CITY OF GRAND JUNCTION

2022 WATERLINE REPLACEMENT - PHASE 2

GRAND JUNCTION, COLORADO

BID DOCUMENTS

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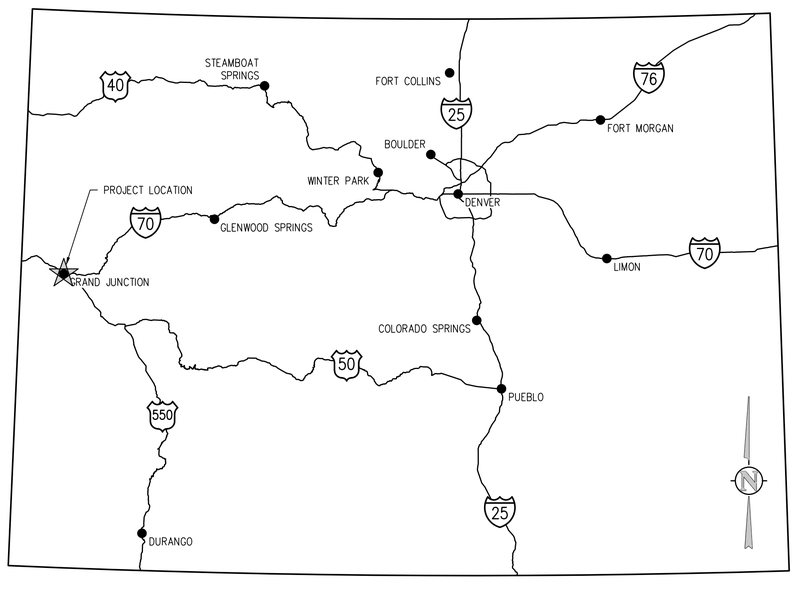
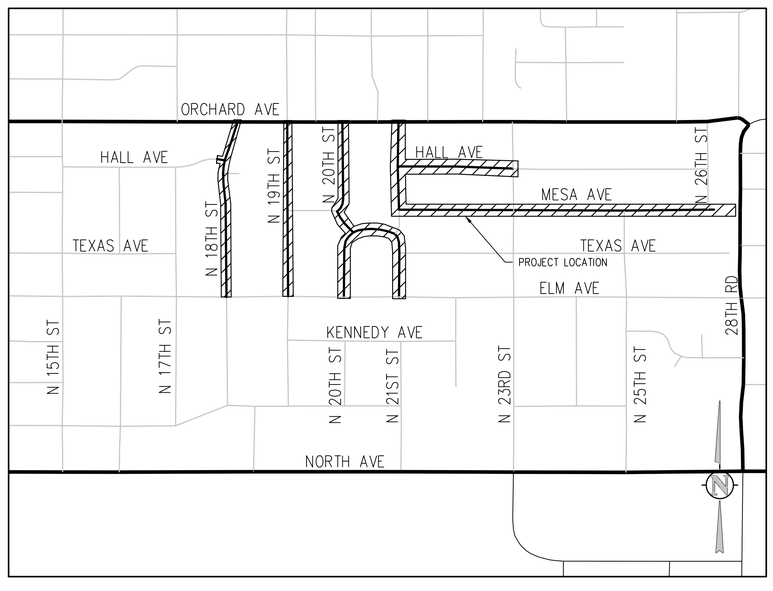
PREPARED UNDER THE SUPERVISION OF

JVA, Inc.

DRAWING INDEX



VICINITY MAP
NTS



PROJECT LOCATION MAP
NTS

ABBREVIATIONS

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

DESIGN LEGEND

- CONTROL POINT
- POT HOLE
- TEE W/ KICK BLOCK
- BEND W/ KICK BLOCK
- END CAP W/ KICK BLOCK
- GATE VALVE
- REDUCER/INCREASER
- WATER METER
- FIRE HYDRANT
- WATERLINE
- EXIST INDEX CONTOUR
- EXIST INTERMEDIATE CONTOUR
- PROPOSED INDEX CONTOUR
- PROPOSED INTERMEDIATE CONTOUR
- LIMITS OF SAWCUT
- LIMITS OF WORK
- EASEMENT LINE
- PROPERTY LINE
- ADJACENT PROPERTY LINE/ROW
- MATCHLINE

- CURB AND GUTTER
- SPILL/CATCH CURB TRANSITION
- SIGN W/ POST
- CURB RAMP
- SIDEWALK CHASE
- SIDEWALK
- CONCRETE PAVING
- GRAVEL
- ASPHALT PAVING
- CONCRETE
- LANDSCAPE AREA

DETAIL TITLE

DETAIL TITLE / SCALE — 1 / –

- DETAIL NUMBER IDENTIFICATION
- SHEET WHERE THE SECTION OR ELEVATION IS CUT OR CALLED OUT – INDICATES SAME DRAWING

1 / C1.0

- DETAIL NUMBER IDENTIFICATION
- SHEET WHERE THE DETAIL IS DRAWN – INDICATES SAME DRAWING

SECTION CALLOUT

A / –

- SECTION NUMBER IDENTIFICATION
- SHEET WHERE THE SECTION IS – INDICATES SAME DRAWING

DETAIL MARKER

- REVISION CLOUD
- REVISION NUMBER

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

SURVEY LEGEND

- WATER LINE ABANDONED (SIZE & TYPE) — W CI ABAND
- WATER LINE (SIZE & TYPE) — W CAST IRON
- OVERHEAD UTILITY LINE — OHP
- UNDERGROUND GAS LINE — G
- UNDERGROUND TELEPHONE LINE — T
- STORM SEWER LINE (SIZE & TYPE)
- SANITARY SEWER LINE (SIZE & TYPE)
- RIGHT-OF-WAY LINE
- LOT LINES
- FENCE LINE — X X
- EDGE OF PAVEMENT
- BACK OF CURB
- FL OF CURB
- BACK OF SIDEWALK
- CONTROL LINES
- BENCH MARK — A
- BACKFLOW PREVENTER — BFP
- CATCH BASIN / CURB STORM INLET
- CLEAN OUT (SANITARY) — SSCO
- CURB STOP — CS
- FIRE HYDRANT
- GUY WIRE ANCHOR
- MAILBOX — MB

- MANHOLE (ELECTRIC) — E
- MANHOLE (GAS) — G
- MANHOLE (SANITARY) — S
- MANHOLE (STORM) — D
- MANHOLE (TELEPHONE) — T
- MANHOLE (TV) — TV
- MANHOLE (WATER) — W
- METER (GAS) — GM
- METER (WATER) — WM
- PEDESTAL (TELEPHONE)
- PEDESTAL (TV) — TV
- PROPERTY PIN — PIN
- STREET LIGHT
- SURVEY MONUMENT (CITY) — CSM
- SURVEY MONUMENT (CONTROL POINT) — CP
- SURVEY MONUMENT (TYPE NOTED) — MCSM
- TREE (DIA. SIZE) — TREE 8
- UTILITY POLE
- VALVE (GAS) — GV
- VALVE (IRRIGATION) — IRR
- VALVE (SPRINKLER HEAD)
- VALVE (WATER) — WV

GENERAL NOTES

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

BENCHMARK INFORMATION: TOPOGRAPHIC INFORMATION WAS PROVIDED BY THE CITY OF GRAND JUNCTION. SEE EXISTING CONDITIONS SURVEY 2021 WATER LINE REPLACEMENTS – PHASE 2 DATED 3/11/2022. CONTROL POINTS SHOWN ON PLAN. THE FIELD SURVEYS AND PROCESSING OF DATA WAS MADE IN THE MESA COUNTY LOCAL COORDINATE SYSTEM (MCLCS) GRAND VALLEY AREA (GVA) ZONE AND NAVD88 VERTICAL DATUM WITH GEOID 12A MODEL TO CONVERT ELLIPSOID HEIGHTS TO ORTHOMETRIC ELEVATIONS. THE MCLCS USED THE IN THE SAID WHS SURVEY ARE BASED UPON REFERENCE FROM:

MESA COUNTY CONTROL POINT P310 – PRECISION B-5PPM	MESA COUNTY CONTROL POINT P318 – PRECISION B-5PPM
NORTH 28231.71 SFT (MCGVA)	NORTH 19671.32 SFT (MCGVA)
EAST 92054.57 SFT (MCGVA)	EAST 110221.18 SFT (MCGVA)
NAVD 88, G12A ELEVATION: 4631.32 SFT	NAVD 88, G12A ELEVATION: 4793.43 SFT
LATITUDE: 39° 02' 47.60643" N	LATITUDE: 39° 01' 23.00622" N
LONGITUDE: 108° 33' 42.12299" W	LONGITUDE: 108° 29' 51.95172" W
ELLIPSOID HEIGHT: 1394.760 METER	ELLIPSOID HEIGHT: 1444.23 METERS
COMMENT: NGS 9/16" STAINLESS STEEL ROD IN MONUMENT WELL	COMMENT: NGS 9/16" STAINLESS STEEL ROD IN MONUMENT WELL

18.1 BEARINGS ARE SHOWN ON THE DRAWINGS SEE SHEET CO.0.

18.2 HORIZONTAL CONTROL INFORMATION: HORIZONTAL CONTROL COORDINATES ARE BASED ON THE REFERENCED SURVEY AND ARE PROVIDED ON SHEET CO.0 OF THE PLANS.

18.3 SURVEY UTILITY LOCATION INFORMATION PER THE SURVEYOR: SUBSURFACE UTILITIES ARE SHOWN IN APPROXIMATE HORIZONTAL AND VERTICAL LOCATIONS CONSISTENT WITH ASCE 38-02 QUALITY LEVEL "B" (INFORMATION OBTAINED BY THE APPLICATION OF APPROPRIATE SURFACE GEOPHYSICAL METHODS TO DETERMINE THE EXISTENCE AND HORIZONTAL POSITION OF VIRTUALLY ALL UTILITIES WITHIN THE PROJECT LIMITS. THE INFORMATION OBTAINED IN THIS MANNER IS SURVEYED TO PROJECT CONTROL.) AND QUALITY LEVEL "C" (INFORMATION OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE-GROUND UTILITY FEATURES AND BY USING PROFESSIONAL JUDGMENT IN CORRELATING THIS INFORMATION TO QUALITY LEVEL D; INFORMATION DERIVED FROM EXISTING RECORDS OR ORAL RECOLLECTIONS), AND BASED ON FIELD MEASUREMENTS PROVIDED BY THE OWNER AND THE CONTRACTOR. SUBSURFACE UTILITIES ARE NOT DEPICTED TO THE EXTENT SET FORTH IN ASCE 38-02 QUALITY LEVELS "A" (INFORMATION OBTAINED THROUGH THE NONDESTRUCTIVE EXPOSURE OF UNDERGROUND UTILITIES, AND ALSO PROVIDES THE TYPE, SIZE, CONDITION, MATERIAL AND OTHER CHARACTERISTICS OF UNDERGROUND FEATURES.). TO THE EXTENT DEEMED NECESSARY FOR THE PROTECTION OF PERSONS AND PROPERTY, POTHOLING OR OTHER PRECISE MAPPING MAY BE COMPLETED TO CONFIRM THE EXACT LOCATION OF ANY SUBSURFACE UTILITIES. NOTIFY OWNER AND ENGINEER WITH ALL UTILITY INFORMATION PRIOR TO CONSTRUCTION.VISIT HTTPS://WWW.FHWA.DOT.GOV/PROGRAMADMIN/SUEINDEX.CFM FOR MORE INFORMATION.

