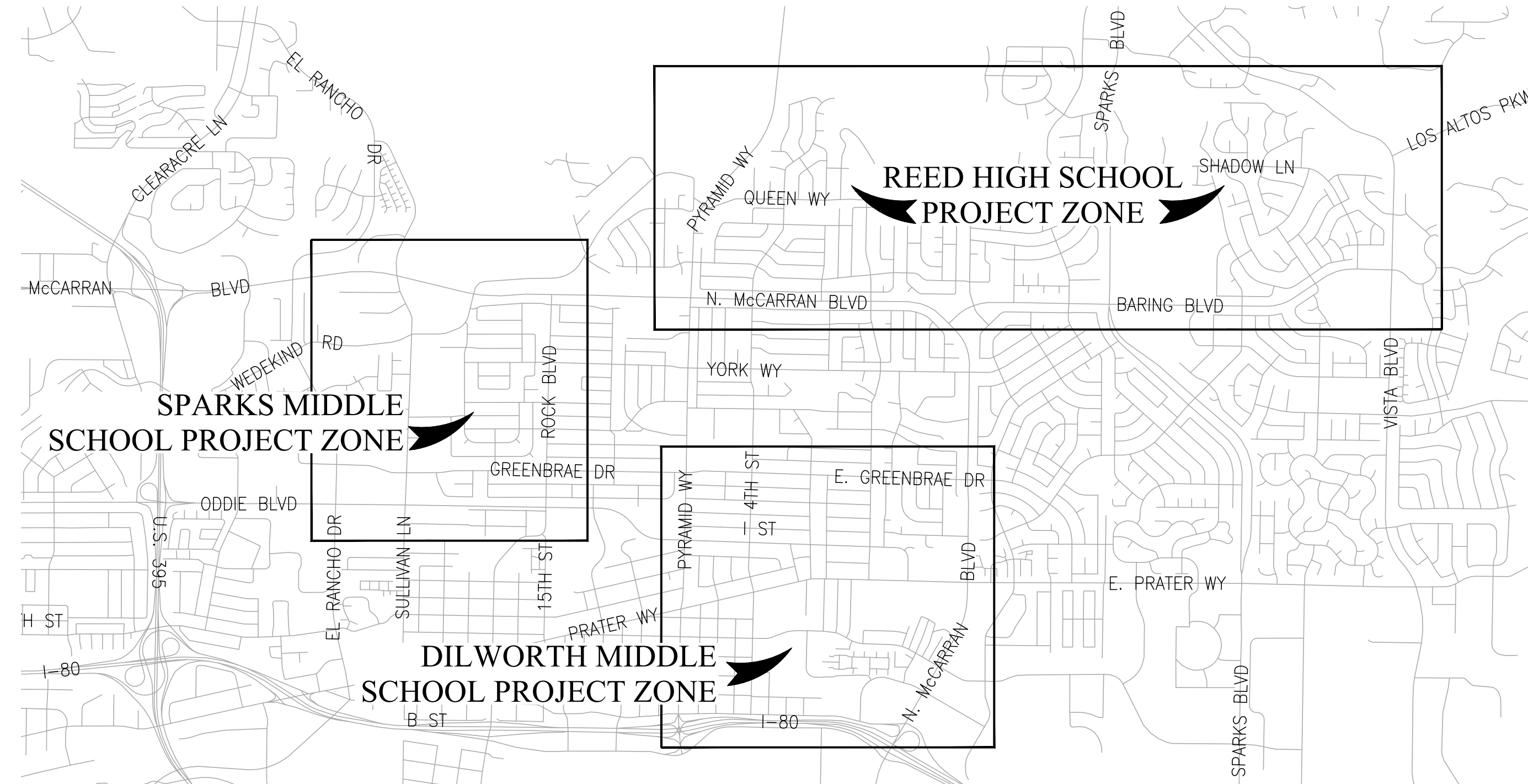
SANITARY SEWER CIPP LINING - FISCAL 2024

SPARKS, NEVADA

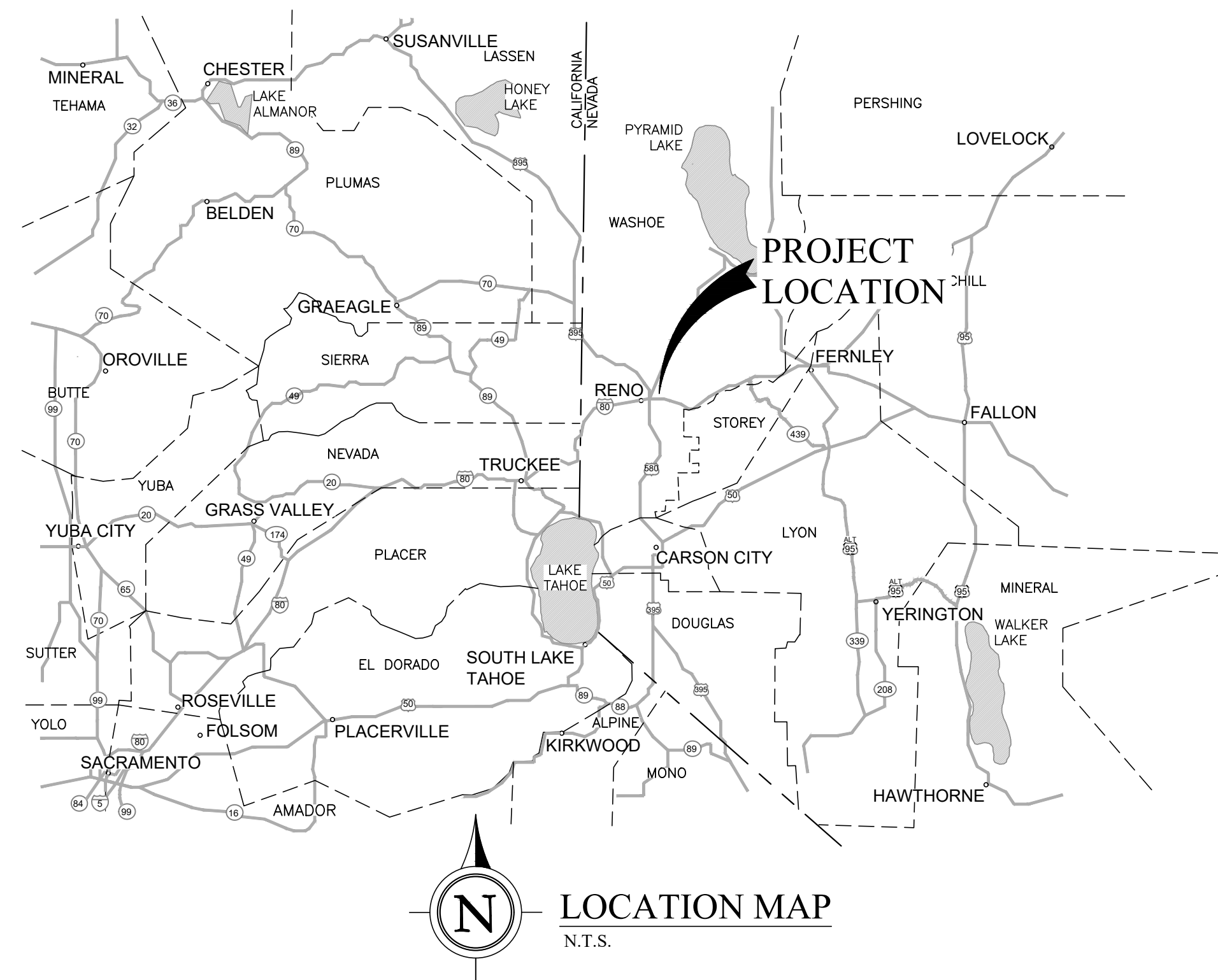
BID #23/24-011, PWP #WA-2024-164

OWNER:
CITY OF SPARKS
 431 PRATER WAY
 P.O. BOX 857
 SPARKS, NV 89431-0857
 PHONE: (775) 353-2273
 FAX: (775) 353-2399

ENGINEER:
DOWL, LLC
 5510 LONGLEY LANE
 RENO, NV 89511
 PHONE: (775) 851-4788
 FAX: (775) 851-0766

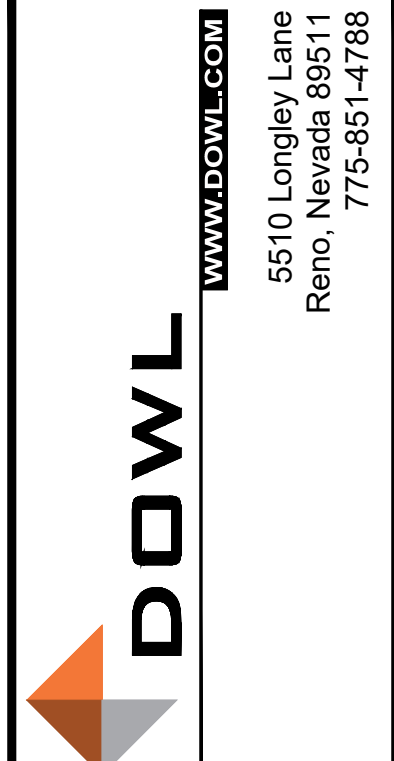
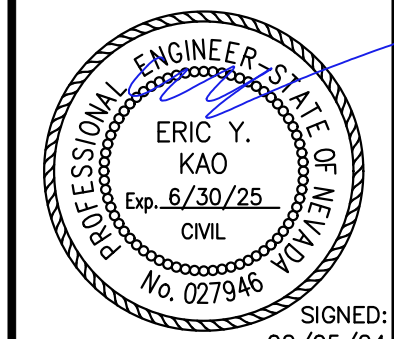


VICINITY MAP
 N.T.S.



LOCATION MAP
 N.T.S.

Sheet List Table		
PAGE NUMBER	SHEET NUMBER	SHEET TITLE
GENERAL SHEETS		
1	G1	COVER SHEET
2	G2	GENERAL NOTES AND LEGEND
REED HS ZONE		
3	C1.0	INDEX MAP
4	C1.1	AREA A
5	C1.2	AREA B
6	C1.3	AREA C
7	C1.4	AREA D
8	C1.5	AREA E
9	C1.6	AREA F
10	C1.7	AREA G
11	C1.8	AREA H
12	C1.9	AREA I
DILWORTH MS ZONE		
13	C2.0	INDEX MAP
14	C2.1	AREA A
15	C2.2	AREA B
16	C2.3	AREA C
17	C2.4	AREA D
18	C2.5	AREA E
19	C2.6	AREA F
SPARKS MS ZONE		
20	C3.0	INDEX MAP
21	C3.1	AREA A
22	C3.2	AREA B
23	C3.3	AREA C
DETAILS		
24	D1	DETAIL SHEET
25	D2	DETAIL SHEET



Jon R. Ericson

JON R. ERICSON, P.E., P.T.O.E. DATE: 04/12/2024
 CITY ENGINEER

CITY OF SPARKS
 ED LAWSON
 DONALD ABBOTT
 DIAN VANDERWELL
 PAUL ANDERSON
 CHARLENE BYBEE
 KRISTOPHER DAHIR
 CHRIS CRAWFORTH

MAYOR
 COUNCIL MEMBER WARD 1
 COUNCIL MEMBER WARD 2
 COUNCIL MEMBER WARD 3
 COUNCIL MEMBER WARD 4
 COUNCIL MEMBER WARD 5
 ACTING CITY MANAGER

BID SET



REV	DATE	DESCRIPTION

CITY OF SPARKS
 SANITARY SEWER CIPP LINING - FISCAL 2024
 GENERAL SHEETS
 COVER SHEET

PROJECT	30152
DATE	2/2024
DESIGNED	EYK
DRAWN	PB, JL, GT
© DOWL 2024	

SHEET
G1
 1 OF 25

F:\63\30152-01\26Plots\26_6_sheet_files\30152-01_G1-G3_GENERAL.dwg PLOT DATE 2024-02-05 13:55 USER: ekao



DOWL, LLC ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS AND ELEVATIONS. THE UTILITIES SHOWN ON THESE DRAWINGS HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS, HOWEVER, THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR TO FIELD VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION. IF A CONFLICT EXISTS BETWEEN WHAT IS SHOWN ON THESE DRAWINGS AND WHAT EXISTS IN THE FIELD, THE CONTRACTOR IS TO NOTIFY THE ENGINEER IMMEDIATELY.

CITY OF SPARKS PUBLIC WORKS GENERAL NOTES

- CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE LATEST EDITIONS OF THE PROJECT SPECIFICATIONS, AND PROJECT PLANS AND CONSTRUCTION DETAILS, STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC, 2012 VERSION, REVISION B) AS ADOPTED BY THE CITY OF SPARKS AND THE STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION (SDPWC), NEVADA ADMINISTRATIVE CODE, AND SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER. ALL SPECIFICATIONS REFERENCED HEREIN REFER TO THE PROJECT SPECIFICATION SECTION UNLESS INDICATED OTHERWISE. WHERE CONFLICTS EXIST BETWEEN SPECIFICATIONS, CONTRACTOR SHALL ADHERE TO THE STRICTER SPECIFICATION WITH APPROVAL OF THE OWNER AND OWNER REPRESENTATIVE.
- THE CONTRACTOR SHALL CALL THE CITY OF SPARKS PUBLIC WORKS FORTY-EIGHT (48) HOURS PRIOR TO THE START OF CONSTRUCTION.
- MODIFICATIONS TO THE APPROVED PLANS REQUIRE REVIEW AND APPROVAL BY THE OWNER & ENGINEER. WORK PERFORMED WITHOUT WRITTEN APPROVAL WILL REQUIRE REMOVAL AT THE CONTRACTOR'S EXPENSE.
- THE APPROVED PLANS, PERMITS AND INSPECTION RECORDS MUST BE ON THE JOBSITE AT ALL TIMES.
- OUTSIDE OF AN UNFORESEEN CIRCUMSTANCE, SEWER MAIN SHUTDOWNS AND INTERRUPTION OF SERVICE IS NOT PERMITTED UNLESS APPROVED BY OWNER AND ENGINEER WITH PROPER NOTIFICATIONS PROVIDED. OWNER APPROVAL IS REQUIRED 48 HOURS PRIOR TO NOTIFICATION OF CUSTOMERS. RESIDENTIAL CUSTOMERS SHALL RECEIVE 48 HOURS WRITTEN NOTICE. THE OWNER IS RESPONSIBLE FOR THE NOTIFICATION WHEN WORK IS PERFORMED BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE IN ALL OTHER CASES. A LIST SHALL BE KEPT BY THE RESPONSIBLE PARTY LISTING THE DATE, TIME, AND ADDRESS OF ALL PERSONS NOTIFIED. THE CONTRACTOR WILL BE SUBJECT TO DAMAGE CLAIMS SHOULD THEY FAIL TO NOTIFY CUSTOMERS OR MAINTAIN DOCUMENTATION OF NOTIFICATION OF CUSTOMERS. THE CONTRACTOR SHALL NOT OPERATE ANY EXISTING WATER VALVES WITHOUT AUTHORIZATION OF THE UTILITY OWNER.
- CONTRACTOR SHALL PURSUE WORK IN A CONTINUOUS AND DILIGENT MANNER CONFORMING TO ALL PERTINENT SAFETY REGULATIONS TO ENSURE A TIMELY COMPLETION OF THE PROJECT.
- ALL CONSTRUCTION SHALL BE CLOSELY COORDINATED WITH THE OWNER SO THAT THE QUALITY OF WORK CAN BE CHECKED FOR APPROVAL.
- 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. CONTRACTOR SHALL STORE/CONTAIN, HANDLE AND TRANSPORT HAZARDOUS OR FLAMMABLE MATERIALS TO MINIMIZE THE POTENTIAL FOR SPILLS, FIRES OR EXPLOSIONS. STORAGE/CONTAINMENT, HANDLING AND TRANSPORT OF HAZARDOUS OR FLAMMABLE MATERIALS SHALL BE IN ACCORDANCE WITH LOCAL, STATE OR FEDERAL REQUIREMENTS.
- CONTRACTOR SHALL MAINTAIN AND OPERATE EQUIPMENT IN A MANNER TO MINIMIZE THE POTENTIAL FOR SPILLS. SPILLS OF HAZARDOUS OR FLAMMABLE MATERIALS SHALL BE IMMEDIATELY REPORTED TO THE OWNER OR OWNER REPRESENTATIVE.
- CONTRACTOR SHALL OPERATE VEHICLES IN ACCORDANCE WITH STATE AND LOCAL REQUIREMENTS. VEHICLE AND EQUIPMENT OPERATORS SHALL BE PROPERLY LICENSED AND TRAINED.
- VEHICLE ACCIDENTS, INJURIES, SPILLS OR OTHER INCIDENTS SHALL BE IMMEDIATELY REPORTED TO THE OWNER OR OWNER REPRESENTATIVE.
- ROAD SHOULDERS MAY NOT BE UTILIZED FOR OVERNIGHT EQUIPMENT AND MATERIALS STORAGE, BUT MAY BE USED FOR THE APPLICABLE SECTION OF EACH DAY'S WORK. CONTRACTOR SHALL INQUIRE WITH THE CITY OF SPARKS FOR STAGING AREA. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SECURITY OF ALL EQUIPMENT AND MATERIALS. CONTRACTOR MAY OBTAIN PERMISSIONS TO STAGE AT OTHER LOCATIONS ON OWN ACCORD.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL EXISTING SURVEY MONUMENTS AND SHALL REPLACE ANY MONUMENTS OBLITERATED OR DAMAGED DURING CONSTRUCTION AT OWN EXPENSE, REPLACEMENT SHALL BE PERFORMED BY A LICENSED PROFESSIONAL LAND SURVEYOR.
- 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 APPLICABLE BID ITEM.
- THE CONTRACTOR SHALL SUBMIT SUBMITTALS OF ALL MATERIALS TO BE USED ON THE SITE TO INCLUDE, BUT NOT BE LIMITED TO, CIPP PRODUCTS PER SPECIFICATION SECTIONS 306D AND 306E TO THE PROJECT ENGINEER FOR APPROVAL PRIOR TO THE MANUFACTURER OR USE OF SUCH ITEMS.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VISIT AND MAKE OWN INTERPRETATIONS WITH REGARD TO MATERIALS, MEANS AND METHODS, AND EQUIPMENT NECESSARY TO PERFORM THE WORK REQUIRED FOR THIS PROJECT PRIOR TO BIDDING AND ORDERING MATERIALS.
- ANY HAZARDOUS MATERIALS COLLECTED SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE HAZARDOUS MATERIALS LAWS AND REGULATIONS.
- CONTRACTOR SHALL EXAMINE THE PROJECT WORK AREAS PRIOR TO BIDDING TO SATISFY HIMSELF AS TO THE NATURE AND EXTENT OF EXISTING SITE CONDITIONS THAT WILL BE ENCOUNTERED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY, AND NOT BE LIMITED TO NORMAL WORKING HOURS AND SUBJECT TO THE SPECIAL PROVISIONS OF THE CONTRACT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXCAVATING AND SHORING PROCEDURES AND CONFORM TO THE LATEST O.S.H.A. REQUIREMENTS.
- THE CONTRACTOR SHALL OBTAIN AND PAY FOR ANY OTHER NECESSARY PERMITS AND FEES REQUIRED PRIOR TO BEGINNING WORK.
- PROJECT BEARINGS IS BASED ON NEVADA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983/1994, HIGH ACCURACY REFERENCE NETWORK (NAD 83/94-HARN). ALL DIMENSIONS SHOWN ARE GRID DISTANCES. COMBINED GRID-TO-GROUND FACTOR=1.000197939. NO SURVEY FIELDWORK WAS PERFORMED FOR THIS PROJECT.
- ALL SANITARY SEWER MANHOLE RIM AND INVERT (FROM CENTER OF MANHOLE) ELEVATIONS WERE RETRIEVED FROM THE CITY OF SPARKS GEOGRAPHIC INFORMATION SYSTEM'S SPARKS SEWER CONDITION ASSESSMENT APP DATED OCTOBER 2023. NO SURVEY FIELDWORK WAS PERFORMED FOR THIS PROJECT.

EROSION CONTROL NOTES

- BEST MANAGEMENT PRACTICES SHALL BE IN PLACE FOR DUST CONTROL, SEDIMENT CONTROL, AND EROSION CONTROL DURING CONSTRUCTION.
- THE CONTRACTOR SHALL INCORPORATE ADEQUATE DRAINAGE PROCEDURES DURING THE CONSTRUCTION PROCESS TO ELIMINATE EXCESSIVE EROSION OR PONDING AND TO PROTECT ADJACENT IMPROVEMENTS AND PROPERTIES FROM AN INFLUX OF RUNOFF OR SEDIMENT.
- SURPLUS OR WASTE MATERIAL AND/OR FILL OF EARTHEN MATERIAL SHALL NOT BE PLACED IN DRAINAGE WAYS.
- ALL LOOSE PILES OF SOIL, SILT, CLAY, SAND, DEBRIS OR OTHER EARTHEN MATERIALS MUST BE PROTECTED IN A REASONABLE MANNER TO PREVENT THE DISCHARGE OF THESE MATERIALS TO WATERS OF THE STATE. THESE MATERIALS MUST BE REMOVED FROM THE SITE AT THE END OF EACH WORKING DAY.
- IF NECESSARY, CONTRACTOR SHALL ENHANCE EROSION CONTROL MEASURES IN THE FIELD.
- CONTRACTOR SHALL INSTALL SEDIMENT CONTROL DEVICES PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL REMOVE ALL GRADING AND CONSTRUCTION DEBRIS AT THE END OF EACH WORKING DAY.
- DEWATERING EFFLUENT SHALL BE TREATED PRIOR TO DISCHARGE BY MEANS OF DEWATERING STRUCTURES (e.g. STRAW BALE FILTER/SILT FENCE PIT, GRAVEL FILTER, ETC.).

DUST CONTROL NOTES:

- CONTRACTOR IS RESPONSIBLE FOR PREVENTING CONTROLLABLE FUGITIVE DUST FROM THE PROJECT'S DISTURBED AREAS TO BECOME AIRBORNE ON A 7-DAY/WEEK, 24-HOUR/DAY BASIS FROM COMMENCEMENT OF THE PROJECT TO FINAL COMPLETION.
- REGULAR VACUUM OR SWEEPING OF PAVED SURFACES WHERE CONSTRUCTION IS OCCURRING WILL BE PERFORMED AT LEAST DAILY AND MORE OFTEN IF NECESSARY TO REMOVE DIRT OR WASTE RESULTING FROM THE CONSTRUCTION.
- STOCKPILED EARTHEN MATERIALS SHALL BE REMOVED FROM THE SITE AT THE END OF EACH WORKING DAY.
- ALL TRUCKS IMPORTING OR EXPORTING DIRT, ROCK OR OTHER FILL MATERIALS SHALL PREVENT SPILLAGE OR LOSS OF BULK MATERIAL FROM HOLES OR OTHER OPENINGS IN THE CARGO COMPARTMENT FLOOR, SIDES, AND/OR TAILGATE. ALL HAUL TRUCKS MUST BE COVERED WITH A TARP OR OTHER SUITABLE CLOSURE; OR BULK MATERIALS MUST CONTAIN ENOUGH MOISTURE AND/OR DUST SUPPRESSANT TO PREVENT FUGITIVE DUST EMISSIONS DURING TRANSPORT; OR LOAD ALL TRUCKS SUCH THAT THE FREEBOARD IS NOT LESS THAN SIX (6) INCHES.
- ALL PROJECT RELATED VEHICLES SHALL PARK ON EXISTING PAVED SURFACES. CONTRACTOR SHALL MINIMIZE CONSTRUCTION RELATED VEHICLE AND EQUIPMENT EMISSIONS DURING CONSTRUCTION BY SHUTTING OFF EQUIPMENT AND VEHICLES NOT IN USE. IDLING OF DIESEL ENGINES SHALL BE KEPT AT A MINIMUM SO FAR AS PRACTICAL.

ACCESS/TRAFFIC CONTROL NOTES:

- PROVIDE AND MAINTAIN ALL NECESSARY TRAFFIC CONTROL, THROUGHOUT CONSTRUCTION, IN ACCORDANCE WITH APPLICABLE PARTS OF SSPWC SECTION 332 AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (MUTCD, LATEST EDITION).
- THE CONTRACTOR SHALL MAINTAIN TRAFFIC CONTROL IN STRICT ACCORDANCE WITH PLANS AND SPECIFICATIONS AT ALL TIMES. ROADS WITHIN THE PROJECT MAY HAVE LIMITED SIGHT DISTANCE.
- STREETS SHALL REMAIN OPEN TO LOCAL TRAFFIC AND ONE-WAY TRAFFIC SHALL BE PROVIDED AT ALL TIMES.
- RESIDENCES SHALL HAVE ACCESS TO/FROM DRIVEWAY AT ALL TIMES. CONTRACTOR SHALL PROVIDE COORDINATION FOR ACCESS (TRENCH PLATE, MOVE EQUIPMENT, ETC.) WITH RESIDENCES.
- TRAFFIC DELAYS SHALL BE HELD TO 10 MINUTES OR LESS.
- CONTRACTOR SHALL BECOME FAMILIAR WITH THE SITE AND ACCESS TO THE SITE PRIOR TO BID.
- CONTRACTOR SHALL DETERMINE BEST METHODS FOR ACCESS WHEN OFF HAULING WASTE, DELIVERY OF MATERIALS, AND DAY TO DAY ACTIVITIES.
- TRAFFIC CONTROL PLANS TO BE SUBMITTED TO CITY OF SPARKS FOR REVIEW. SUBMIT TRAFFIC CONTROL PLANS TO:

NAME: ASHLEY ELSON
TEL: (775)353-2375
EMAIL: AELSON@CITYOFSPARKS.US
OFFICE LOCATION: SPARKS CITY HALL, 431 PRATER WAY, SPARKS, NV 89431
- THE HOURS OF WORK SHALL BE FROM 7:00 AM TO 7:00 PM MONDAY THROUGH FRIDAY; WEEKEND AND HOLIDAY WORK UPON APPROVAL BY CITY PROJECT COORDINATOR.
- THE WORK OF SETTING UP AND TEARING DOWN TRAFFIC CONTROL DEVICES AS REQUIRED SHALL BE COMPLETED EACH DAY WITHIN THE HOURS SPECIFIED ON THE PERMIT AND/OR ON THE APPROVED TRAFFIC CONTROL PLAN. ALL TRAFFIC CONTROL DEVICES SHALL BE COMPLETELY REMOVED FROM THE ROADWAY AT THE END OF EACH WORKING DAY.

BYPASS PUMPING NOTES

- CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL CONSTRUCTION ACTIVITIES TO PROPERLY CONTROL AND DISPOSE OF RAW SEWAGE FROM EACH CONSTRUCTION SITE IN ACCORDANCE WITH APPLICABLE REGULATIONS AND LAWS FOR THE DURATION OF THE PROJECT. CONTRACTOR SHALL SUPPLY ALL NECESSARY EQUIPMENT AND WORK WITH SPARES TO MEET THIS REQUIREMENT.
- CONTRACTOR TO PROVIDE TEMPORARY CONNECTION TO NEW MAIN OR BYPASS PUMPING TO PROVIDE UNINTERRUPTED FLOW TO THE SYSTEM NOT BEING WORKED ON. SEWER TO BE COUPLED TO EXISTING AND FLOW REESTABLISHED AT END OF EACH DAY.
- REFER TO SPECIFICATION SECTION SECTION 306A – BYPASS PUMPING FOR ADDITIONAL REQUIREMENTS.

IN-SITU CONSTRUCTION GENERAL NOTES

- IDENTIFIED EXISTING SEWER MAINS AND LATERALS SHALL RECEIVE CURED-IN-PLACE PIPE (CIPP). REFER TO SPECIFICATION SECTION 306E FOR INFORMATION.
- CONTRACTOR TO PRE CLEAN AND VIDEO EXISTING CONDITIONS PRIOR TO CONSTRUCTION. REFER TO TECHNICAL SPECIFICATION SECTIONS 306B AND 306C, RESPECTIVELY, FOR INFORMATION.
- ALL CIPP SHALL HAVE A COLOR TELEVISION INSPECTION PRIOR TO ACCEPTANCE BY OWNER. REFER TO TECHNICAL SPECIFICATION SECTION 306C FOR INFORMATION.
- NOTE THAT MAIN AND LATERAL SIZES ARE SHOWN BASED ON BEST AVAILABLE INFORMATION. CONTRACTOR SHALL CONFIRM AND NOTIFY THE ENGINEER OF ANY SIGNIFICANT ALTERATIONS PRIOR TO PROCURING MATERIALS.

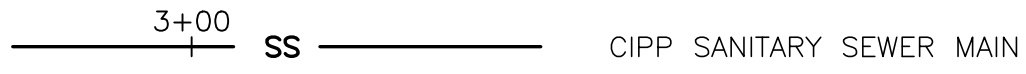
SEWER LATERAL NOTES

- CONTRACTOR SHALL VERIFY ALL LATERAL LOCATIONS DURING CONSTRUCTION. CONTRACTOR SHALL VERIFY THAT ALL SANITARY SEWER LATERALS ARE ACTIVE OR INACTIVE PRIOR TO THE INSTALLATION OF CIPP LINING.
- IF NO INDICATIONS OF FLOW ARE PRESENT THEN A PUSH TYPE CAMERA WITH VIDEO TAPE INSPECTION CAPABILITY, DYE TESTING, OR SURFACE LOCATE CAPABILITY SHALL BE USED TO CONFIRM IF LATERAL IS ACTIVE OR INACTIVE. EACH LATERAL SHALL BE CONSIDERED ACTIVE UNLESS IT CAN BE POSITIVELY DETERMINED TO BE INACTIVE. THE CONTRACTOR SHALL MAINTAIN A LOG OF ALL INACTIVE AND ACTIVE LATERALS PRIOR TO RECONNECTION OR ABANDONMENT PER THE SPECIFICATIONS.
- CONTRACTOR SHALL CONFIRM EACH BUILDING ON EACH STREET HAS AN ACTIVE SANITARY SEWER LATERAL THAT IS CONNECTED TO A SEWER MAIN. IF NO LATERAL CAN BE FOUND, CONTRACTOR SHALL EMPLOY THE USE OF A LOCATOR DOWN AN EXISTING PLUMBING VENT, CLEANOUT OR BUILDING FIXTURE WITHIN THE BUILDING TO LOCATE AND PROVIDE CONNECTION TO THE SEWER MAIN.
- CONTRACTOR SHALL VERIFY LATERAL SIZES (2", 3", 4" OR 6") PRIOR TO LATERAL REINSTATEMENT AND MATCH EXISTING.

EXISTING LEGEND:



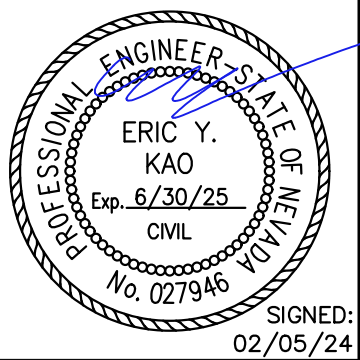
PROPOSED LEGEND:



ABBREVIATIONS

ACP	ASBESTOS CEMENT PIPE
CIPP	CURED-IN-PLACE PIPE
FGP	FIBERGLASS PIPE
IE	INVERT ELEVATION
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
NDOT	NEVADA DEPARTMENT OF TRANSPORTATION
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
SSPWC	STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION
SSL	SANITARY SEWER LINE
SSMH	SANITARY SEWER MANHOLE
SSN	SANITARY SEWER NUMBER
STA	STATION
UNK	UNKNOWN
VCP	VITRIFIED CLAY PIPE

REV	DATE	DESCRIPTION



DOWL
www.dowl.com
5610 Longley Lane
Reno, Nevada 89511
775-851-4788

CITY OF SPARKS
SANITARY SEWER CIPP LINING - FISCAL 2024
GENERAL SHEETS
GENERAL NOTES AND LEGEND

PROJECT	30152
DATE	2/2024
DESIGNED	EYK
DRAWN	PB, JL, GT
© DOWL 2024	

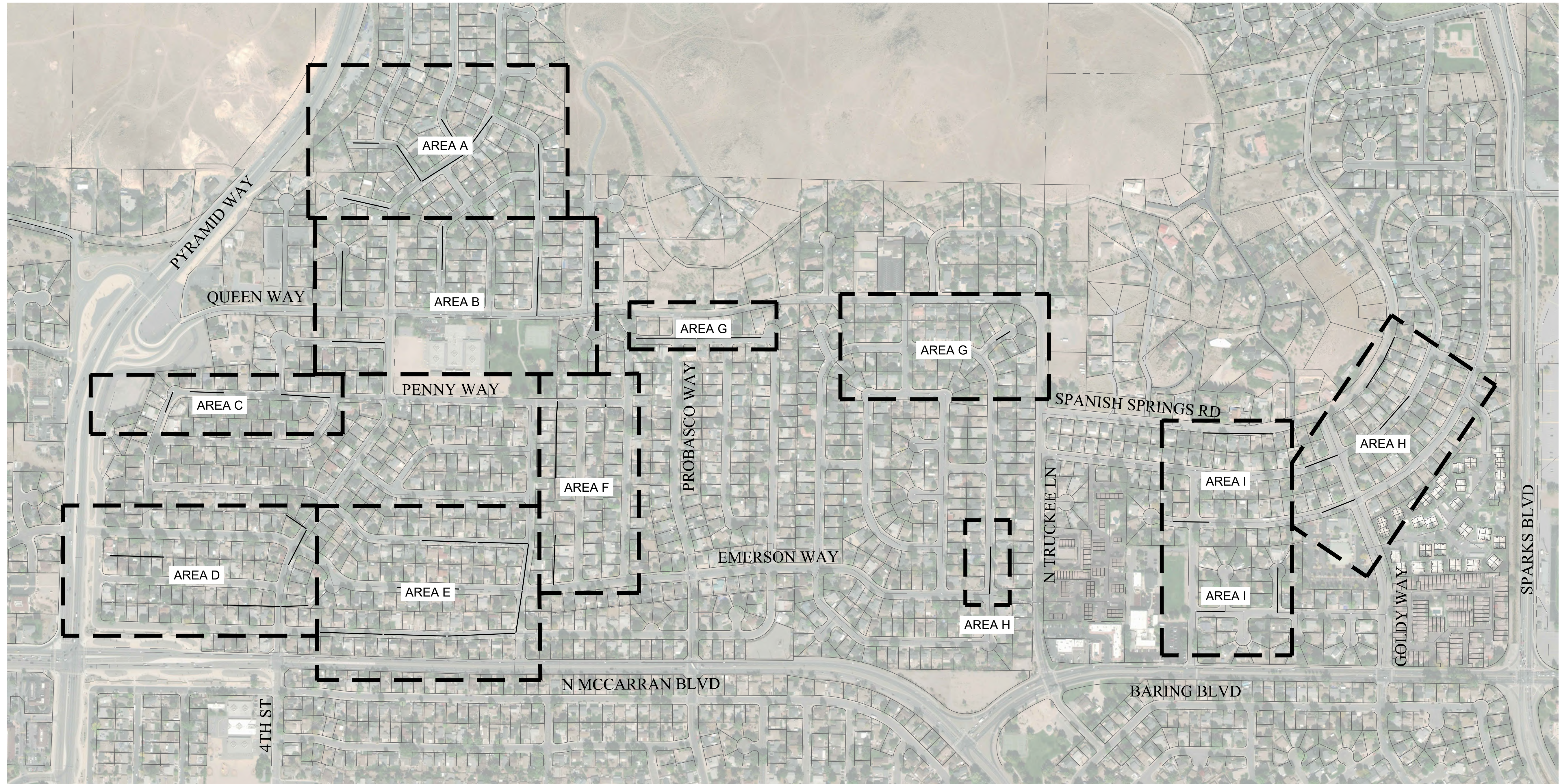
SHEET
G2
2 OF 25

BID SET

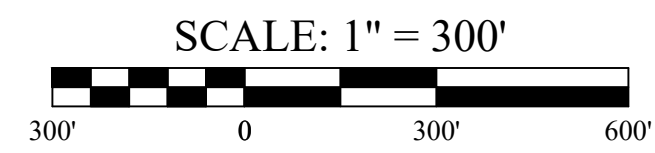


F:\63\30152-01\26Plots\26_6 sheet files\30152-01_G1-G3_GENERAL.dwg PLOT DATE 2024-2-5 16:30 SAVED DATE 2024-02-05 13:55 USER: ekao