18.4 SERVICE TAP LOCATIONS ARE APPROXIMATE. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND RESTORING ALL SERVICE CONNECTIONS DISTURBED BY PROJECT.

19. THE CONTRACTOR AT THE CONTRACTORS EXPENSE SHALL FURNISH THE OWNER AND ENGINEER OF RECORD A COMPLETE SET OF CONSTRUCTION RECORD DRAWINGS ("AS-BUILTS") FOR THE CONSTRUCTED IMPROVEMENTS. THE AS-BUILT SET SHALL SHOW SUFFICIENT DIMENSION TIES TO PERMANENT SURFACE FEATURES OR NORTHING/EASTING POINTS FOR ALL BURIED FACILITIES TO ALLOW FOR FUTURE LOCATING. THE AS-BUILT SET SHALL SHOW AS-BUILT CONTOURS AND ELEVATIONS OF ASPHALT AND CONCRETE FLATWORK, FLOWLINES, GRADE BREAKS, STAIRS, CROSS-SLOPES, HIGH AND LOW POINTS, AND ADDITIONAL ELEVATIONS TO DEMONSTRATE IMPROVEMENTS WERE CONSTRUCTED PER PLANS. THE AS-BUILT SET SHALL SHOW ELEVATIONS OF ALL DETENTION/WATER QUALITY FACILITIES, INCLUDING BUT NOT LIMITED TO BERMS, SPILLWAYS, BASIN BOTTOM, PIPE INVERTS, AND CONTROL STRUCTURE FEATURES (AS SURVEYED AND STAMPED BY A CERTIFIED P.L.S.). THE AS-BUILT SET SHALL ALSO INCLUDE ELEVATIONS OF MANHOLES, PIPES, INLETS, GRATES, AND SIZES OF ALL UTILITIES. THE AS-BUILT SET SHALL SHOW ANY AND ALL VARIATIONS FROM THE APPROVED PLAN. ENGINEER WILL PRODUCE FINAL RECORD DRAWINGS.

DESCRIPTION	DATE
REVISION 1	
REVISION 2	
REVISION 3	
REVISION 4	

DRAWN BY ZCF/NLM DATE 3/8/2023
DESIGNED BY LAL/ZCF DATE 3/8/2023
CHECKED BY JJM DATE 12/8/2022
APPROVED BY DATE

SCALES: PLAN & PROFILE

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2022 WATERLINE REPLACEMENT PROJECT – PHASE 2
LEGENDS, NOTES, AND ABBREVIATIONS

G0.1

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STORMWATER MANAGEMENT PLAN (SWMP)

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

NAME: _____

CONTACT INFO: _____

_____

THE SITE IS LOCATED CONTAINED BY ORCHARD AVE AND ELM AVE ON THE NORTH AND SOUTH RESPECTIVELY AND BY N 17TH ST AND N 26TH ST ON THE WEST AND EAST RESPECTIVELY, AND AT APPROXIMATELY 39° 4' 51.5" N LATITUDE, 108° 32' 43.4" W LONGITUDE. THE PROPOSED PROJECT CONSISTS OF UTILITY INFRASTRUCTURE, UTILITY SERVICE CONNECTIONS, PAVING OF SIDEWALKS AND ROADWAYS, CONSTRUCTION IN THE CITY OF GRAND JUNCTION, COLORADO. THE TOTAL SITE AREA IS APPROXIMATELY **10.7** ACRES WITH A TOTAL DISTURBANCE OF **1.2** ACRES. NO AREAS GREATER THAN 40 ACRES SHALL BE DISTURBED AT ANY GIVEN TIME. NO CONSTRUCTION ACTIVITIES SHALL OCCUR OFFSITE OR OUTSIDE OF THE CONSTRUCTION LIMITS SHOWN ON THE CONSTRUCTION DOCUMENTS. THE SEQUENCE OF CONSTRUCTION STARTS IS AS FOLLOWS:

PHASE	ESTIMATED	ACTUAL
CONSTRUCTION START	**AUGUST, 2022**	_____
UTILITY CONSTRUCTION	**AUGUST, 2022**	_____
PAVING	**OCTOBER, 2022**	_____
SITE RESTORATION	**DECEMBER, 2022**	_____

THE EXISTING SITE CONSISTS OF DEVELOPED LAND AND VEGETATION AND IS APPROXIMATELY 1% COVERED WITH VEGETATIVE GROUND COVER. A DRAINAGE REPORT WAS NOT COMPLETED AS HISTORIC AND DEVELOPED RUNOFFS WERE NOT ALTERED.

OFFSITE RUNOFF FLOWS ONTO THE PROPERTY AT ORCHARD AVE FROM THE NORTH. ONSITE FLOWS ARE DIRECTED TO THE GUTTERS AND STORM DRAINS. THERE ARE NO ONSITE DETENTION SITES. STORMWATER IS DISCHARGED FROM THIS SITE TO INDIAN WASH WHICH ULTIMATELY DRAINS INTO THE COLORADO RIVER. A DRAINAGE REPORT FOR THIS DEVELOPMENT HAS BEEN SUBMITTED TO THE ENGINEER OF THE CITY OF GRAND JUNCTION.

OTHER POTENTIAL POLLUTION SOURCES SUCH AS VEHICLE FUELING, VEHICLE WASHING, LOADING/ UNLOADING AREAS ARE LOCATED ONSITE. NON-STORMWATER COMPONENTS OF THE DISCHARGE LANDSCAPE IRRIGATION RETURN FLOW ARE LOCATED ONSITE.

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

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

APPLICATION OF THESE BMPS FOR STORMWATER MANAGEMENT ARE FOR CONSTRUCTION PERIODS AND ARE CONSIDERED TEMPORARY. POST-DEVELOPMENT STORMWATER MANAGEMENT IS PROVIDED THROUGH STORM COLLECTION SYSTEM.

VEHICLE TRACKING CONTROL (VTC):
A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED AT ALL ENTRANCES AND EXITS TO THE CONSTRUCTION SITES. THE CONSTRUCTION ACCESS AND PARKING WILL BE GRADED AND COVERED WITH A CRUSHED STONE BASE COURSE DURING CONSTRUCTION. THE VEHICLE TRACKING CONTROL WILL BE RELOCATED WITH THE CONSTRUCTION ACCESS AS NECESSARY.

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

INLET PROTECTION (IP):
THE INLET PROTECTION WILL BE INSTALLED AS THE STORM SEWER STRUCTURES ARE CONSTRUCTED. EACH INLET ON THE PROPOSED STORM SEWER SYSTEM WILL HAVE A TEMPORARY INLET SEDIMENT TRAP CONSTRUCTED AROUND IT. IN PAVED AREAS, THIS TRAP CONSISTS OF WIRE MESH SOCKS, CONCRETE BLOCKS, AND GRAVEL BAGS TO FILTER THE STORM RUNOFF AND ALLOW ANY SILT TO SETTLE OUT.

CONCRETE WASHOUT AREA:
CONCRETE WASHOUTS SHALL BE USED ON SITE DURING THE CONSTRUCTION OF FLATWORK SHOWN ON THE PLANS. CONTRACTOR TO USE ONLY ROLL-OFF/PORTABLE STYLE WASHOUT CONTAINERS, PIT STYLE CLEANOUTS WILL NOT BE ACCEPTED ON THIS SITE.

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

ITEMS ARE SCHEDULED TO BE IMPLEMENTED ACCORDING TO THE CONSTRUCTION SCHEDULE. AS WORK PROCEEDS, IMPLEMENTATION OF INDIVIDUAL BMPS IS TO COINCIDE WITH THE CONSTRUCTION THEREBY MINIMIZING THE EXPOSURE OF UNPROTECTED AREAS. INLET PROTECTION (FOR EXISTING INLETS), AND GRAVELING OF THE CONSTRUCTION ENTRANCE WILL BE PERFORMED WHEN THE GROUND IS DISTRUBED AND THE PROJECT EXCAVATION BEGINS. FUGITIVE DUST EMISSIONS RESULTING FROM GRADING ACTIVITIES AND/OR WIND SHALL BE CONTROLLED USING THE BEST AVAILABLE CONTROL TECHNOLOGY AS DEFINED BY THE COLORADO DEPARTMENT OF HEALTH AT THE TIME OF GRADING. THE GRAVELING IS TO BE MAINTAINED AND EXTENDED CONSTRUCTION PROGRESSES ESPECIALLY AROUND THE BUILDING SITE. THE STRUCTURAL BMPS ARE TO BE REMOVED, AS THE PERMANENT LANDSCAPING INSTALLATIONS ARE COMPLETED.

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

STORMWATER DETENTION AND WATER QUALITY:
STORMWATER DETENTION AND WATER QUALITY IS ACHIEVED THROUGH THE EXISTING STORMWATER COLLECTION SYSTEM.