F:\63\30152-01\26Plots\26_6 sheet files\30152-01_C01.dwg PLOT DATE 2024-2-5 16:31 SAVED DATE 2024-02-05 14:38 USER: ekao

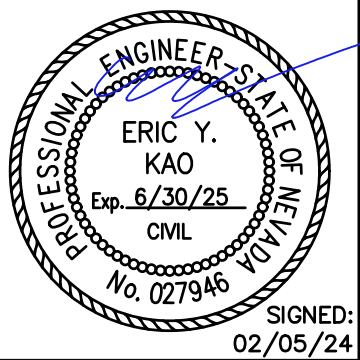


REED HS ZONE INDEX MAP



SANITARY SEWER LINE (SSL) INDEX TABLE								
AREA A	AREA B	AREA C	AREA D	AREA E	AREA F	AREA G	AREA H	AREA I
SSL000921	SSL003317	SSL003368	SSL000881	SSL000895	SSL000705	SSL000673	SSL001405	SSL001401
SSL003286	SSL003334	SSL003376	SSL000882	SSL000896	SSL000711	SSL000674	SSL003387	SSL003430
SSL003288	SSL003345	SSL003380	SSL000888	SSL003437	SSL000712	SSL003353	SSL003406	SSL003482
SSL003297	SSL003356		SSL000894	SSL003439	SSL000714		SSL003426	SSL003484
SSL003298			SSL003449	SSL003461			SSL003471	
SSL003300				SSL003462				
SSL003304				SSL003493				
				SSL003495				

REV	DATE	DESCRIPTION	BY



DOWL
 WWW.DOWL.COM
 5510 Longley Lane
 Reno, Nevada 89511
 775-851-4788

CITY OF SPARKS
 SANITARY SEWER CIPP LINING - FISCAL 2024
 REED HS ZONE
 INDEX MAP

PROJECT	30152
DATE	2/2024
DESIGNED	EYK
DRAWN	PB, JL, GT

© DOWL 2024
 SHEET
C1.0
 3 OF 25

BID SET

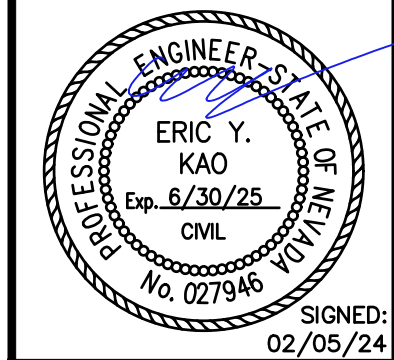


F:\63\30152-01\26Plots\26_6 sheet files\30152-01 C01.dwg PLOT DATE 2024-2-5 16:31 SAVED DATE 2024-02-05 14:38 USER: ekao



REED HS ZONE - AREA A

REV	DATE	DESCRIPTION



DOWL
 WWW.DOWL.COM
 5510 Longley Lane
 Reno, Nevada 89511
 775-851-4788

CITY OF SPARKS
 SANITARY SEWER CIPP LINING - FISCAL 2024
 REED HS ZONE
 AREA A

PROJECT	30152
DATE	2/2024
DESIGNED	EYK
DRAWN	PB, JL, GT

© DOWL 2024
 SHEET
C1.1
 4 OF 25

BID SET



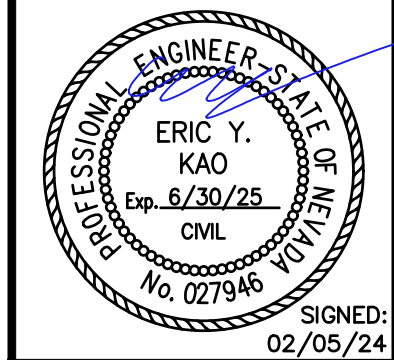
J:\63\30152-01\26Plots\26_6 sheet files\30152-01_C01.dwg PLOT DATE 2024-2-5 16:31 SAVED DATE 2024-02-05 14:38 USER: ekao



REED HS ZONE - AREA B



REV	DATE	DESCRIPTION	BY



DOWL
www.dowl.com
 5510 Longley Lane
 Reno, Nevada 89511
 775-851-4788

CITY OF SPARKS
 SANITARY SEWER CIPP LINING - FISCAL 2024
 REED HS ZONE
 AREA B

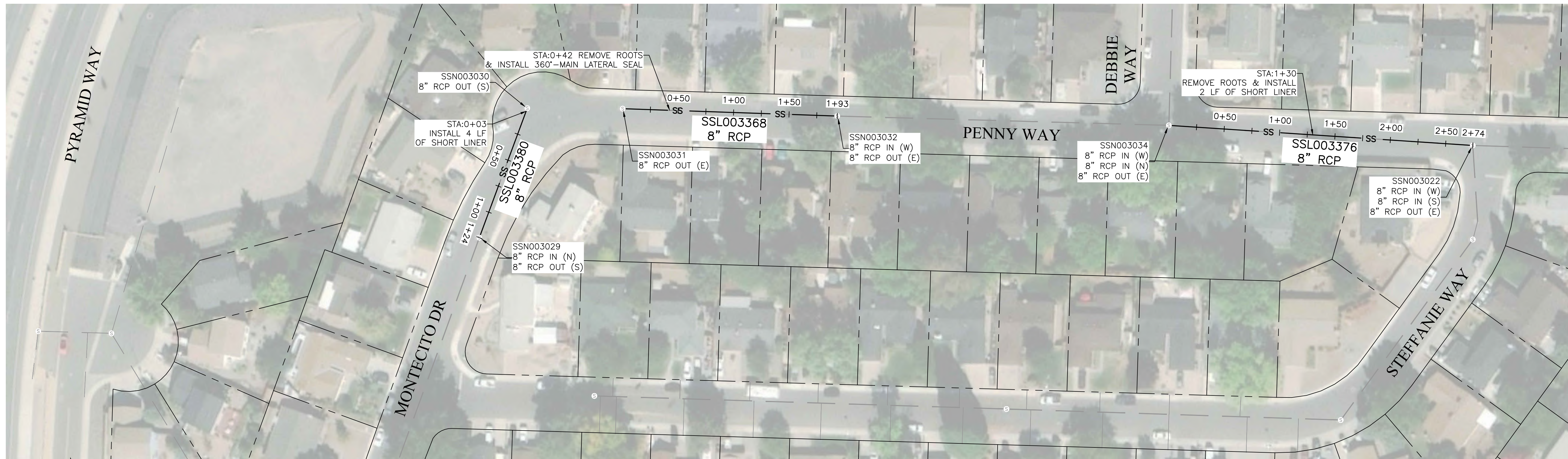
PROJECT	30152
DATE	2/2024
DESIGNED	EYK
DRAWN	PB, JL, GT

© DOWL 2024
 SHEET
C1.2
 5 OF 25

BID SET



F:\63\30152-01\26Plots\26_6 sheet files\30152-01_C01.dwg PLOT DATE 2024-2-5 16:31 SAVED DATE 2024-02-05 14:38 USER: ekao



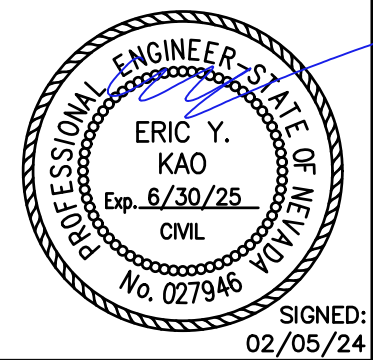
REED HS ZONE - AREA C



BID SET



REV	DATE	DESCRIPTION	BY



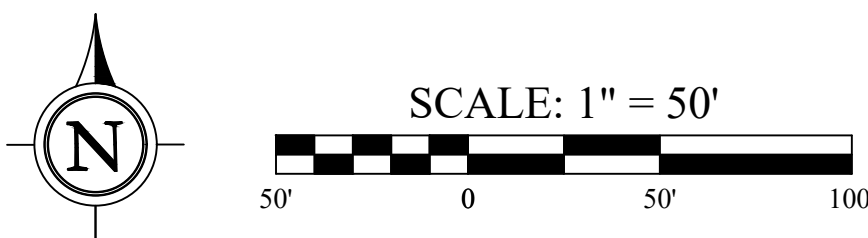
DOWL
www.dowl.com
 5510 Longley Lane
 Reno, Nevada 89511
 775-851-4788

CITY OF SPARKS
 SANITARY SEWER CIPP LINING - FISCAL 2024
 REED HS ZONE
 AREA C

PROJECT	30152
DATE	2/2024
DESIGNED	EYK
DRAWN	PB, JL, GT

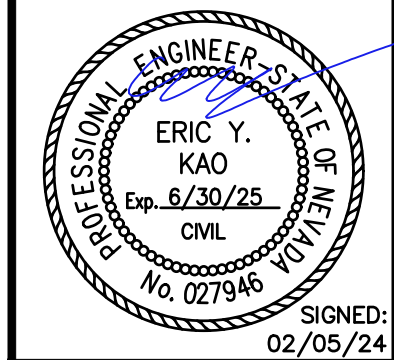
© DOWL 2024
 SHEET
C1.3
 6 OF 25

J:\63\30152-01\26Plots\26_6 sheet files\30152-01_C01.dwg PLOT DATE 2024-2-5 16:31 SAVED DATE 2024-02-05 14:38 USER: ekao



REED HS ZONE - AREA D

REV	DATE	DESCRIPTION	BY



DOWL
 WWW.DOWL.COM
 5510 Longley Lane
 Reno, Nevada 89511
 775-851-4788

CITY OF SPARKS
 SANITARY SEWER CIPP LINING - FISCAL 2024
 REED HS ZONE
 AREA D

PROJECT	30152
DATE	2/2024
DESIGNED	EYK
DRAWN	PB, JL, GT

SHEET
C1.4
 7 OF 25

BID SET



F:\63\30152-01\26Plots\26_6 sheet files\30152-01 C01.dwg PLOT DATE 2024-2-5 16:31 SAVED DATE 2024-02-05 14:38 USER: ekao

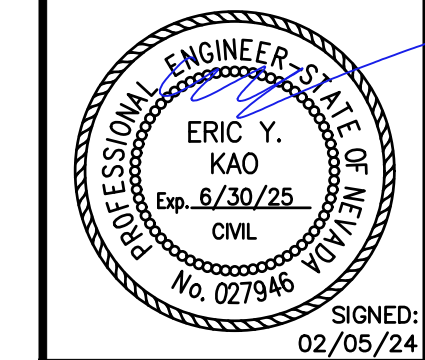


REED HS ZONE - AREA E

BID SET



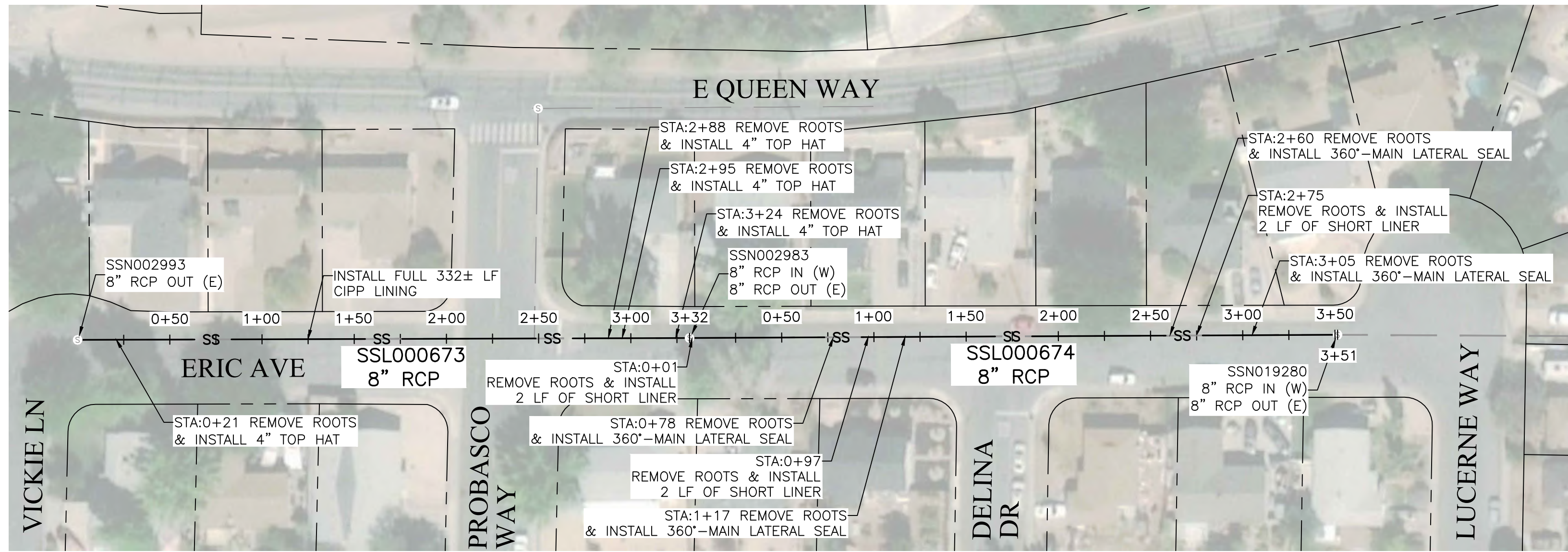
REV	DATE	DESCRIPTION



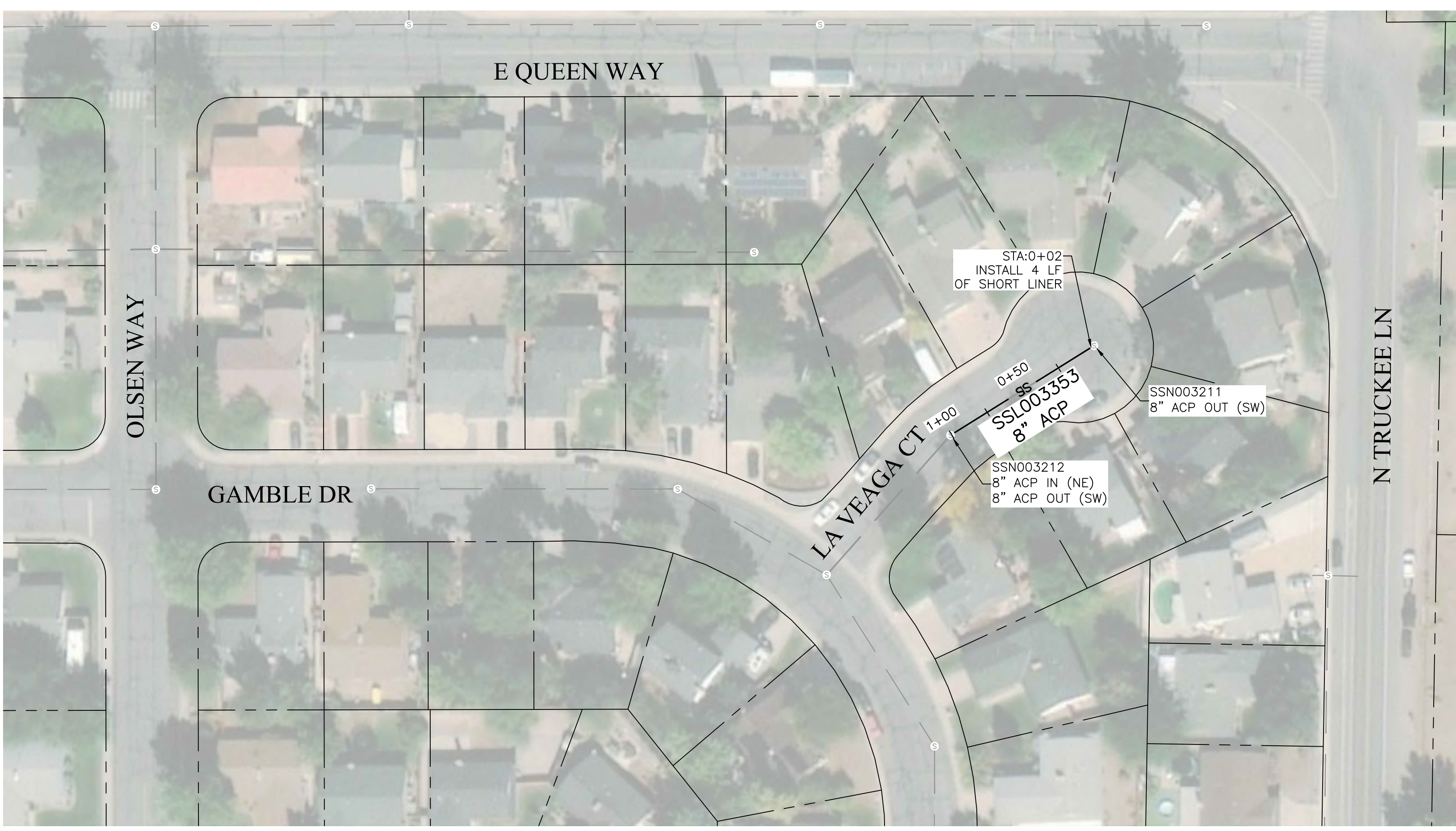
DOWL
 WWW.DOWL.COM
 5510 Longley Lane
 Reno, Nevada 89511
 775-851-4788

CITY OF SPARKS
 SANITARY SEWER CIPP LINING - FISCAL 2024
 REED HS ZONE
 AREA E

PROJECT	30152
DATE	2/2024
DESIGNED	EYK
DRAWN	PB, JL, GT
© DOWL 2024	
SHEET	
C1.5	
8 OF 25	

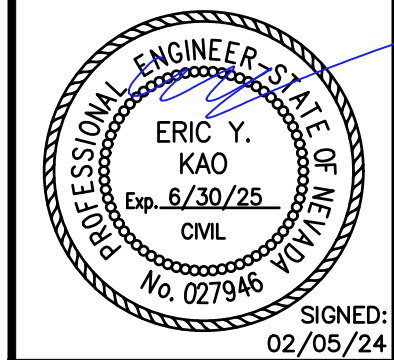


REED HS ZONE - AREA G



REED HS ZONE - AREA G

REV	DATE	DESCRIPTION	BY



DOWL
 WWW.DOWL.COM
 5510 Longley Lane
 Reno, Nevada 89511
 775-851-4788

CITY OF SPARKS
 SANITARY SEWER CIPP LINING - FISCAL 2024
 REED HS ZONE
 AREA G

PROJECT	30152
DATE	2/2024
DESIGNED	EYK
DRAWN	PB, JL, GT

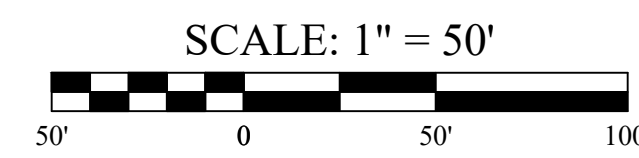
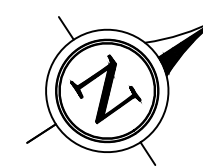
SHEET
C1.7
 10 OF 25

BID SET

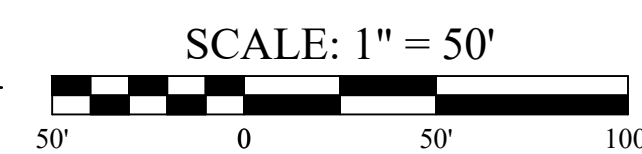
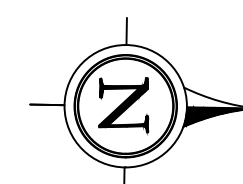
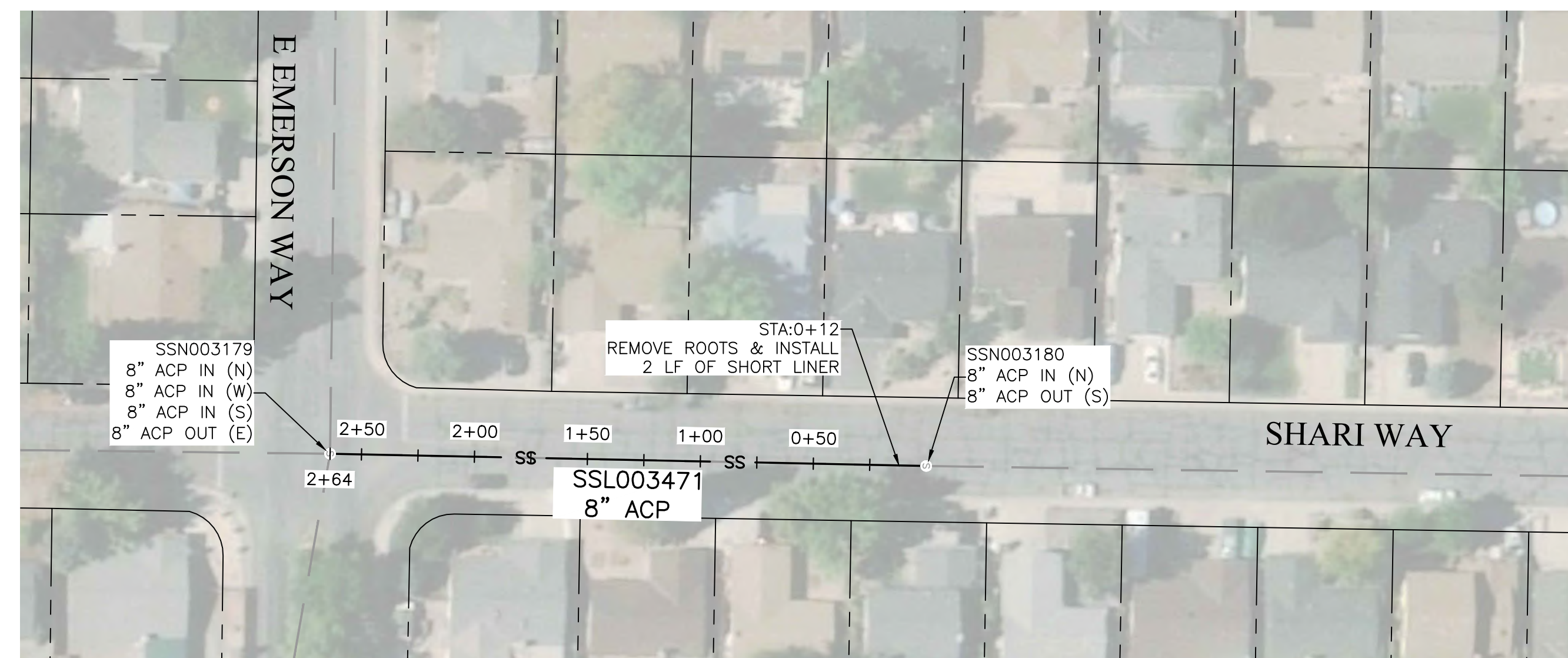


F:\63\30152-01\26Plots\26_6 sheet files\30152-01_C01.dwg PLOT DATE 2024-2-5 16:32 SAVED DATE 2024-02-05 14:38 USER: ekao

F:\63\30152-01\26Plots\26_6 sheet files\30152-01_C01.dwg PLOT DATE 2024-2-5 16:32 SAVED DATE 2024-02-05 14:38 USER: ekoo

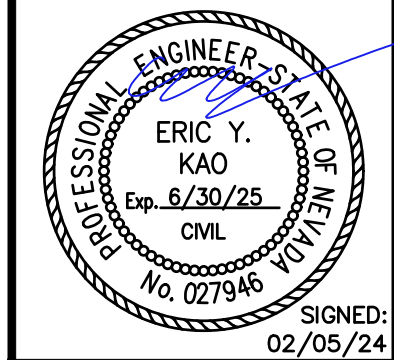


REED HS ZONE - AREA H



REED HS ZONE - AREA H

REV	DATE	DESCRIPTION



DOWL
 WWW.DOWL.COM
 5510 Longley Lane
 Reno, Nevada 89511
 775-851-4788

CITY OF SPARKS
 SANITARY SEWER CIPP LINING - FISCAL 2024
 REED HS ZONE
 AREA H

PROJECT	30152
DATE	2/2024
DESIGNED	EYK
DRAWN	PB, JL, GT

© DOWL 2024
 SHEET
C1.8
 11 OF 25

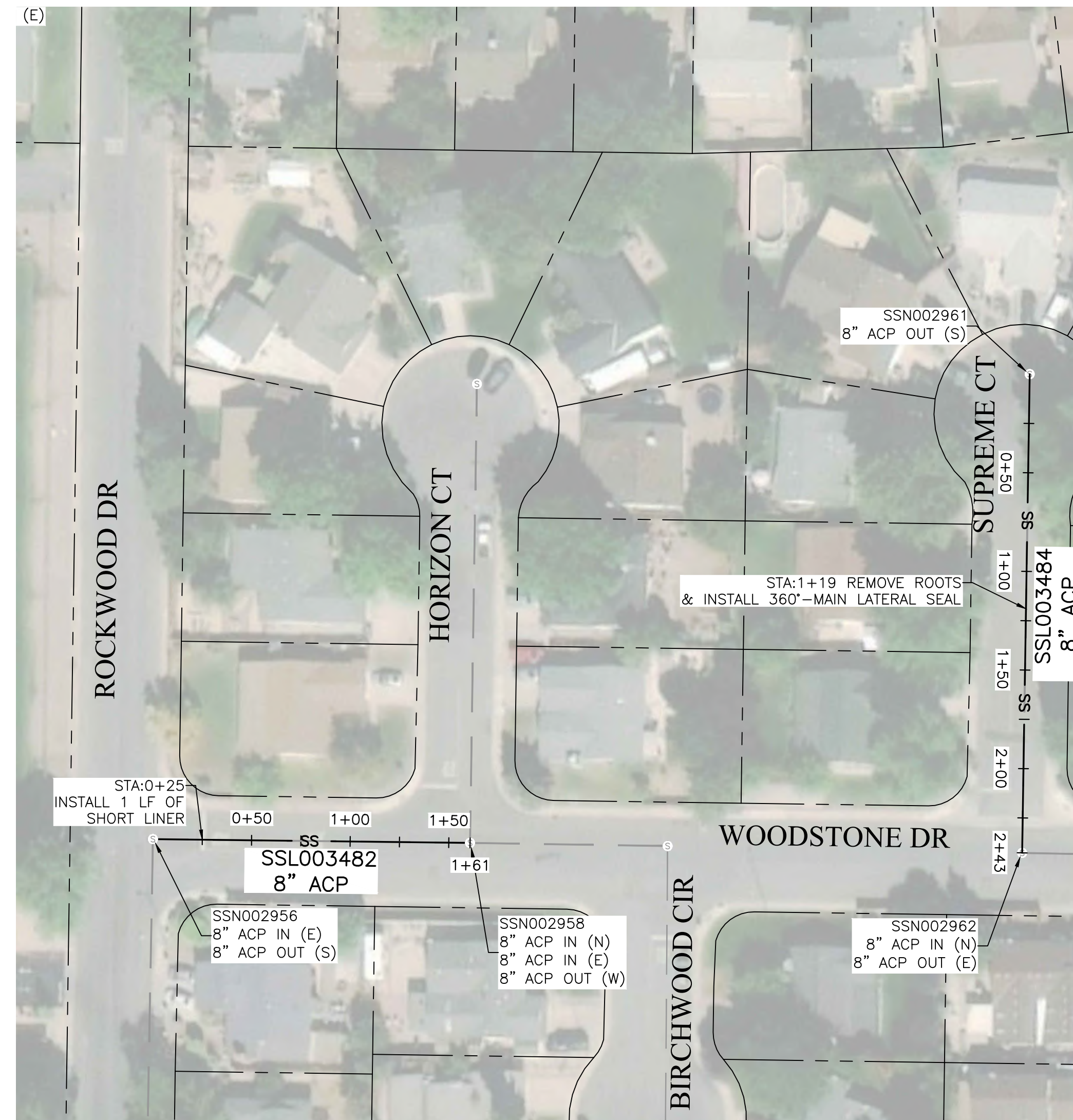
BID SET



F:\63\30152-01\26Plots\26_6 sheet files\30152-01_C01.dwg PLOT DATE 2024-2-5 16:32 SAVED DATE 2024-02-05 14:38 USER: ekoo

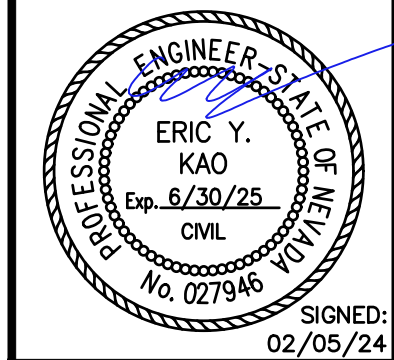


REED HS ZONE - AREA I



REED HS ZONE - AREA I

REV	DATE	DESCRIPTION



DOWL
www.dowl.com
5510 Longley Lane
Reno, Nevada 89511
775-851-4788

CITY OF SPARKS
SANITARY SEWER CIPP LINING - FISCAL 2024
REED HS ZONE
AREA I

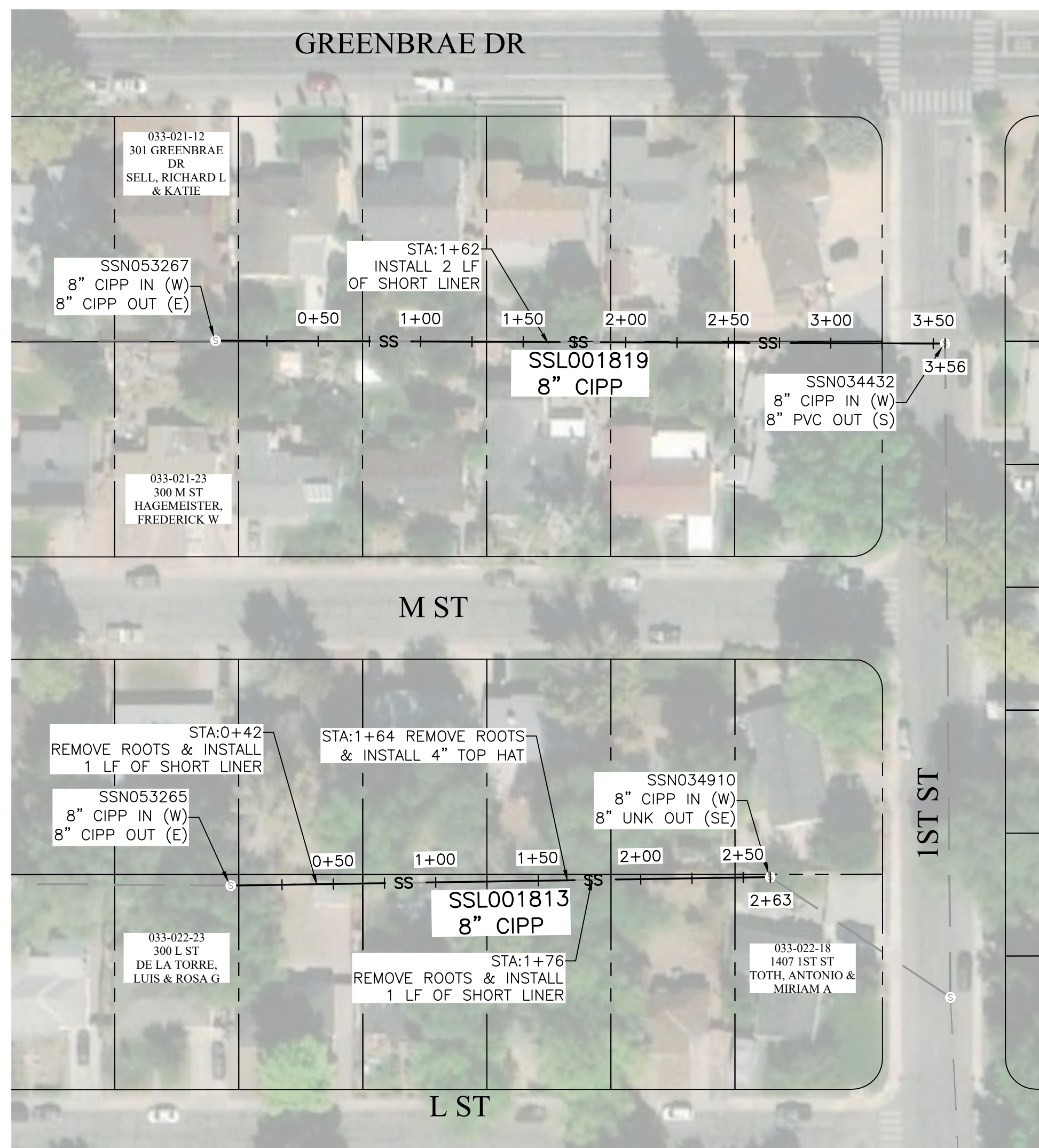
PROJECT	30152
DATE	2/2024
DESIGNED	EYK
DRAWN	PB, JL, GT