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

SPECIES	COMMON NAME	VARIETY	PLS RATE(%)/ACRE
AGROPYRON CRISTATUM	CRESTED WHEATGRASS	EPHRAIM	6
AGROPYRON SMITHII	WESTERN WHEATGRASS	ARRIBA	16
BROMIS INERMIS	SMOOTH BROME	LINCOLN	12
SPOROBOLUS AIROIDES	ALKALI SACATON		0.5
PLEURAPHIS JAMESII	VIVA GALLETA GRASS		12
DACTYLIS GLOMERATA	ORCHARD GRASS	PAIUTE	4
ARRHENATHERUM ELATES	TALL OATGRASS		ADD IN
LOLIUM PERENNE	PERENNIAL RYEGRASS	TETRAPLOID	8

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

PERMANENT STABILIZATION MEASURES:
PERMANENT LANDSCAPING WILL INCLUDE SEEDING TO OPEN AREAS. NATIVE PERENNIAL SEEDING WILL BE ESTABLISHED IN NON-IRRIGATED AREAS AND SOD OR OTHER VEGETATIVE COVER WILL BE ESTABLISHED IN IRRIGATED OPEN AREAS. ALL PERMANENT STABILIZATION MEASURES WILL BE SPECIFIED BY THE LANDSCAPE ARCHITECT OR OWNER.

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

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

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

DESCRIPTION	DATE
REVISION 1	
REVISION 2	
REVISION 3	
REVISION 4	

DRAWN BY ZCF DATE 3/8/2023
DESIGNED BY LAL/ZCF DATE 3/8/2023
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2022 WATERLINE REPLACEMENT PROJECT – PHASE 2
EROSION CONTROL NOTES

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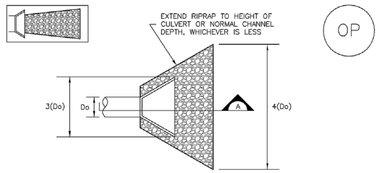
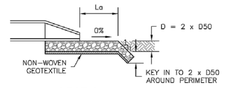


TEMPORARY OUTLET PROTECTION PLAN



SECTION A

TABLE OP-1. TEMPORARY OUTLET PROTECTION SIZING TABLE			
PIPE DIAMETER, Do (INCHES)	DISCHARGE, Q (CFS)	APRON LENGTH, Lo (FT)	RIPRAP D50 DIAMETER MIN (INCHES)
8	2.5 5	5 10	4 6
12	5 10	10 13	4 6
18	10 20 30 40	10 16 23 26	6 9 12 16
24	30 40 50 60	16 26 26 30	9 9 12 16

OP-1. TEMPORARY OUTLET PROTECTION

TEMPORARY OUTLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   -LOCATION OF OUTLET PROTECTION.
   -DIMENSIONS OF OUTLET PROTECTION.

2. DETAIL IS INTENDED FOR PIPES WITH SLOPE ≤ 10%. ADDITIONAL EVALUATION OF RIPRAP SIZING AND OUTLET PROTECTION DIMENSIONS REQUIRED FOR STEEPER SLOPES.

3. TEMPORARY OUTLET PROTECTION INFORMATION IS FOR OUTLETS INTENDED TO BE UTILIZED LESS THAN 2 YEARS.

TEMPORARY OUTLET PROTECTION INSPECTION AND MAINTENANCE NOTES

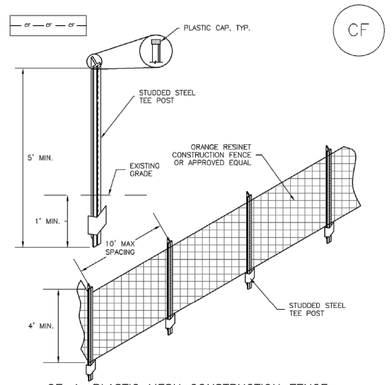
1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM AURORA, COLORADO AND PREVIOUS VERSION OF VOLUME 3, NOT AVAILABLE IN AUTOCAD)



CF-1. PLASTIC MESH CONSTRUCTION FENCE

CONSTRUCTION FENCE INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   -LOCATION OF CONSTRUCTION FENCE.

2. CONSTRUCTION FENCE SHOWN SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

3. CONSTRUCTION FENCE SHALL BE COMPOSED OF ORANGE, CONTRACTOR-GRADE MATERIAL THAT IS AT LEAST 4' HIGH. METAL POSTS SHOULD HAVE A PLASTIC CAP FOR SAFETY.

4. STUDDED STEEL TEE POSTS SHALL BE UTILIZED TO SUPPORT THE CONSTRUCTION FENCE. MAXIMUM SPACING FOR STEEL TEE POSTS SHALL BE 10'.

5. CONSTRUCTION FENCE SHALL BE SECURELY FASTENED TO THE TOP, MIDDLE, AND BOTTOM OF EACH POST.

CONSTRUCTION FENCE MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

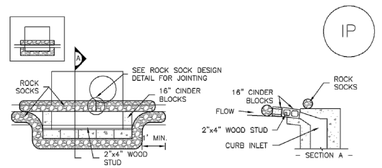
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. CONSTRUCTION FENCE SHALL BE REPAIRED OR REPLACED WHEN THERE ARE SIGNS OF DAMAGE SUCH AS RIPS OR SAGS. CONSTRUCTION FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

5. WHEN CONSTRUCTION FENCES ARE REMOVED, ALL DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE FENCE SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)



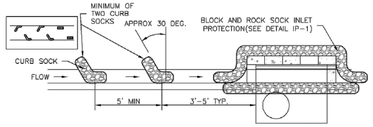
IP-1. BLOCK AND ROCK SOCK SUMP OR ON GRADE INLET PROTECTION

BLOCK AND CURB SOCK INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW, ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.

3. GRAVEL BAGS SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINTED TOGETHER IN ACCORDANCE WITH ROCK SOCK DESIGN DETAIL.



IP-2. CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

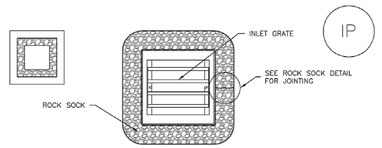
CURB ROCK SOCK INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL INSTALLATION REQUIREMENTS.

2. PLACEMENT OF THE SOCK SHALL BE APPROXIMATELY 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.

3. SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5 FEET APART.

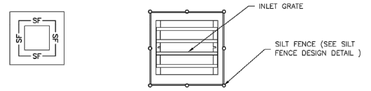
4. AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADE INLETS.



IP-3. ROCK SOCK SUMP/AREA INLET PROTECTION

ROCK SOCK SUMP/AREA INLET PROTECTION INSTALLATION NOTES
1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF ROCK SOCKS FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.



IP-4. SILT FENCE FOR SUMP INLET PROTECTION

SILT FENCE INLET PROTECTION INSTALLATION NOTES

1. SEE SILT FENCE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. POSTS SHALL BE PLACED AT EACH CORNER OF THE INLET AND AROUND THE EDGES AT A MAXIMUM SPACING OF 3 FEET.

3. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF SILT FENCE FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.

GENERAL INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   -LOCATION OF INLET PROTECTION.
   -TYPE OF INLET PROTECTION (IP.1, IP.2, IP.3, IP.4, IP.5, IP.6)

2. INLET PROTECTION SHALL BE INSTALLED PROMPTLY AFTER INLET CONSTRUCTION OR PAVING IS COMPLETE (TYPICALLY WITHIN 48 HOURS). IF A RAINFALL/RUNOFF EVENT IS FORECAST, INSTALL INLET PROTECTION PRIOR TO ONSET OF EVENT.

3. MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

INLET PROTECTION MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. SEDIMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED AS NECESSARY TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN STORAGE VOLUME REACHES 50% OF CAPACITY, A DEPTH OF 6" WHEN SILT FENCE IS USED, OR ⅓ OF THE HEIGHT FOR STRAW BALES.

5. INLET PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED, UNLESS THE LOCAL JURISDICTION APPROVES EARLIER REMOVAL OF INLET PROTECTION IN STREETS.

6. WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF INLET PROTECTION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY PROPRIETARY INLET PROTECTION METHODS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY INLET PROTECTION; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.

NOTE: SOME MUNICIPALITIES DISCOURAGE OR PROHIBIT THE USE OF STRAW BALES FOR INLET PROTECTION. CHECK WITH LOCAL JURISDICTION TO DETERMINE IF STRAW BALE INLET PROTECTION IS ACCEPTABLE.

DESCRIPTION	DATE
REVISION 1	
REVISION 2	
REVISION 3	
REVISION 4	

DRAWN BY ZCF DATE 3/8/2023
DESIGNED BY LAL/ZCF DATE 3/8/2023
CHECKED BY JJM DATE 12/8/2022
APPROVED BY DATE

SCALES:
PLAN & PROFILE

CITY OF Grand Junction COLORADO

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2022 WATERLINE REPLACEMENT PROJECT – PHASE 2 EROSION CONTROL NOTES

CE1.1

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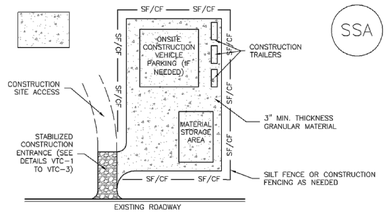


SSA–1. STABILIZED STAGING AREA

STABILIZED STAGING AREA INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   –LOCATION OF STAGING AREA(S).
   –CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.

2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.

3. STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.

4. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.

5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

6. ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

STABILIZED STAGING AREA MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

STABILIZED STAGING AREA MAINTENANCE NOTES

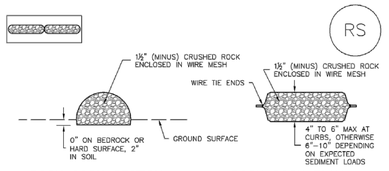
5. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.

6. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

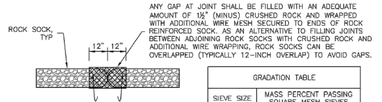
NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE–ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)



ROCK SOCK SECTION ROCK SOCK PLAN



ROCK SOCK JOINTING

GRADATION TABLE	
SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES
	NO. 4
2"	100
1½"	90 – 100
1"	20 – 55
¾"	0 – 15
⅜"	0 – 5
MATCHES SPECIFICATIONS FOR NO. 4 COARSE AGGREGATE FOR CONCRETE PER AASHTO M43. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES.	

ROCK SOCK INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION(S) OF ROCK SOCKS.

2. CRUSHED ROCK SHALL BE 1½" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET (1½" MINUS).

3. WIRE MESH SHALL BE FABRICATED OF 10 GAGE POULTRY MESH, OR EQUIVALENT, WITH A MAXIMUM OPENING OF ½", RECOMMENDED MINIMUM ROLL WIDTH OF 48"

4. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.

5. SOME MUNICIPALITIES MAY ALLOW THE USE OF FILTER FABRIC AS AN ALTERNATIVE TO WIRE MESH FOR THE ROCK ENCLOSURE.

RS–1. ROCK SOCK PERIMETER CONTROL

ROCK SOCK MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. ROCK SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, OR DAMAGED BEYOND REPAIR.

5. SEDIMENT ACCUMULATED UPSTREAM OF ROCK SOCKS SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP. TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY ½ OF THE HEIGHT OF THE ROCK SOCK.

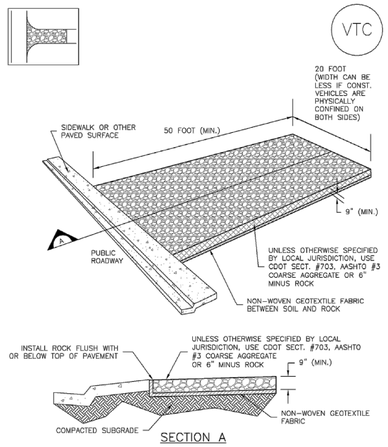
6. ROCK SOCKS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

7. WHEN ROCK SOCKS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

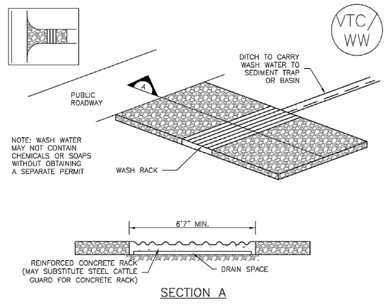
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF ROCK SOCK INSTALLATION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY OTHER SIMILAR PROPRIETARY PRODUCTS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY PROTECTION PRODUCTS; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.



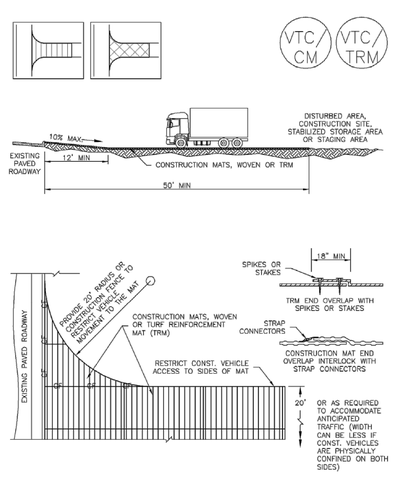
SECTION A

VTC–1. AGGREGATE VEHICLE TRACKING CONTROL



SECTION A

VTC–2. AGGREGATE VEHICLE TRACKING CONTROL WITH WASH RACK



VTC–3. VEHICLE TRACKING CONTROL W/ CONSTRUCTION MAT OR TURF REINFORCEMENT MAT (TRM)

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   –LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S).
   –TYPE OF CONSTRUCTION ENTRANCE(S)/EXITS(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM).

2. CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.

3. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT–OF–WAYS.

4. STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

5. A NON–WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.

6. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.

5. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVELING OR SWEEPING. SEDIMENT MAY NOT BE WASHED DOWN STORM SEWER DRAINS.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM CITY OF BROOMFIELD, COLORADO, NOT AVAILABLE IN AUTOCAD)

DESCRIPTION	DATE
REVISION 1	
REVISION 2	
REVISION 3	
REVISION 4	

DRAWN BY ZCF DATE 3/8/2023
DESIGNED BY LAL/ZCF DATE 3/8/2023
CHECKED BY JJM DATE 12/8/2022
APPROVED BY DATE

SCALES: PLAN & PROFILE

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2022 WATERLINE REPLACEMENT PROJECT – PHASE 2
EROSION CONTROL NOTES

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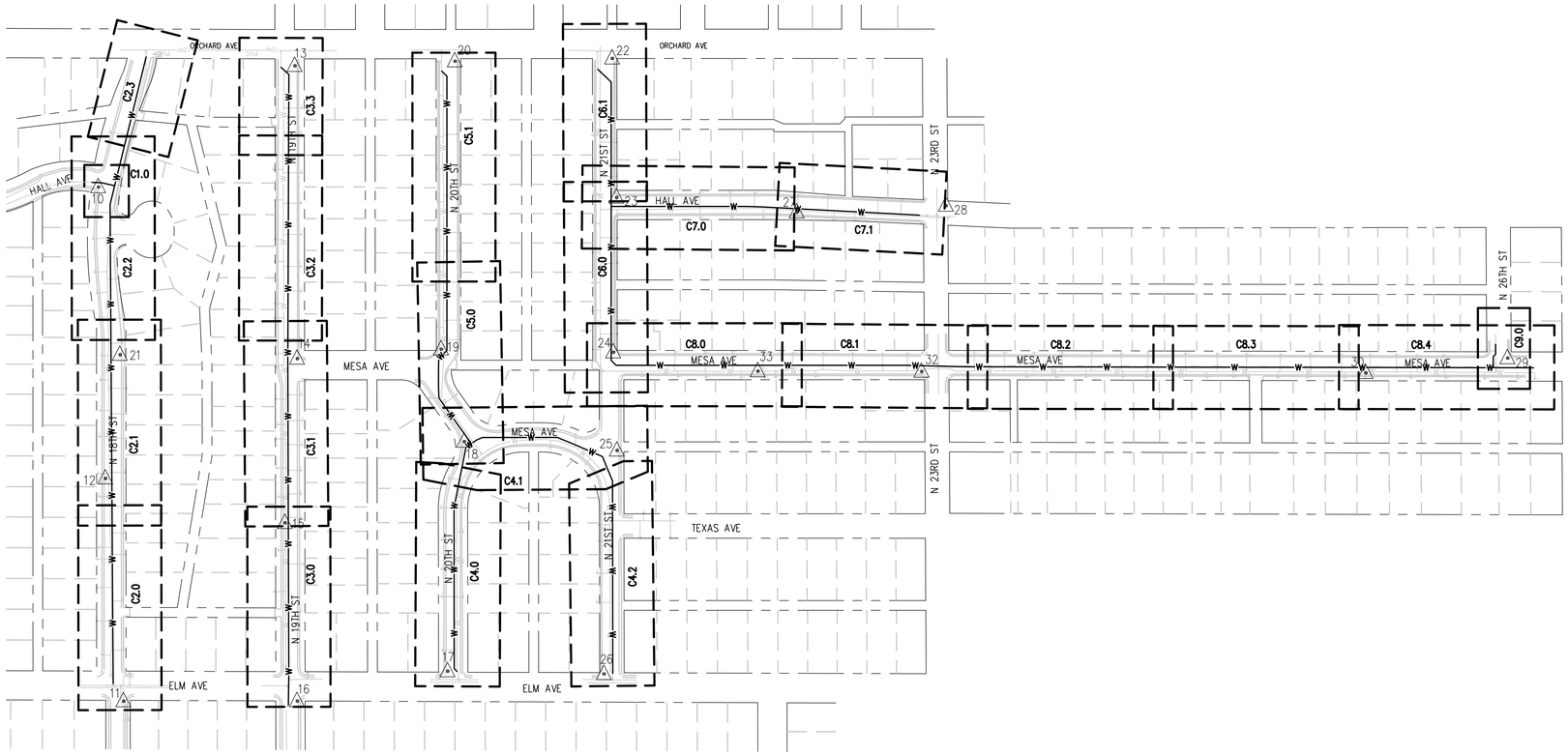

CONTROL POINT TABLE				
CONTROL POINT	DESCRIPTION	NORTHING	EASTING	ELEVATION
3126	CP-10	41795.81	96954.13	4639.84
3127	CP-11	40743.08	97005.72	4629.66
3128	CP-12	41199.29	96968.52	4634.89
3129	CP-21	41452.44	96998.40	4637.72
3649	CP-13	42044.05	97356.14	4638.14
3650	CP-14	41444.52	97361.11	4634.73
3651	CP-15	41108.23	97336.13	4632.84
3652	CP-16	40743.39	97360.98	4629.29
4077	CP-17	40804.63	97669.01	4628.70
4078	CP-18	41274.72	97703.13	4630.45
4079	CP-19	41463.75	97655.80	4632.47
4080	CP-20	42053.54	97683.84	4635.88
4584	CP-22	42059.33	98005.91	4633.86
4585	CP-23	41774.35	98014.62	4631.56
4586	CP-24	41457.58	98008.14	4629.26
4587	CP-25	41256.51	98015.55	4627.75
4588	CP-26	40798.96	97989.08	4626.52
5166	CP-27	41744.25	98383.74	4630.40
5167	CP-28	41757.88	98689.03	4628.58
5375	CP-29	41445.61	99838.33	4622.85
5376	CP-30	41415.31	99548.11	4624.26
5377	CP-32	41418.00	98638.98	4627.47
5378	CP-33	41418.85	98303.94	4628.44

DESCRIPTION	DATE
REVISION 1	
REVISION 2	
REVISION 3	
REVISION 4	

DRAWN BY ZCF/NLM DATE 3/8/2023
DESIGNED BY LAL/ZCF DATE 3/8/2023
CHECKED BY JJM DATE 12/8/2022
APPROVED BY _____ DATE _____

SCALES:
PLAN & PROFILE
HORIZONTAL
0 75 150 300

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2022 WATERLINE REPLACEMENT PROJECT – PHASE 2
OVERALL UTILITY PLAN

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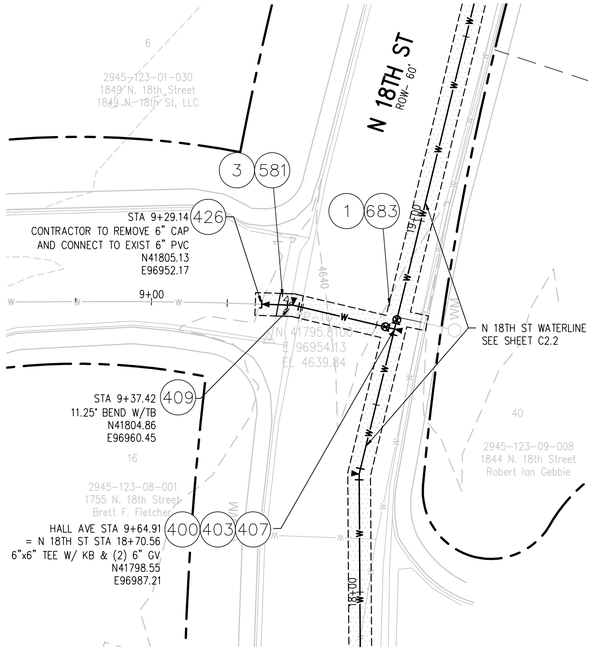