© DOWL 2024
SHEET
C1.9
12 of 25

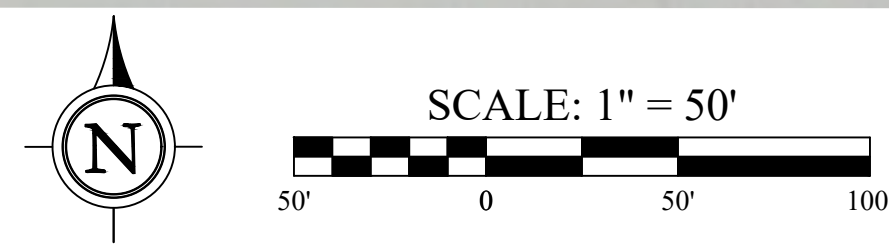
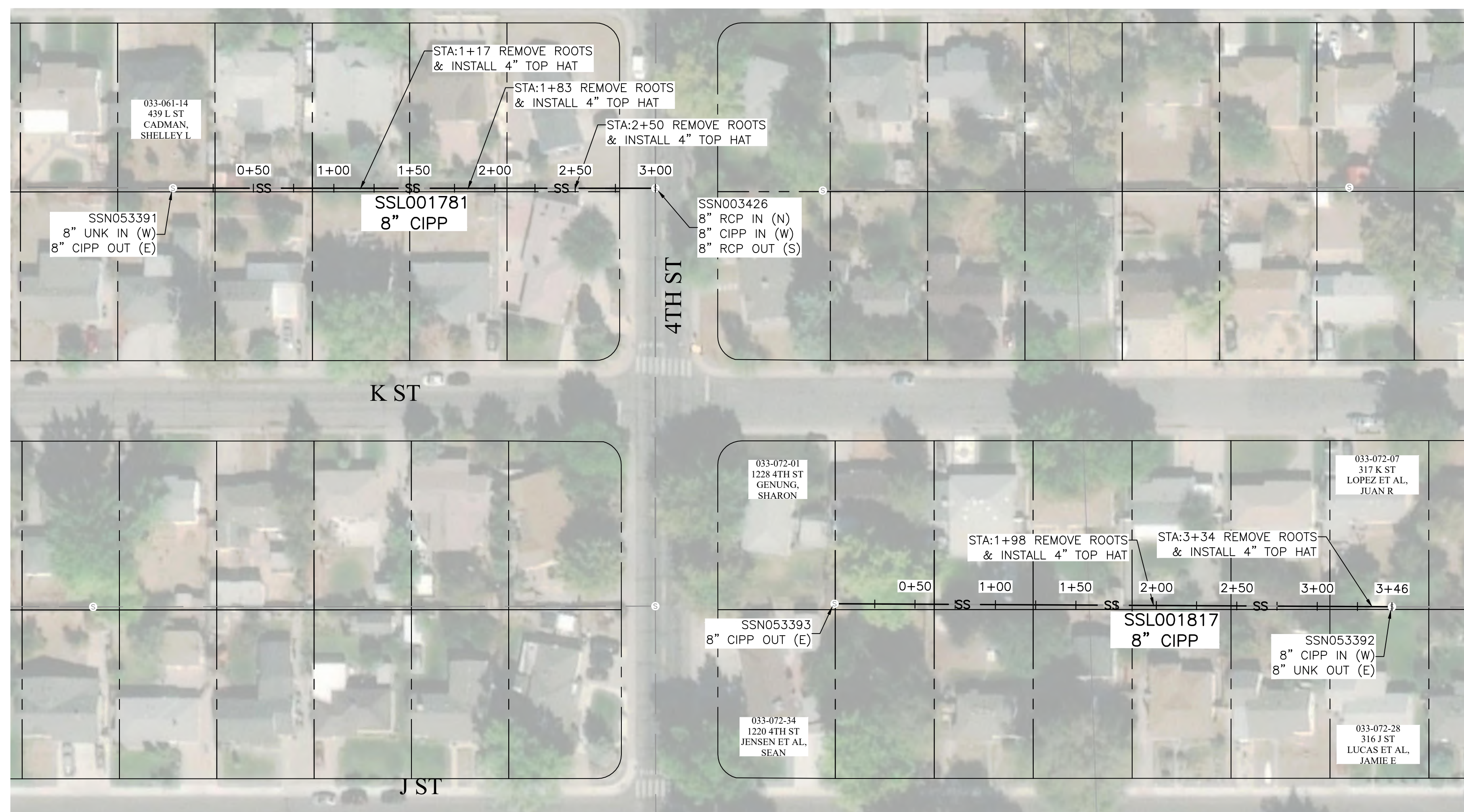
BID SET



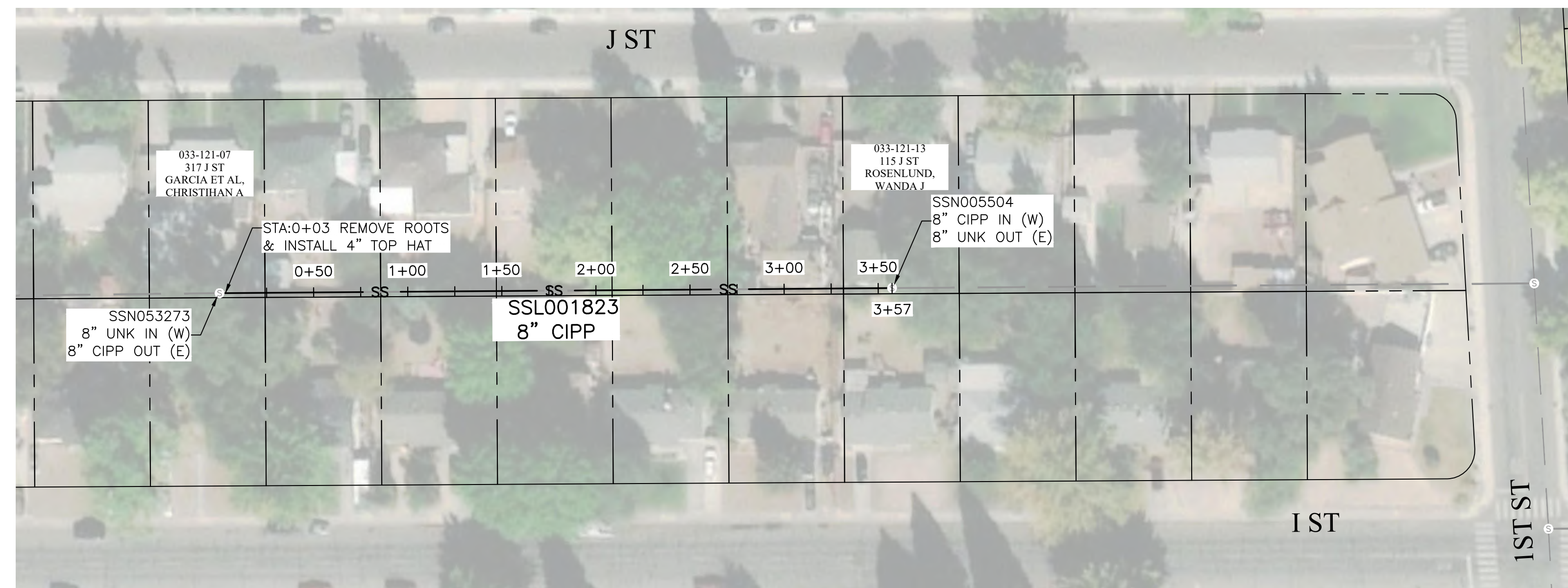
F:\63\30152-01\26Plots\26_6 sheet files\30152-01_C02.dwg PLOT DATE 2024-2-5 16:33 SAVED DATE 2023-11-10 11:34 USER: ekao



DILWORTH MS ZONE - AREA A

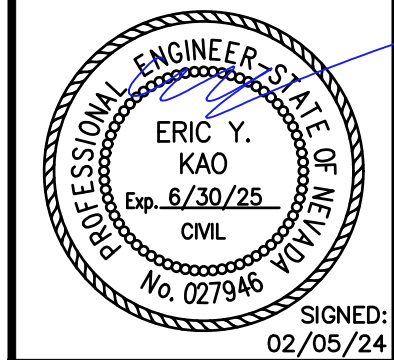


DILWORTH MS ZONE - AREA A



DILWORTH MS ZONE - AREA A

REV	DATE	DESCRIPTION



DOWL
 WWW.DOWL.COM
 5510 Longley Lane
 Reno, Nevada 89511
 775-851-4788

CITY OF SPARKS
 SANITARY SEWER CIPP LINING - FISCAL 2024
 DILWORTH MS ZONE
 AREA A

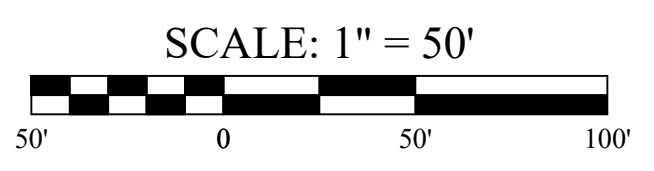
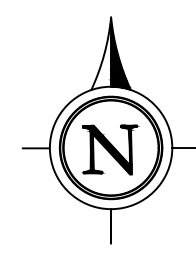
PROJECT	30152
DATE	2/2024
DESIGNED	EYK
DRAWN	PB, JL, GT

SHEET
C2.1
 14 OF 25

BID SET



F:\63\30152-01\26Plots\26_6 sheet files\30152-01_C02.dwg PLOT DATE 2024-2-5 16:33 SAVED DATE 2023-11-10 11:34 USER: ekao

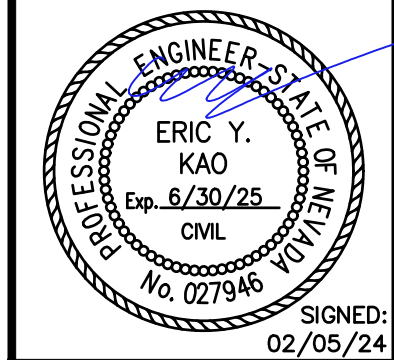


DILWORTH MS ZONE - AREA B

BID SET



REV	DATE	DESCRIPTION



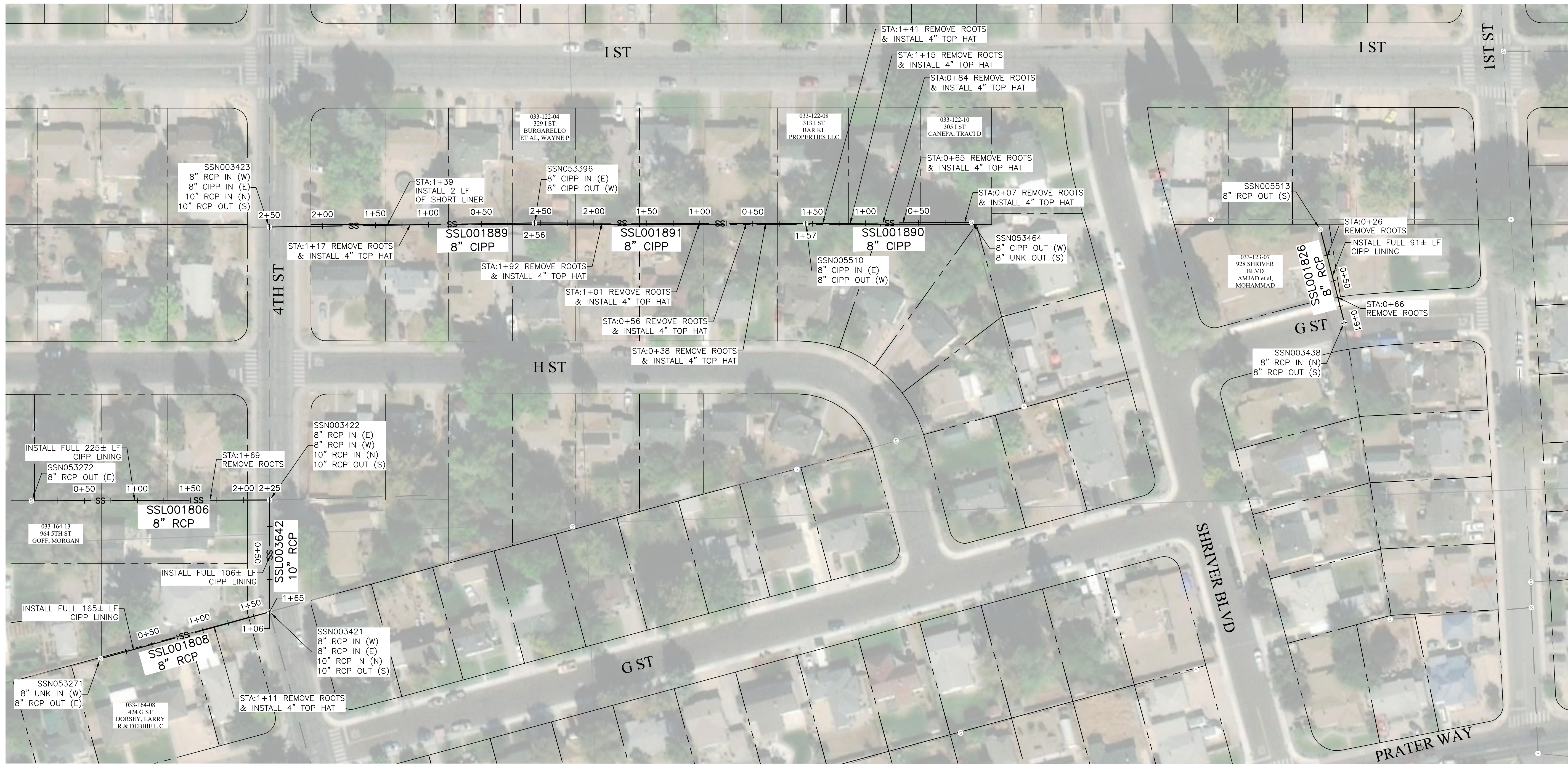
DOWL
 WWW.DOWL.COM
 5510 Longley Lane
 Reno, Nevada 89511
 775-851-4788

CITY OF SPARKS
 SANITARY SEWER CIPP LINING - FISCAL 2024
 DILWORTH MS ZONE
 AREA B

PROJECT	30152
DATE	2/2024
DESIGNED	EYK
DRAWN	PB, JL, GT

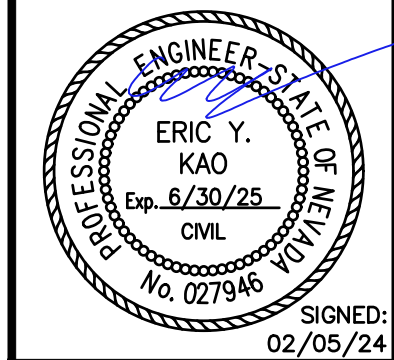
SHEET
C2.2
 15 OF 25

F:\63\30152-01\26Plots\26_6 sheet files\30152-01_C02.dwg PLOT DATE 2024-2-5 16:33 SAVED DATE 2023-11-10 11:34 USER: ekao

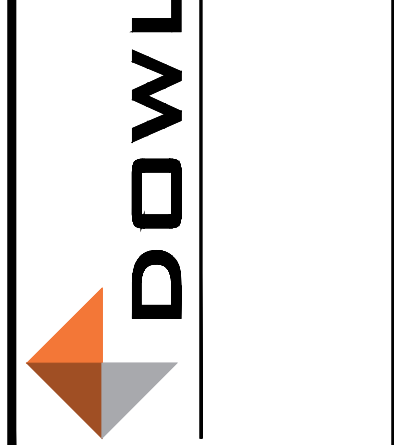


DILWORTH MS ZONE - AREA C

REV	DATE	DESCRIPTION



SIGNED: 02/05/24
www.dowl.com
5510 Longley Lane
Reno, Nevada 89511
775-851-4788



CITY OF SPARKS
SANITARY SEWER CIPP LINING - FISCAL 2024
DILWORTH MS ZONE
AREA C

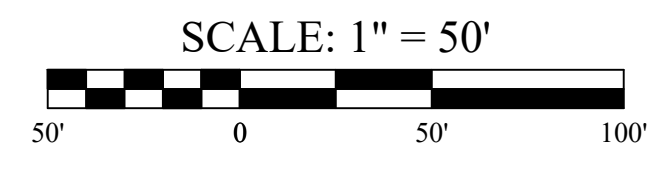
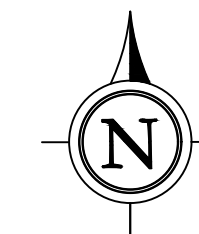
PROJECT	30152
DATE	2/2024
DESIGNED	EYK
DRAWN	PB, JL, GT

SHEET
C2.3
16 OF 25

BID SET



F:\63\30152-01\26Plots\26_6 sheet files\30152-01_C02.dwg PLOT DATE 2024-2-5 16:34 SAVED DATE 2023-11-10 11:34 USER: ekao

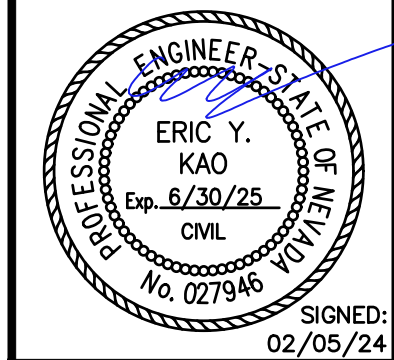


DILWORTH MS ZONE - AREA D

BID SET



REV	DATE	DESCRIPTION



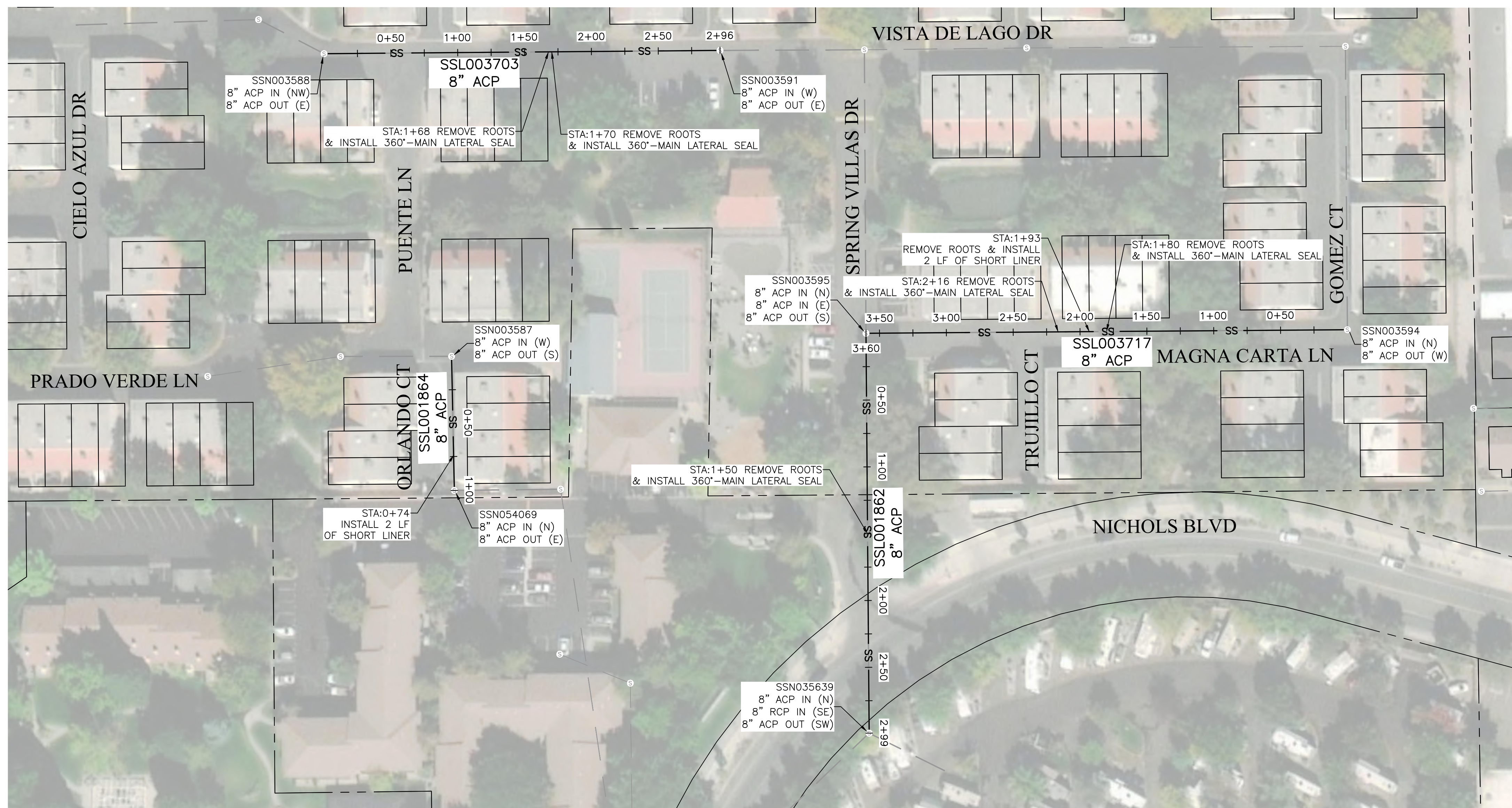
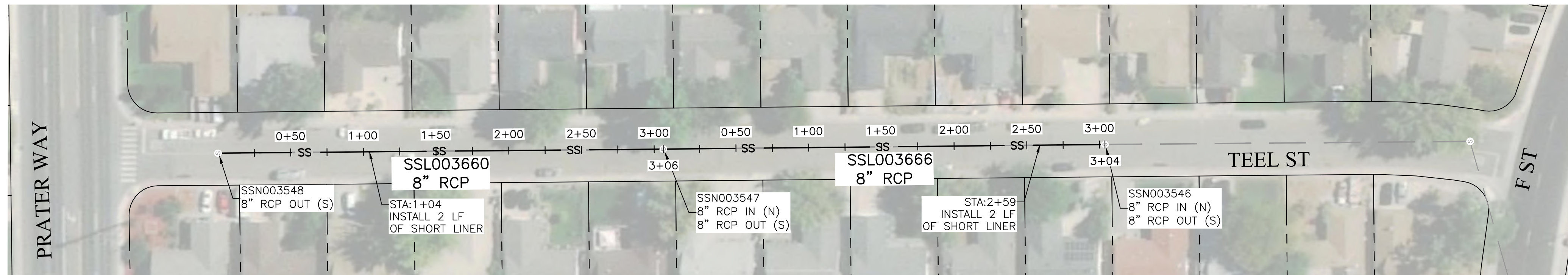
DOWL
www.dowl.com
 5510 Longley Lane
 Reno, Nevada 89511
 775-851-4788