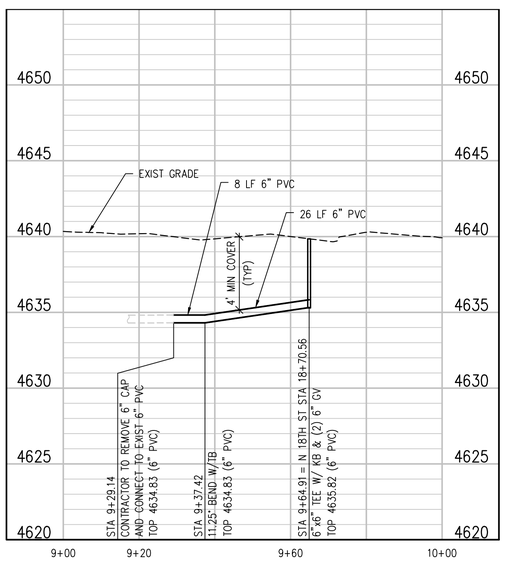

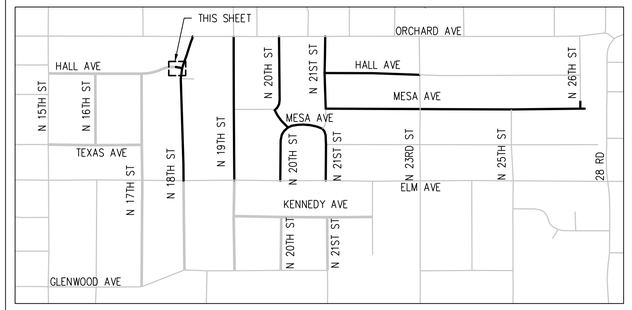

KEY MAP
NTS

CONSTRUCTION NOTES

1. 202 - REMOVAL OF ASPHALT MAT. SAW CUT AND REMOVE ASPHALT AS SHOWN. (INDICATED BY DOT HATCH PATTERN).
3. 202 - REMOVAL OF CONCRETE. SAW CUT AND REMOVE CONCRETE AS SHOWN. (INDICATED BY CROSS HATCH PATTERN) INCLUDES BUT NOT LIMITED TO CURB, GUTTER, SIDEWALK, DRIVEWAY, SLABS, V-PAN, CURB RAMPS, INTERSECTION CORNERS, APRONS, AND LANDSCAPE BORDERS.
400. 102.7/108.2 - WATER MAIN PIPE (C-900 DR-18 PVC) (SIZE AS SHOWN). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.
403. 102.8b/108.3 - GATE VALVE. (SIZE AS SHOWN)
407. 102.8/108.3 - TEE (SIZE AS SHOWN)
409. 102.8/108.3 - ELBOW (SIZE AND ANGLE AS SHOWN)
581. 608.06 - CONCRETE DRAINAGE PAN (6' WIDE)
683. 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (4" THICK ON TOP OF 6" ABC) (GRADING SX, BINDER GRADE PG 64-22, GYR 75.) (TWO 2" LIFTS)

NOTES:
1. CONNECT TO EXISTING SERVICE LINES OR EXTEND SERVICE LINES TO NEW 6" WATERLINE
2. ALL CURB STOP AND SERVICE LINE LOCATIONS ARE APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION
3. IF CURB STOP WAS NOT LOCATED FIELD LOCATE CURB STOP AND REPLACE EXIST SRVC CONNECTION WITH NEW CONNECTION TO NEW 6" WATERLINE

DESCRIPTION	DATE
REVISION 1	
REVISION 2	
REVISION 3	
REVISION 4	

DRAWN BY ZCF DATE 3/8/2023
DESIGNED BY LAL/ZCF DATE 3/8/2023
CHECKED BY CDB/JJM DATE 12/8/2022
APPROVED BY _____ DATE _____

SCALES:
PLAN
HORIZONTAL 0 10 20 40
VERTICAL 0 5 10

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2022 WATERLINE REPLACEMENT PROJECT – PHASE 2
HALL AVE WATER PLAN & PROFILE

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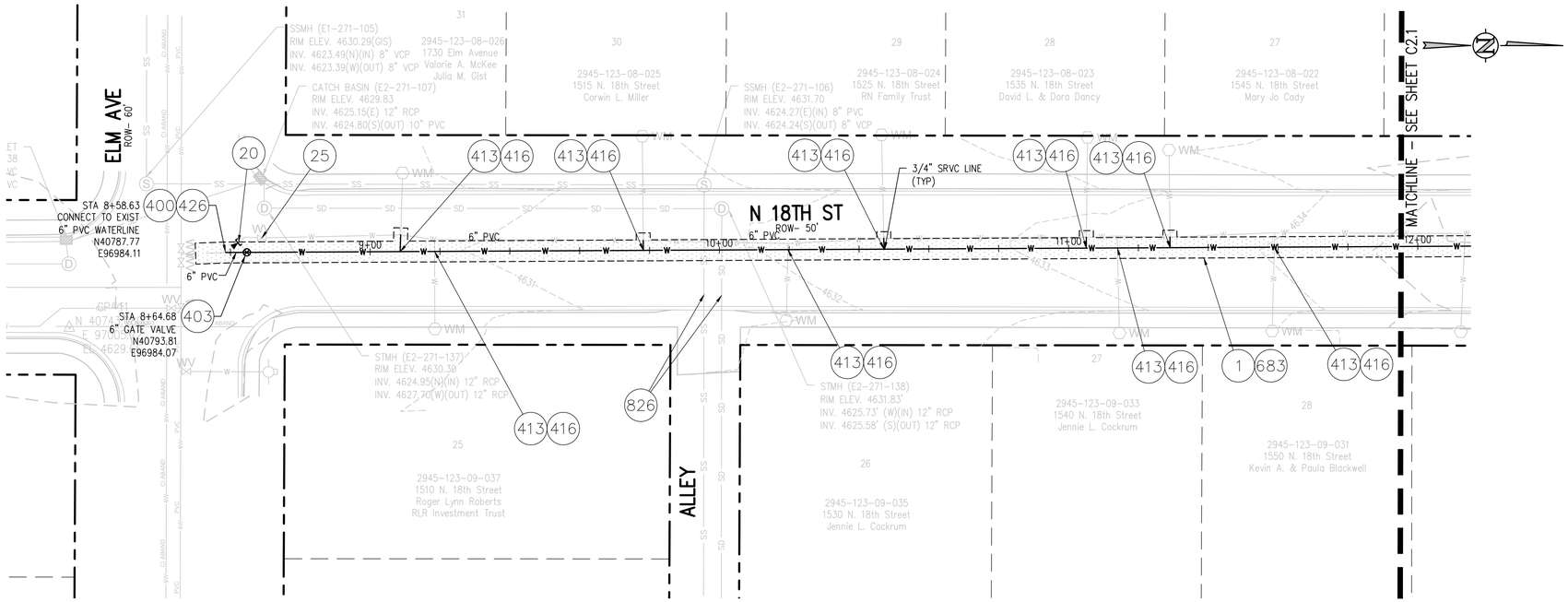

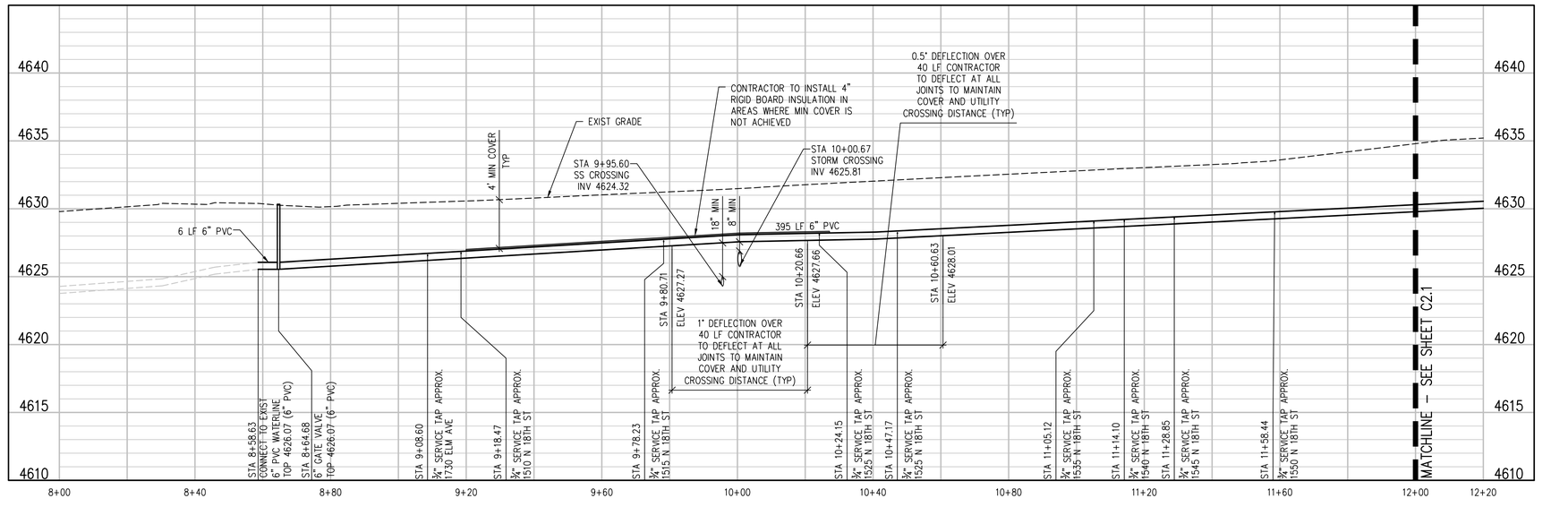

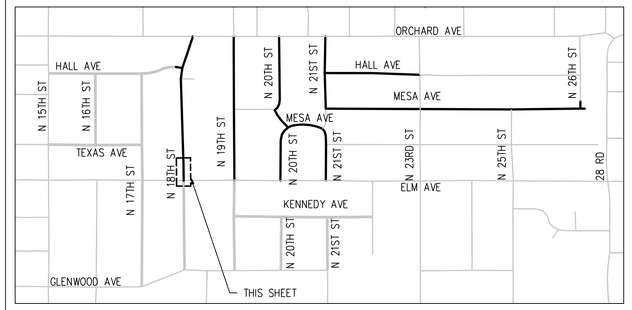

KEY MAP
NTS

CONSTRUCTION NOTES

(1) 202 - REMOVAL OF ASPHALT MAT. SAW CUT AND REMOVE ASPHALT AS SHOWN. (INDICATED BY DOT HATCH PATTERN).

(20) 202 - ABANDON PIPE. ABANDONED BY PLUGGING REMAINING ENDS WITH CONCRETE.

(25) 202 - ABANDON EXISTING WATER VALVE. CLOSE VALVE, REMOVE TOP HALF OF EXISTING VALVE BOX, FILL CAVITY TO FINISHED SUBGRADE WITH FLOW FILL MATERIAL.

(403) 102.8B/108.3 - GATE VALVE. (SIZE AS SHOWN)

(408) 102.8/108.3 - CROSS (SIZE AS SHOWN)

(413) 102.7C/108.4 - WATER SERVICE LINE (TYPE K COPPER) (SIZE AS SHOWN ON PLAN)

(416) 102.8J/108.4 - CORPORATION STOP (INSTALL ONLY) (SIZE AS SHOWN ON PLAN)

(426) CONNECT TO EXISTING WATER PIPE/VALVE/FITTING. THE CONTRACT UNIT PRICE FOR WATER PIPE SHALL INCLUDE THE COST OF CONNECTION TO EXISTING PIPELINE

(683) 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (4" THICK ON TOP OF 6" ABC) (GRADING SX, BINDER GRADE PG 64-22, GYR 75.) (TWO 2" LIFTS)

(826) PROTECT EXISTING UTILITY LINE IN PLACE

NOTES:
1. CONNECT TO EXISTING SERVICE LINES OR EXTEND SERVICE LINES TO NEW 6" WATERLINE
2. ALL CURB STOP AND SERVICE LINE LOCATIONS ARE APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION
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DESCRIPTION	DATE
REVISION 1	
REVISION 2	
REVISION 3	
REVISION 4	

DRAWN BY ZCF DATE 3/8/2023
DESIGNED BY LAL/ZCF DATE 3/8/2023
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APPROVED BY DATE

SCALES:
PLAN
HORIZONTAL 0 10 20 40
VERTICAL 0 5 10

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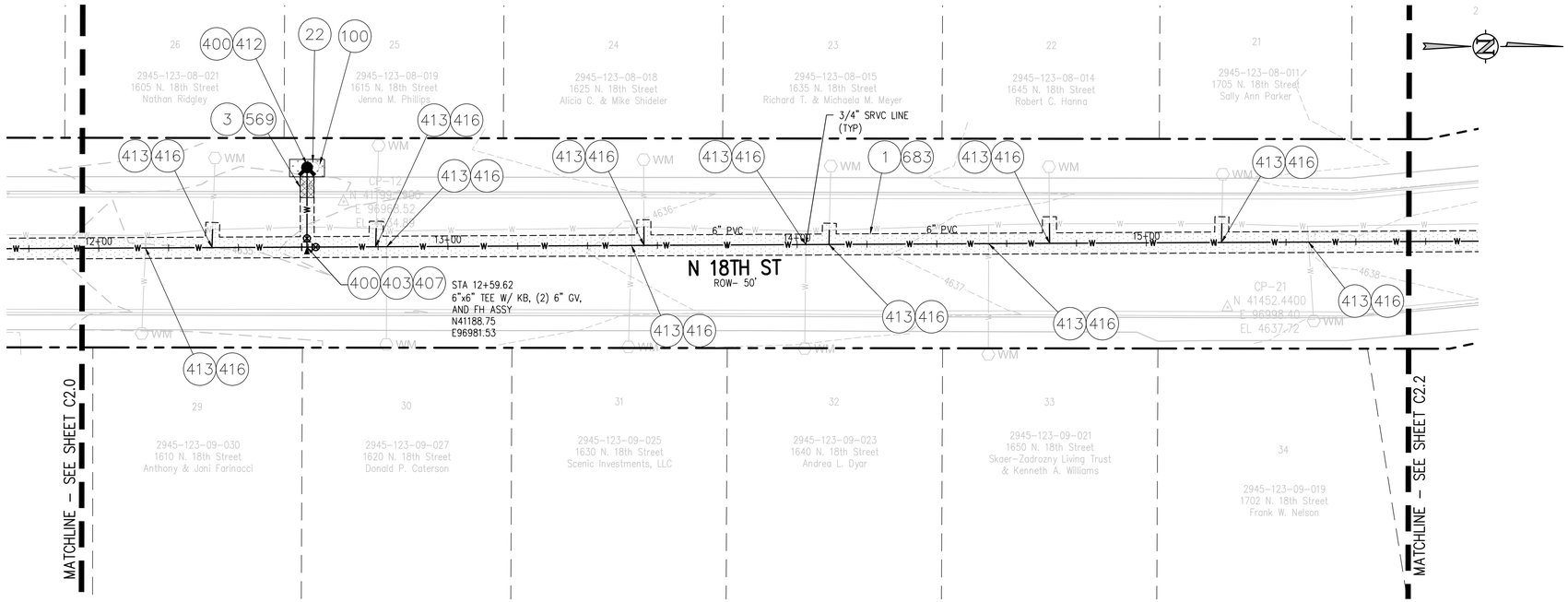
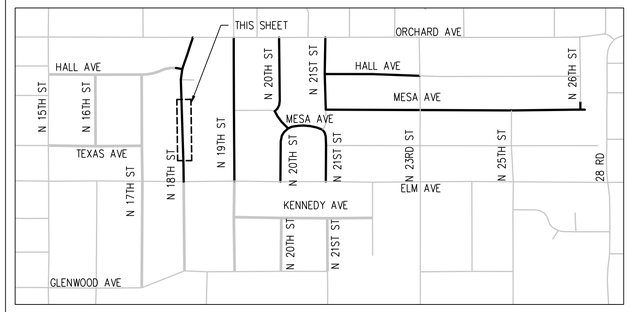
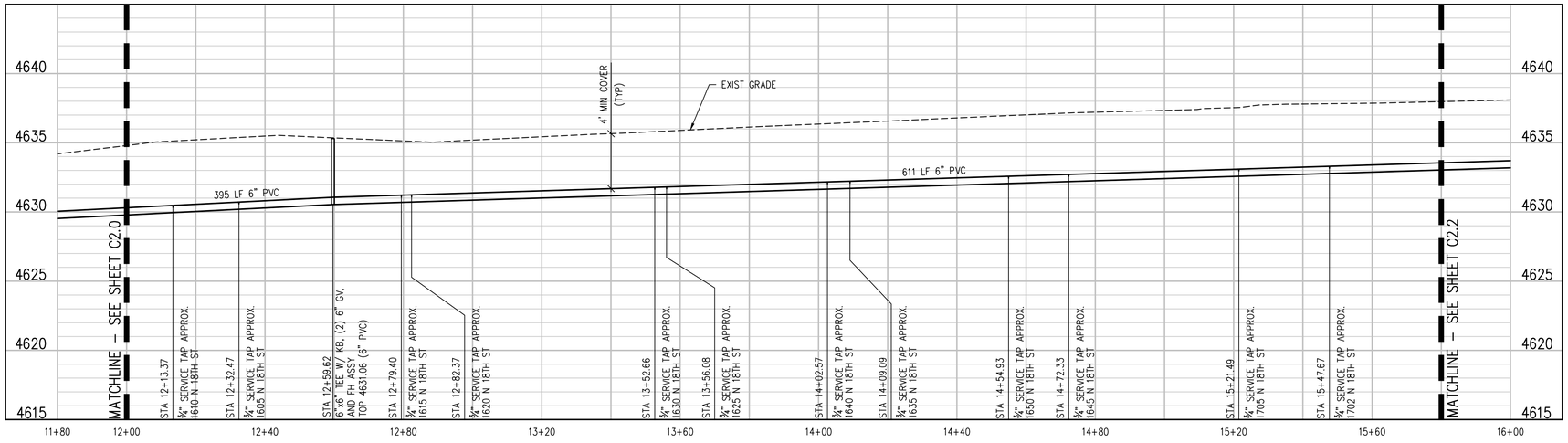
2022 WATERLINE REPLACEMENT PROJECT – PHASE 2
N 18TH ST WATER PLAN & PROFILE

C2.0





KEY MAP
NTS



CONSTRUCTION NOTES

1. 202 - REMOVAL OF ASPHALT MAT. SAW CUT AND REMOVE ASPHALT AS SHOWN. (INDICATED BY DOT HATCH PATTERN).
3. 202 - REMOVAL OF CONCRETE. SAW CUT AND REMOVE CONCRETE AS SHOWN. (INDICATED BY CROSS HATCH PATTERN) INCLUDES BUT NOT LIMITED TO CURB, GUTTER, SIDEWALK, DRIVEWAY, SLABS, V-PAN, CURB RAMPS, INTERSECTION CORNERS, APRONS, AND LANDSCAPE BORDERS.
22. 202 - REMOVE EXISTING FIRE HYDRANT AND RETURN TO CITY SHOPS.
100. 210 - RESET LANDSCAPE GROUND COVER. CONTRACTOR SHALL REMOVE GROUND COVER AND ANY UNDERLYING WEED BARRIER AS NEEDED AND STOCKPILE MATERIALS. CONTRACTOR SHALL RESET THESE MATERIALS AND PROVIDE ADDITIONAL MATERIALS AS NEEDED TO RESTORE LANDSCAPING.
400. 102.7/108.2 - WATER MAIN PIPE (C-900 PVC DR-18) (SIZE AS SHOWN). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.
403. 102.8B/108.3 - GATE VALVE. (SIZE AS SHOWN)
407. 102.8/108.3 - TEE (SIZE AS SHOWN)
412. 102.8A/108.3 - FIRE HYDRANT
413. 102.7C/108.4 - WATER SERVICE LINE (TYPE K COPPER) (SIZE AS SHOWN ON PLAN)
416. 102.8J/108.4 - CORPORATION STOP (INSTALL ONLY) (SIZE AS SHOWN ON PLAN)
569. 608.06 - MONOLITHIC CURB, GUTTER AND SIDEWALK (5' WIDE)
683. 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (4" THICK ON TOP OF 6" ABC) (GRADING SX, BINDER GRADE PG 64-22, GYR 75.) (TWO 2" LIFTS)