CITY OF SPARKS
 SANITARY SEWER CIPP LINING - FISCAL 2024
 DILWORTH MS ZONE
 AREA D

PROJECT	30152
DATE	2/2024
DESIGNED	EYK
DRAWN	PB, JL, GT

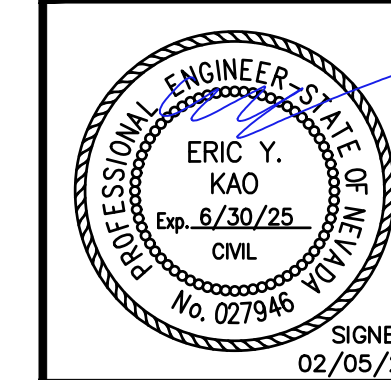
SHEET
C2.4
 17 OF 25

F:\63\30152-01\26Plots\26_6_sheet_files\30152-01_C02.dwg PLOT DATE 2024-2-5 16:34 SAVED DATE 2023-11-10 11:34 USER: ekao



DILWORTH MS ZONE - AREA E

REV	DATE	DESCRIPTION	BY



DOWL
 WWW.DOWL.COM
 5510 Longley Lane
 Reno, Nevada 89511
 775-851-4788

CITY OF SPARKS
 SANITARY SEWER CIPP LINING - FISCAL 2024
 DILWORTH MS ZONE
 AREA E

PROJECT	30152
DATE	2/2024
DESIGNED	EYK
DRAWN	PB, JL, GT

© DOWL 2024
 SHEET
C2.5
 18 OF 25

BID SET

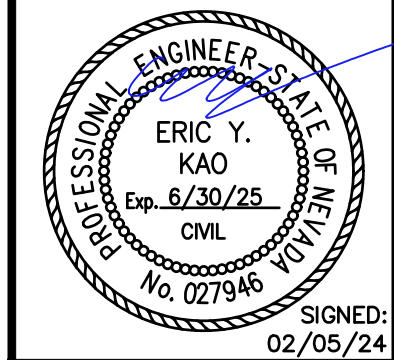


F:\63\30152-01\26Plots\26_6 sheet files\30152-01_C02.dwg PLOT DATE 2024-2-5 16:34 SAVED DATE 2023-11-10 11:34 USER: ekao



DILWORTH MS ZONE - AREA F

REV	DATE	DESCRIPTION	BY



DOWL
 WWW.DOWL.COM
 5510 Longley Lane
 Reno, Nevada 89511
 775-851-4788

CITY OF SPARKS
 SANITARY SEWER CIPP LINING - FISCAL 2024
 DILWORTH MS ZONE
 AREA F

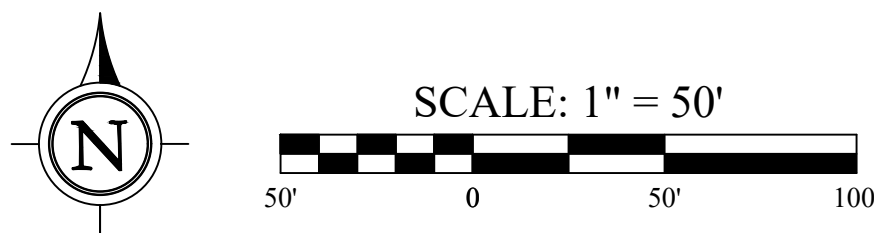
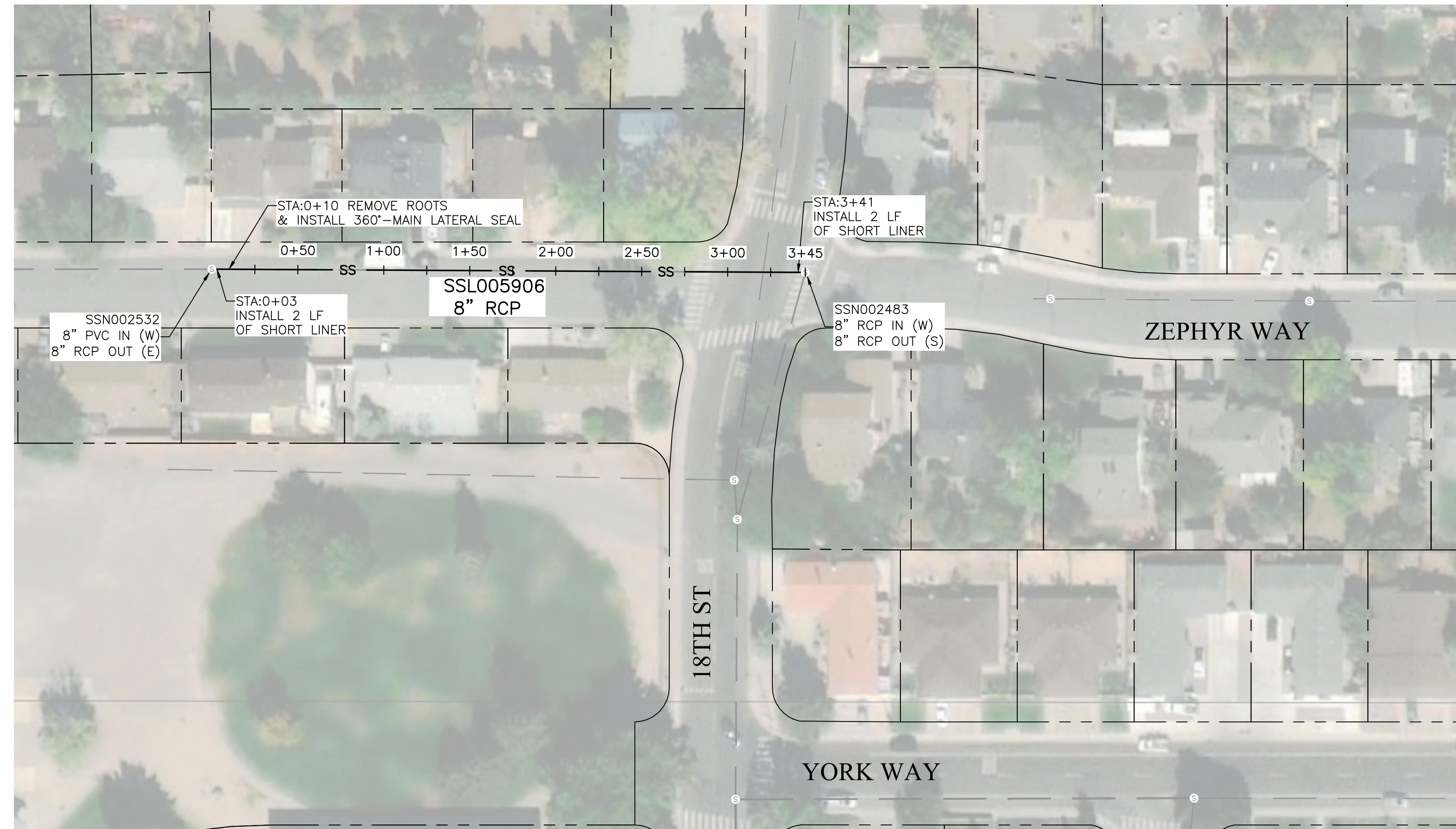
PROJECT	30152
DATE	2/2024
DESIGNED	EYK
DRAWN	PB, JL, GT

© DOWL 2024
 SHEET
C2.6
 19 OF 25

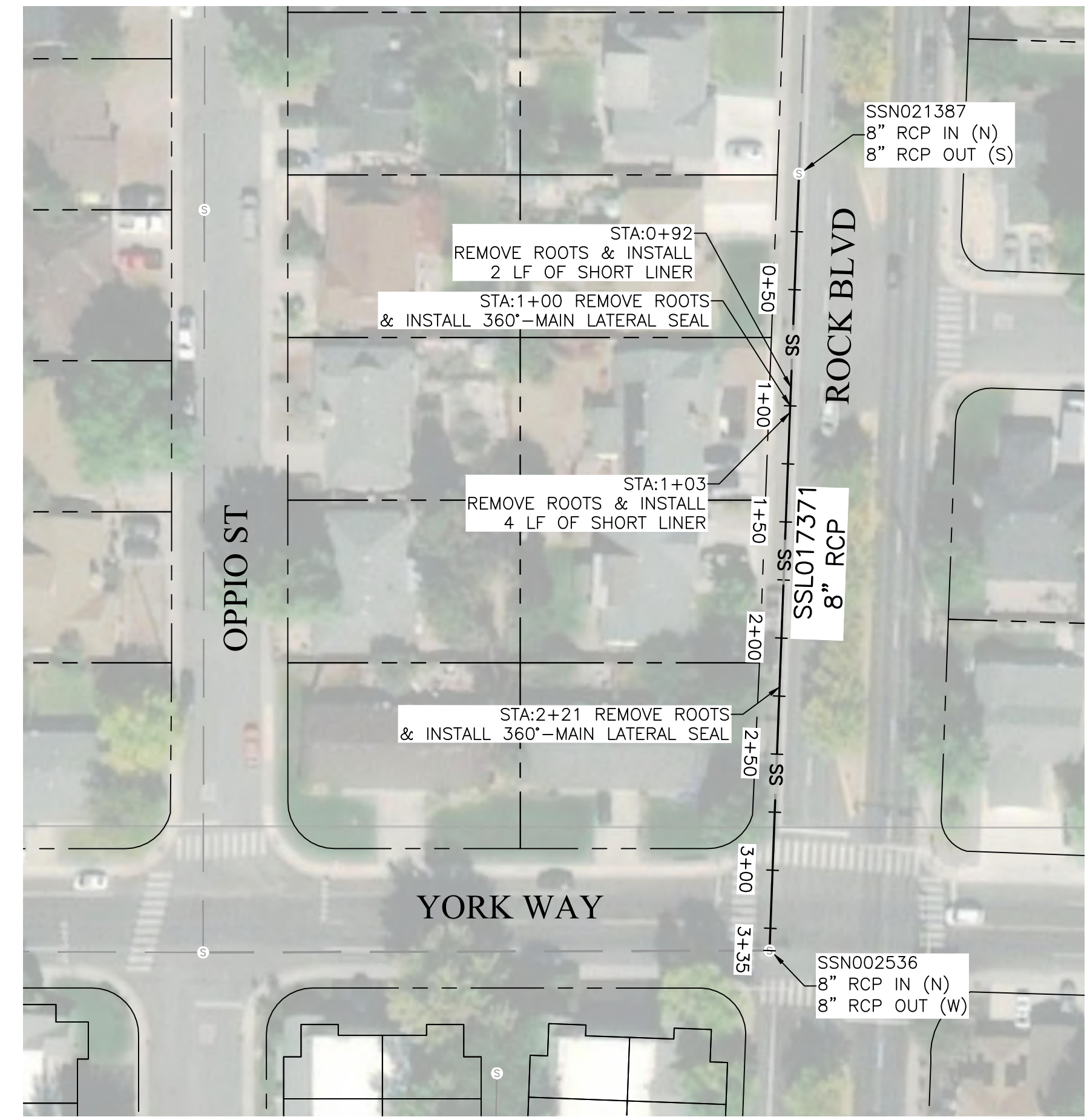
BID SET



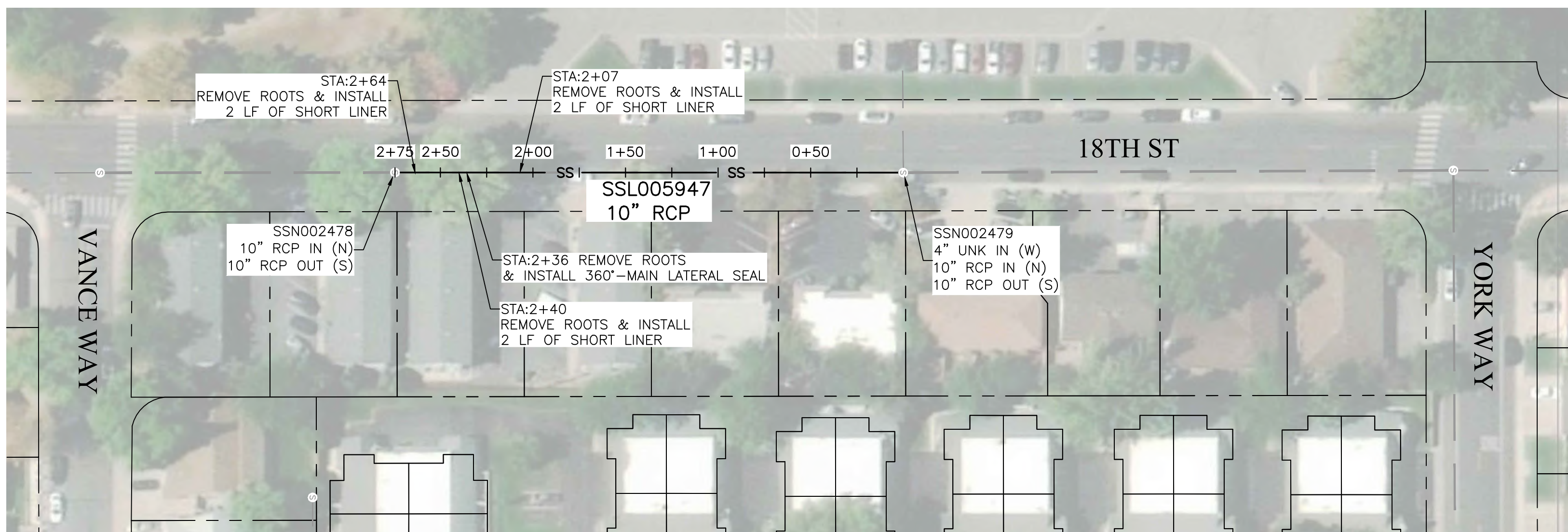
F:\63\30152-01\26Plots\26_6 sheet files\30152-01_C03.dwg PLOT DATE 2024-2-5 16:35 SAVED DATE 2023-10-13 11:47 USER: ekao



SPARKS MS ZONE - AREA A

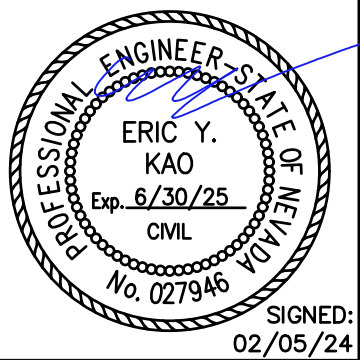


SPARKS MS ZONE - AREA A



SPARKS MS ZONE - AREA A

REV	DATE	DESCRIPTION	BY



DOWL
 WWW.DOWL.COM
 5510 Longley Lane
 Reno, Nevada 89511
 775-851-4788

CITY OF SPARKS
 SANITARY SEWER CIPP LINING - FISCAL 2024
 SPARKS MS ZONE
 AREA A

PROJECT	30152
DATE	2/2024
DESIGNED	EYK
DRAWN	PB, JL, GT

SHEET
C3.1
 21 OF 25

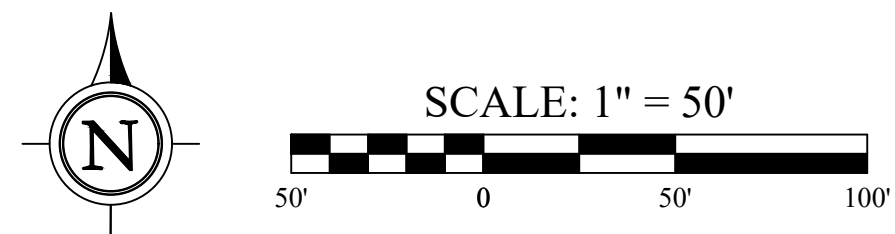
BID SET



J:\63\30152-01\26\Plots\26_6 sheet files\30152-01_C03.dwg PLOT DATE 2024-2-5 16:35 SAVED DATE 2023-10-13 11:47 USER: ekao