NOTES:
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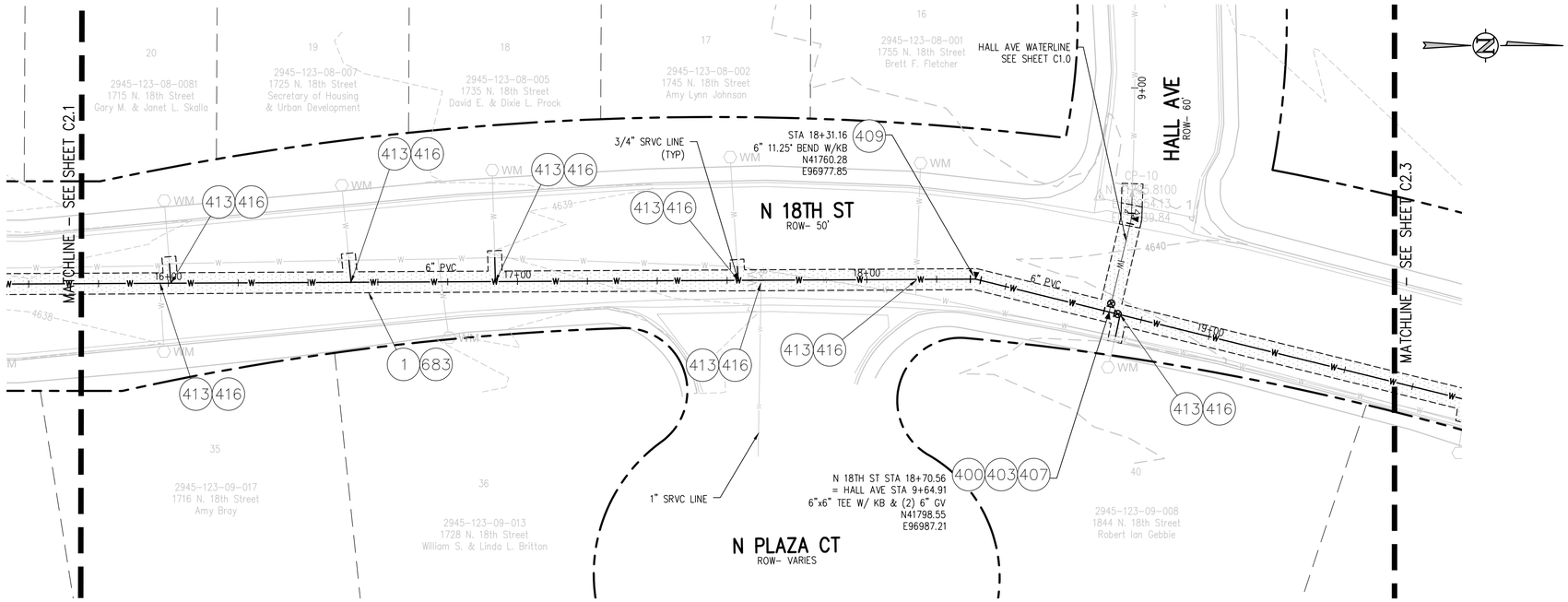
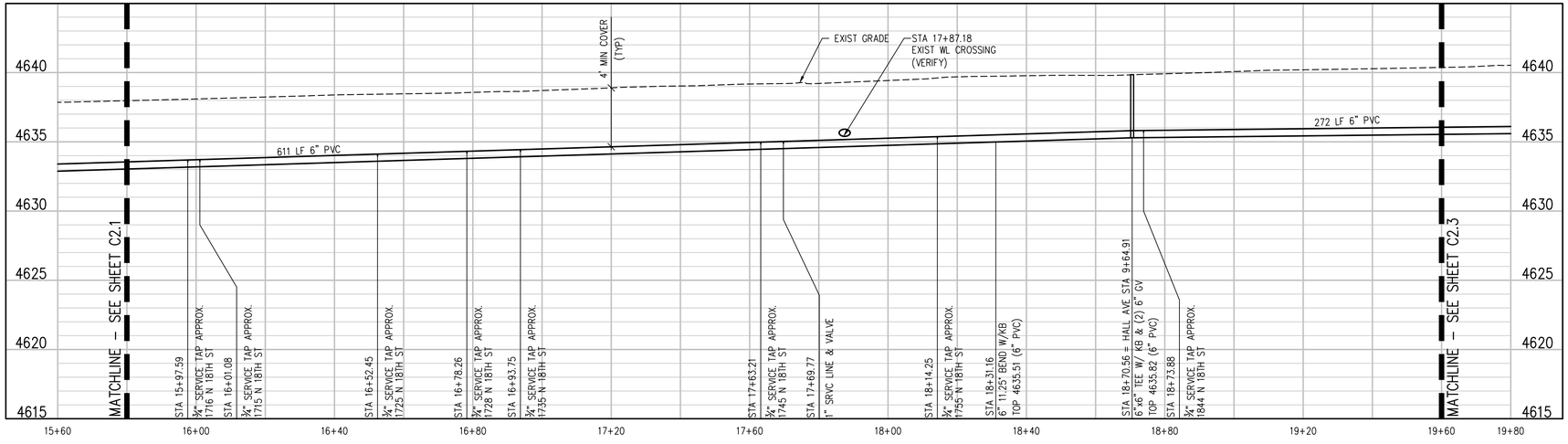
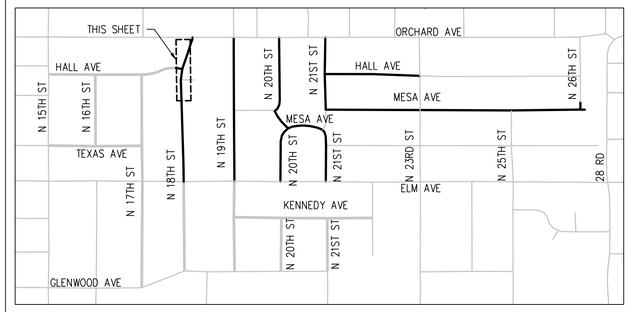
C2.1







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CONSTRUCTION NOTES

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403. 102.8B/108.3 - GATE VALVE. (SIZE AS SHOWN)
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413. 102.7C/108.4 - WATER SERVICE LINE (TYPE K COPPER) (SIZE AS SHOWN ON PLAN)
416. 102.8J/108.4 - CORPORATION STOP (INSTALL ONLY) (SIZE AS SHOWN ON PLAN).
683. 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (4" THICK ON TOP OF 6" ABC) (GRADING SX, BINDER GRADE PG 64-22, GYR 75.) (TWO 2" LIFTS)

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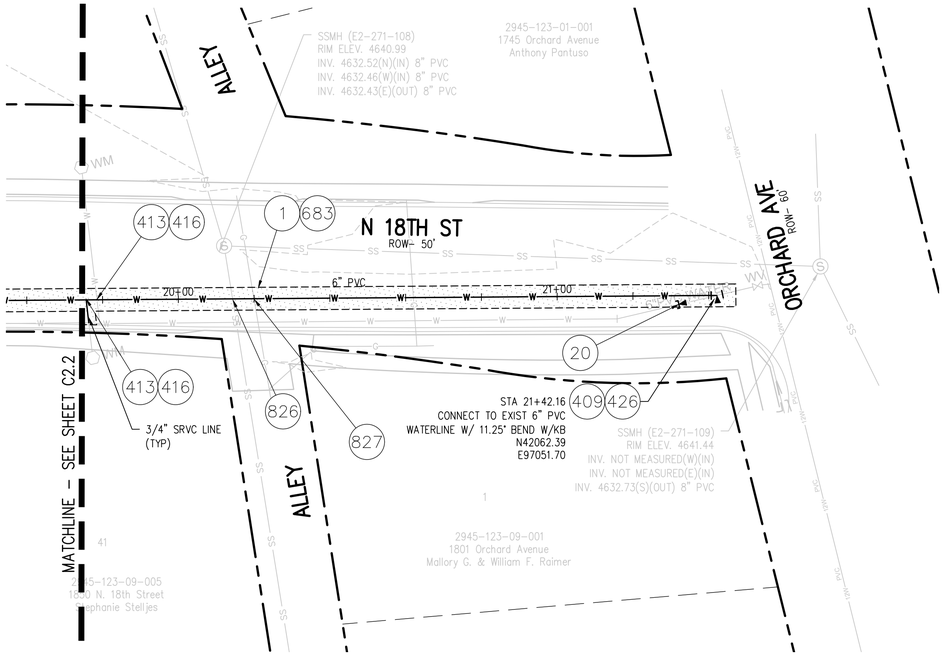
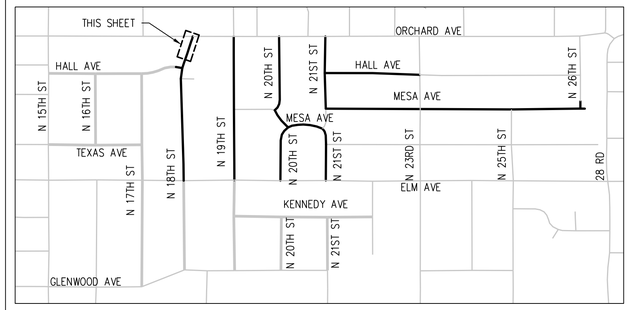
C2.2





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CONSTRUCTION NOTES

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20. 202 - ABANDON PIPE. ABANDON BY PLUGGING REMAINING ENDS WITH CONCRETE.
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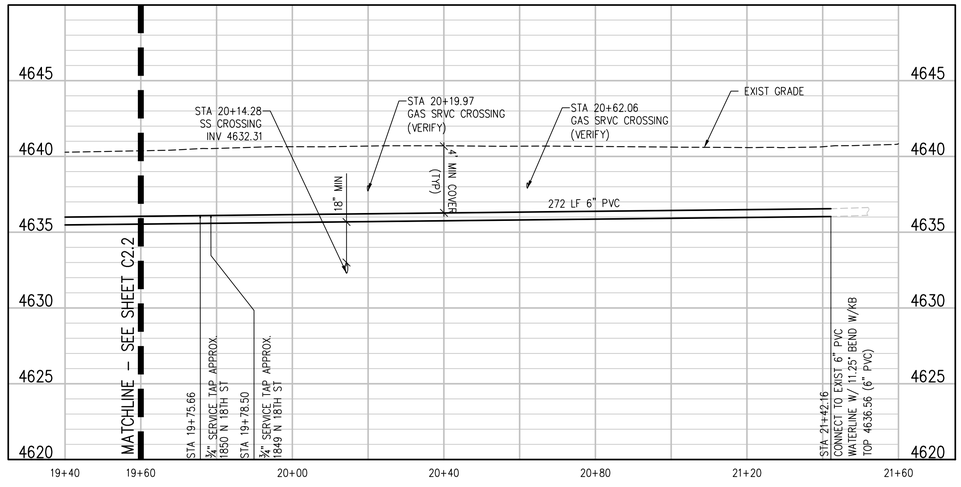
426. CONNECT TO EXISTING WATER PIPE/VALVE/FITTING. THE CONTRACT UNIT PRICE FOR WATER PIPE SHALL INCLUDE THE COST OF CONNECTION TO EXISTING PIPELINE
683. 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (4" THICK ON TOP OF 6" ABC) (GRADING SX, BINDER GRADE PG 64-22, GYR 75.) (TWO 2" LIFTS)
826. PROTECT EXISTING UTILITY LINE IN PLACE
827. PROTECT EXISTING GAS.