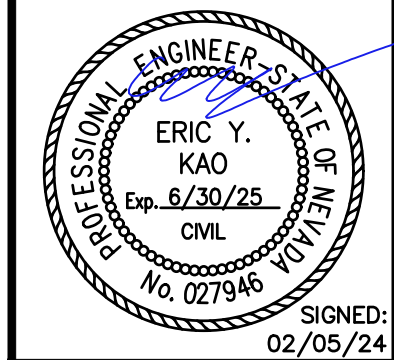
SPARKS MS ZONE - AREA B



BID SET



REV	DATE	DESCRIPTION	BY



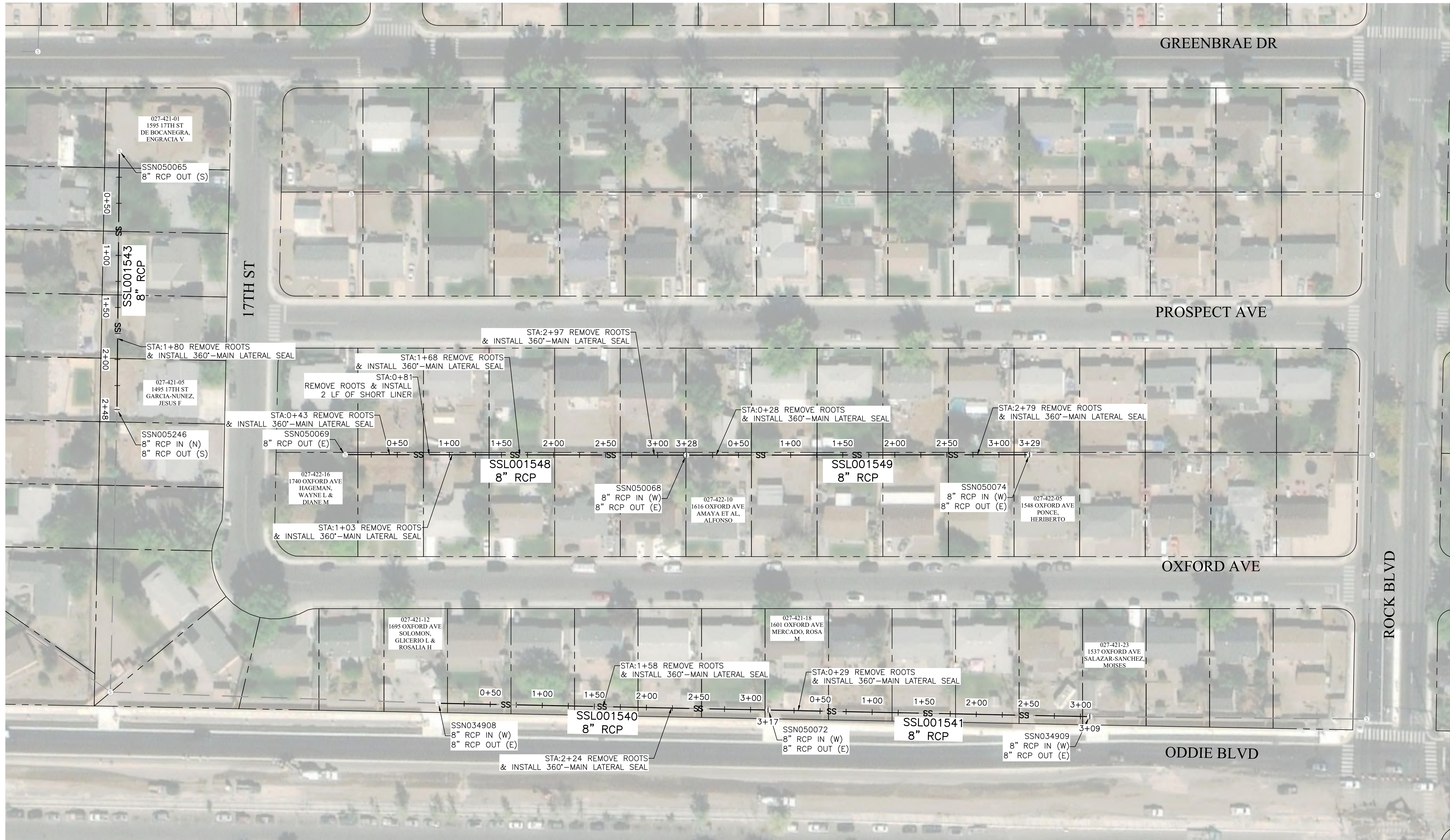
DOWL
 WWW.DOWL.COM
 5510 Longley Lane
 Reno, Nevada 89511
 775-851-4788

CITY OF SPARKS
 SANITARY SEWER CIPP LINING - FISCAL 2024
 SPARKS MS ZONE
 AREA B

PROJECT	30152
DATE	2/2024
DESIGNED	EYK
DRAWN	PB, JL, GT

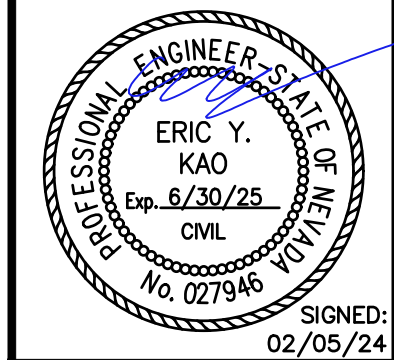
SHEET
C3.2
 22 OF 25

J:\63\30152-01\26Plots\26_6 sheet files\30152-01_C03.dwg PLOT DATE 2024-2-5 16:35 SAVED DATE 2023-10-13 11:47 USER: ekao



SPARKS MS ZONE - AREA C

REV	DATE	DESCRIPTION	BY



DOWL
 WWW.DOWL.COM
 5510 Longley Lane
 Reno, Nevada 89511
 775-851-4788

CITY OF SPARKS
 SANITARY SEWER CIPP LINING - FISCAL 2024
 SPARKS MS ZONE
 AREA C

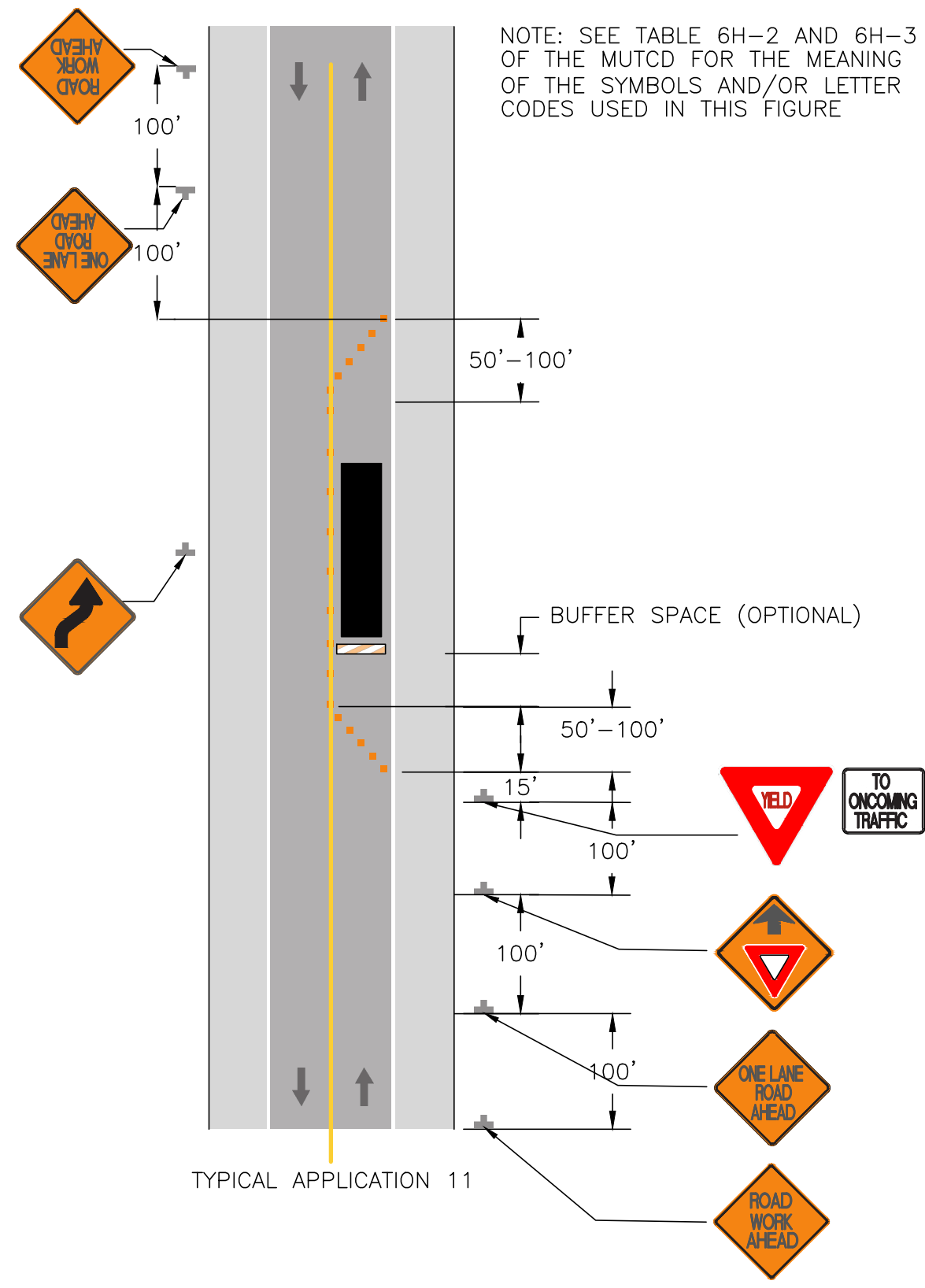
PROJECT	30152
DATE	2/2024
DESIGNED	EYK
DRAWN	PB, JL, GT

SHEET
C3.3
 23 OF 25

BID SET



F:\63\30152-01\26Plots\26_6_sheet_files\30152-01_D1-D3_DETAILS.dwg PLOT DATE 2024-2-5 16:36 SAVED DATE 2024-02-05 13:29 USER: ekao



LANE CLOSURE ON A TWO-LANE ROAD WITH LOW TRAFFIC VOLUMES

SCALE: NTS

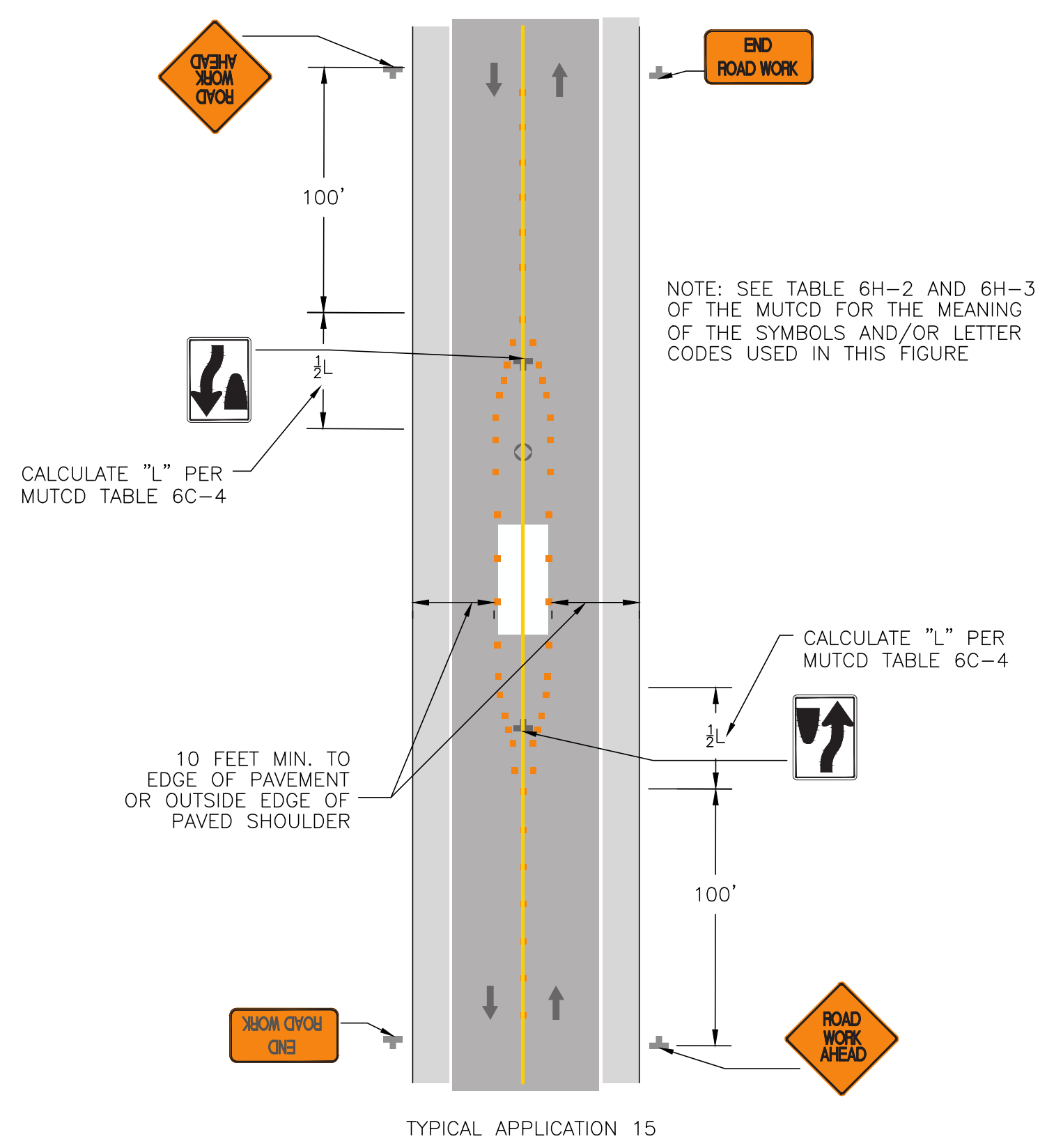
A
D1

- 1) ALL TRAFFIC CONTROL SHALL MEET OR EXCEED THE REQUIREMENTS AS OUTLINED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) LATEST EDITION, NEVADA WORK ZONE TRAFFIC CONTROL HANDBOOK, NDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, & STANDARD SPECIFICATIONS FOR THE CONSTRUCTION OF PUBLIC WORKS, UNLESS NOTED OTHERWISE. IF DEVIATIONS FROM THE TYPICAL TRAFFIC CONTROL PLANS ARE NECESSARY, THE CONTRACTOR SHALL SUBMIT AN AMENDED TRAFFIC CONTROL PLAN FOR APPROVAL.
- 2) PRIOR TO CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN FOR HANDLING TRAFFIC THROUGH THE PROJECT SITE TO THE OWNER FOR APPROVAL.
- 3) ALL ADVANCED WARNING SIGNS SHALL BE PER THE TABLE IN DETAIL E ON THIS SHEET.
- 4) PORTABLE DELINEATORS SHALL BE A MINIMUM OF 36" HIGH AND PLACED APPROXIMATELY 25 FEET APART.
- 5) WHEN TWO-WAY TRAFFIC IS NOT POSSIBLE, CONTRACTOR SHALL MAINTAIN ONE LANE OF TRAFFIC AT ALL TIMES DURING CONSTRUCTION ACTIVITY. AFTER WORKING HOURS ALL TRAFFIC CONTROLS SHALL BE LIFTED, TRAFFIC BARRIERS REMOVED AND TRAFFIC FLOW RETURNED TO NORMAL.
- 6) CONTRACTOR SHALL MANAGE AND BE RESPONSIBLE FOR ALL TRAFFIC CONTROL OPERATIONS TO ENSURE PUBLIC SAFETY AND SHALL ASSIGN AN EMPLOYEE TO FULL TIME MAINTENANCE OF TRAFFIC CONTROL DEVICES.
- 7) ALL TRAFFIC CONTROL OPERATIONS ARE SUBJECT TO APPROVAL OF THE OWNER AND MAY BE REQUIRED TO BE ALTERED BY THE CONTRACTOR IF IT IS PERCEIVED THAT A DANGEROUS CONDITION MAY EXIST. THE CONTRACTOR SHALL PROACTIVELY MANAGE TRAFFIC CONTROL OPERATIONS & MAKE ADJUSTMENTS AS NECESSARY TO ENSURE PUBLIC SAFETY.

TRAFFIC CONTROL NOTES

SCALE: NTS

D
D1



WORK IN THE CENTER OF A ROAD WITH LOW TRAFFIC VOLUMES

SCALE: NTS

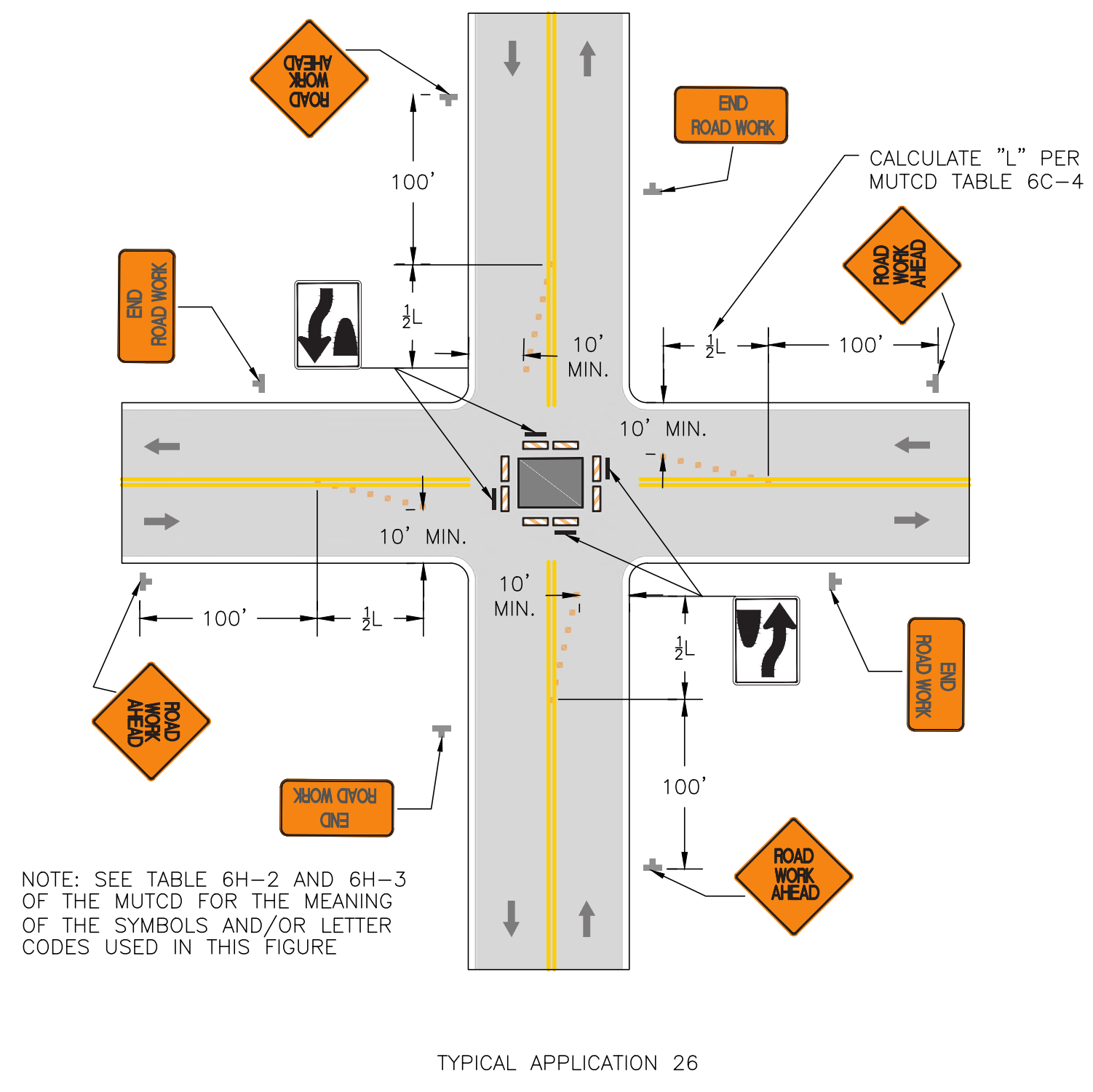
B
D1

TEMPORARY TRAFFIC CONTROL ZONE SIGN AND PLAQUE SIZES			
SIGN OR PLAQUE	SIGN DESIGNATION	MUTCD SECTION	SIGN SIZE
YIELD	R1-2	6F.06	36X36X36
TO ONCOMING TRAFFIC (PLAQUE)	R1-2aP	6F.06	36X30
KEEP RIGHT	R4-7	6F.06	24X30
TURN AND CURVE SIGNS	W1-1,2,3,4	6F.16	36X36
YIELD AHEAD	W3-2	6F.16	36X36
ADVISORY SPEED (PLAQUE)	W13-1P	6F.52	24X24
XX FEET (PLAQUE)	W16-2P	6F.16	24X18
ROAD WORK (WITH DISTANCE)	W20-1	6F.16	36X36

TEMPORARY SIGNS TABLE

SCALE: NTS

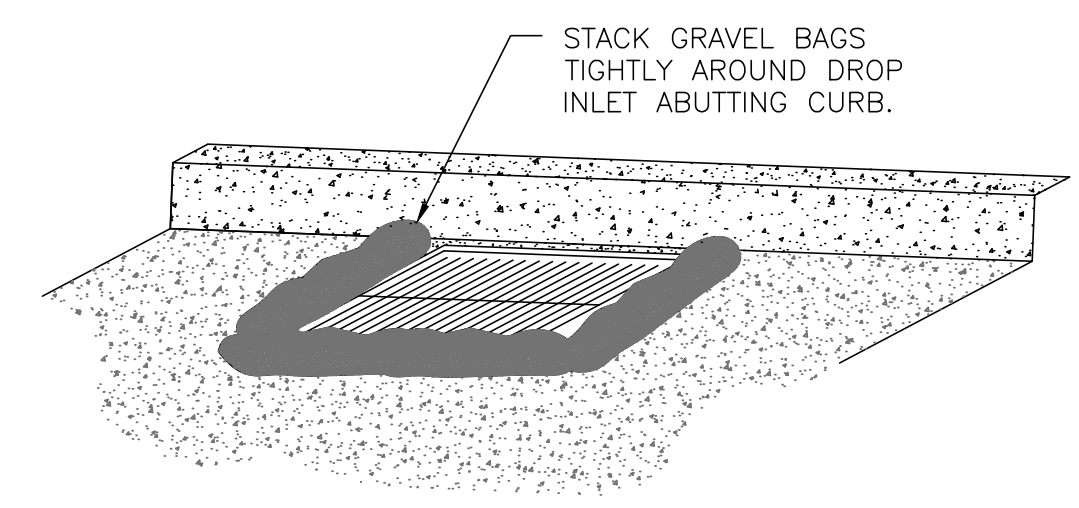
E
D1



CLOSURE IN THE CENTER OF AN INTERSECTION

SCALE: NTS

C
D1



NOTES

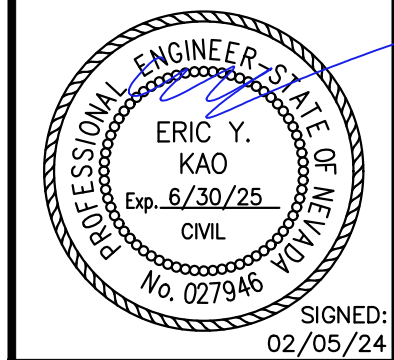
1. INSTALL FILTER FABRIC BELOW GRATES, EXTEND FILTER FABRIC EIGHTEEN INCHES (18") BEYOND THE EDGE OF THE GRATE ALL DIRECTIONS.

DROP INLET PROTECTION DETAIL

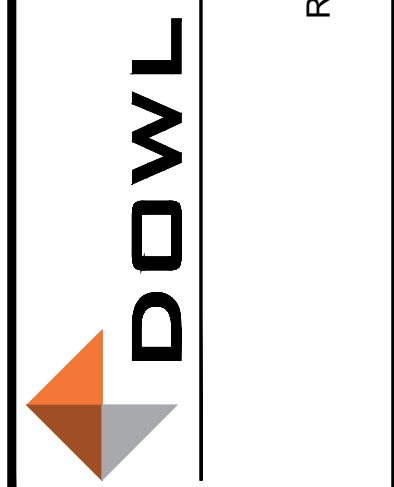
SCALE: NTS

F
D1

REV	DATE	DESCRIPTION	BY



5510 Longley Lane
Reno, Nevada 89511
775-851-4788



CITY OF SPARKS
SANITARY SEWER CIPP LINING - FISCAL 2024
DETAILS
DETAIL SHEET

PROJECT	30152
DATE	2/2024
DESIGNED	EYK
DRAWN	PB, JL, GT

© DOWL 2024

SHEET
D1
24 OF 25

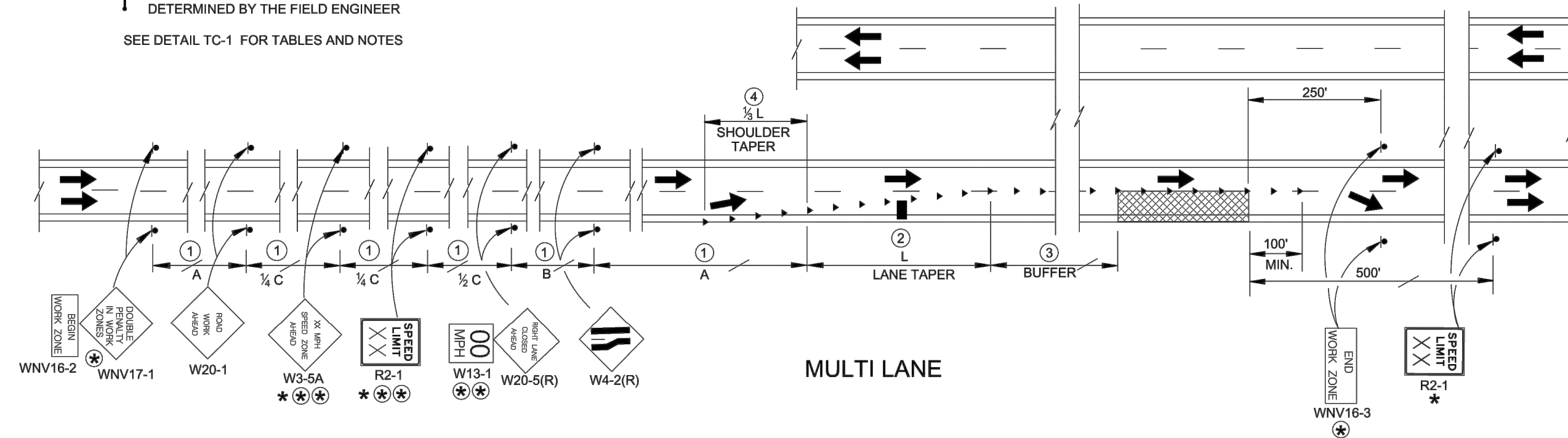
BID SET



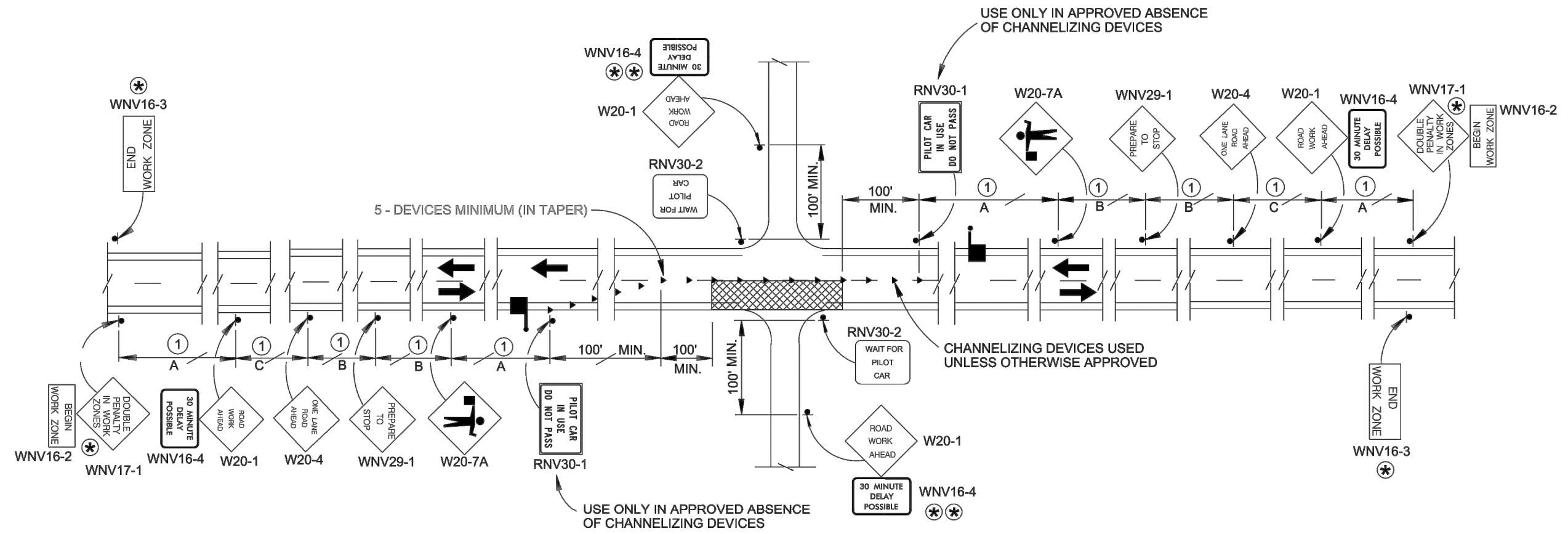
F:\63\30152-01\26Plots\26_6 sheet files\30152-01-D3_DETAILS.dwg PLOT DATE 2024-02-05 16:36 SAVED DATE 2024-02-05 13:29 USER: ekao

LEGEND:

- WORK AREA
 - CHANNELIZING DEVICES
 - ARROW BOARD
 - ≥ 45 MPH
 - OPTIONAL
 - SEE NOTE 1 ON DETAIL TC-1
 - FLAGGER LOCATIONS TO BE DETERMINED BY THE FIELD ENGINEER
- SEE DETAIL TC-1 FOR TABLES AND NOTES



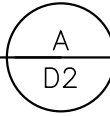
MULTI LANE



TWO LANE - TWO WAY

TRAFFIC CONTROL FOR ONE LANE CLOSURES

SCALE: NTS



1
ADVANCE WARNING SIGN SPACING

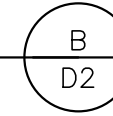
SPEED MPH	DISTANCE BETWEEN SIGNS FT.		
	A	B	C
0 - 20	200	200	200
25 - 30	300	300	300
35 - 40	400	400	400
45 - 50	600	600	600
55 - 80	1000	1600	2640

3
BUFFER LENGTH

SPEED MPH	LENGTH FT.
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730
75	820
80	920

TRAFFIC CONTROL NOTES

SCALE: NTS



2
TAPER LENGTH AND CHANNELIZING DEVICE SPACING

SPEED MPH	LENGTH FOR MERGING TAPER (L)			TAPER AND CHANNELIZATION DEVICE SPACING FT.
	10 FT.	11 FT.	12 FT.	
20	80	80	80	20
25	125	125	125	25
30	150	180	180	30
35	210	245	245	35
40	280	320	320	40
45	450	495	540	45
50	500	550	600	50
55	550	605	660	55 *
60	600	660	720	60 *
65	650	715	780	65 *
70	700	770	840	70 *
75	750	825	900	75 *
80	800	880	960	80 *

* ON RURAL INTERSTATE HIGHWAYS WHERE THE SPEED LIMIT IS 65 MPH OR GREATER, THE CHANNELIZATION DEVICE SPACING (EXCEPT FOR TAPERS) MAY BE INCREASED TO 80 FEET. WHEN INCREASED DEVICE SPACING IS USED, 3 DRUMS WILL BE PLACED DIAGONALLY AT 0.5-MILE INCREMENTS TO INDICATE THE LANE IS CLOSED

4
SHIFTING TAPER = 1/2 L
SHOULDER TAPER = 1/3 L

$$\leq 40 \text{ MPH} \quad L = \frac{WS^2}{60}$$

$$\geq 45 \text{ MPH} \quad L = WS$$

S = SPEED (MPH)
L = TAPER LENGTH (FT.)
W = WIDTH OF LATERAL SHIFT (FT.)

TYPICAL APPLICATIONS:

NDOT STANDARD DETAILS TC-2 THRU TC-22 INCLUDE A VARIETY OF TRAFFIC CONTROL METHODS, BUT DO NOT INCLUDE A LAYOUT FOR EVERY CONCEIVABLE WORK SITUATION. TYPICAL APPLICATIONS SHOULD BE ALTERED WHEN NECESSARY TO FIT THE CONDITIONS OF A PARTICULAR TEMPORARY TRAFFIC CONTROL ZONE. FOR ADDITIONAL INFORMATION REFER TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND REVISIONS.

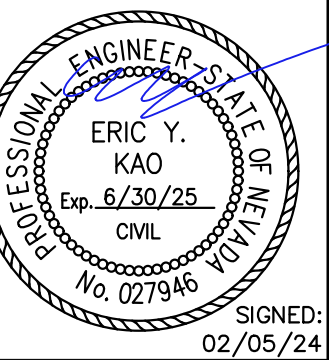
ADVANCE WARNING ARROW PANEL

TYPE	MINIMUM SIZE INCHES	POSTED SPEED
A	48 x 24	30 MPH OR LESS
B	60 x 30	35 MPH TO 50 MPH
C	96 x 48	55 MPH OR MORE

NOTES:

- Projects with an existing speed limit greater than 55 mph may be temporarily reduced by 10 mph or to 55 mph, whichever is lower, with the concurrence from the Chief Traffic Operations Engineer. Any temporary reductions to a speed lower than 55 MPH may be reduced with concurrence from the Chief Traffic Operations Engineer and a recommendation forwarded by Traffic Operations to the Director for approval.
- The W1-3 signs shall be used when the recommended speed on a curve is 30 mph or less, the W1-4 signs shall be used when the recommended speed is 35 mph or greater.
- The W6-3 and R4-1 signs shall be installed alternately at 0.5-mile intervals when the lengths of crossovers exceed 0.5-mile.
- All regulatory signs (R series) shall be black on retroreflective white.
- All warning signs (W series) shall be black on retroreflective orange.
- Warning signs shall be a minimum of 3' x 3' for speeds of 45 mph or less, R2-1 shall be 3' x 4'.
- Warning signs shall be a minimum of 4' x 4' for speeds of 50 mph or greater, R2-1 shall be 4' x 5'.
- All device spacing shall be designed based on work zone speed.

REV	DATE	DESCRIPTION



DOWL
 WWW.DOWL.COM
 5510 Longley Lane
 Reno, Nevada 89511
 775-851-4788

CITY OF SPARKS
 SANITARY SEWER CIPP LINING - FISCAL 2024
 DETAILS
 DETAIL SHEET

PROJECT	30152
DATE	2/2024
DESIGNED	EYK
DRAWN	PB, JL, GT

SHEET
D2
 25 OF 25

BID SET