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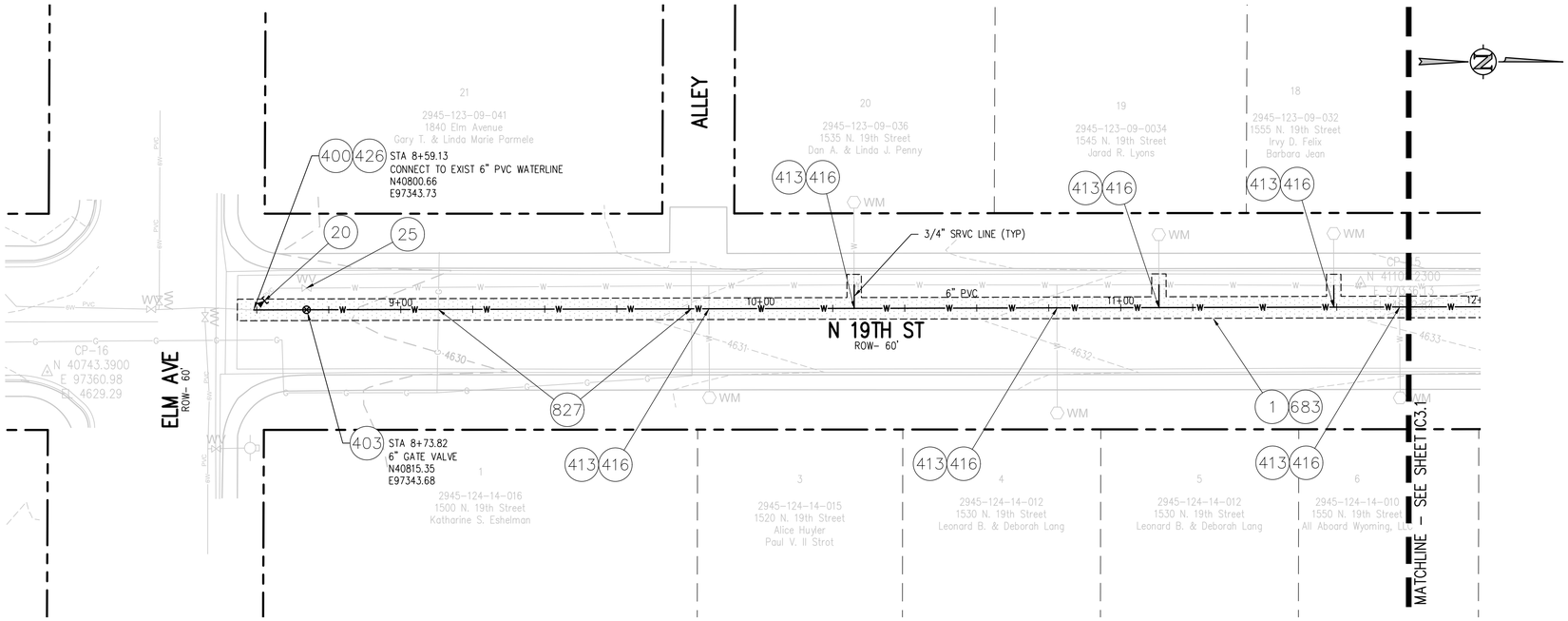
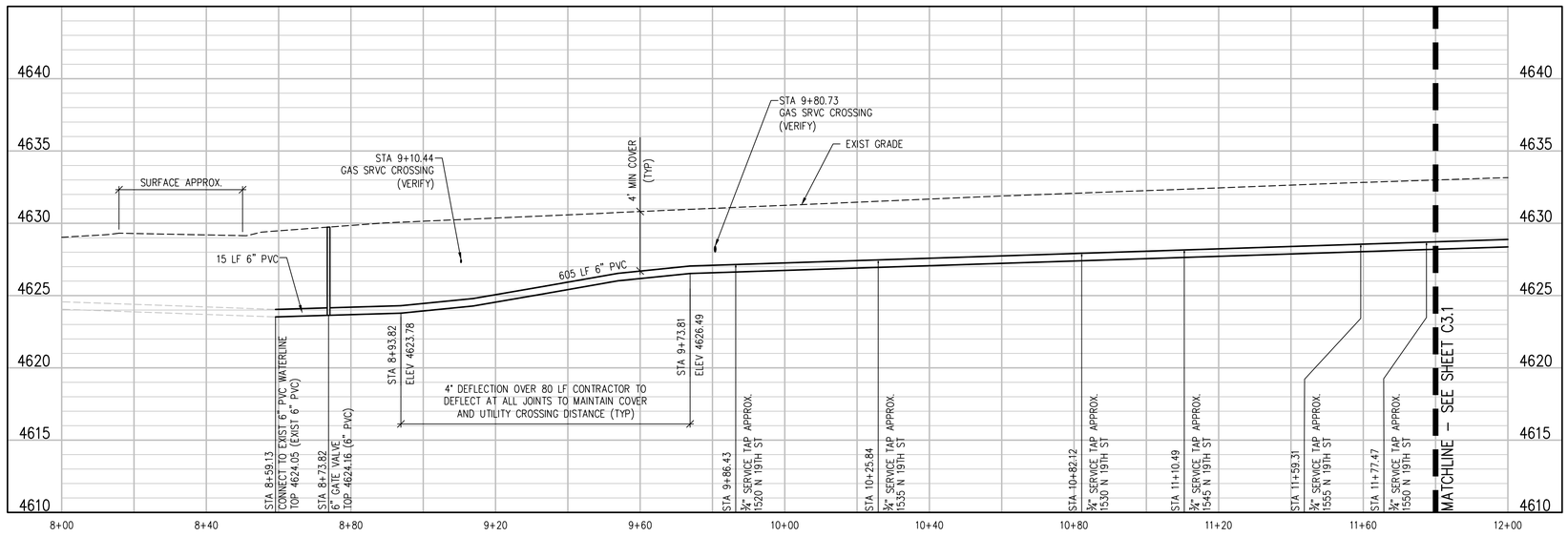
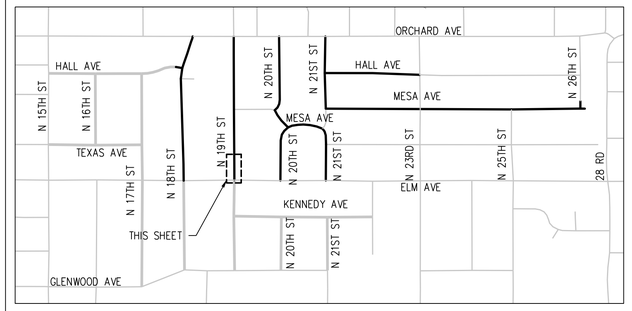
C2.3







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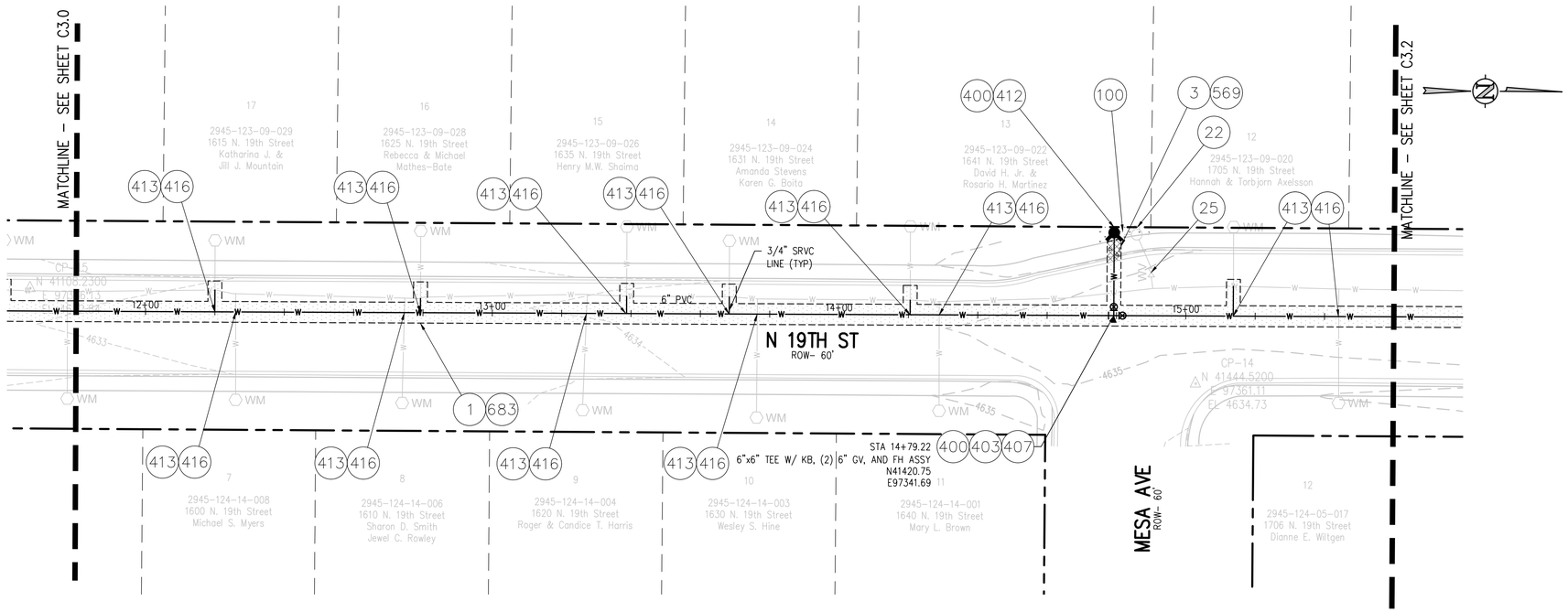
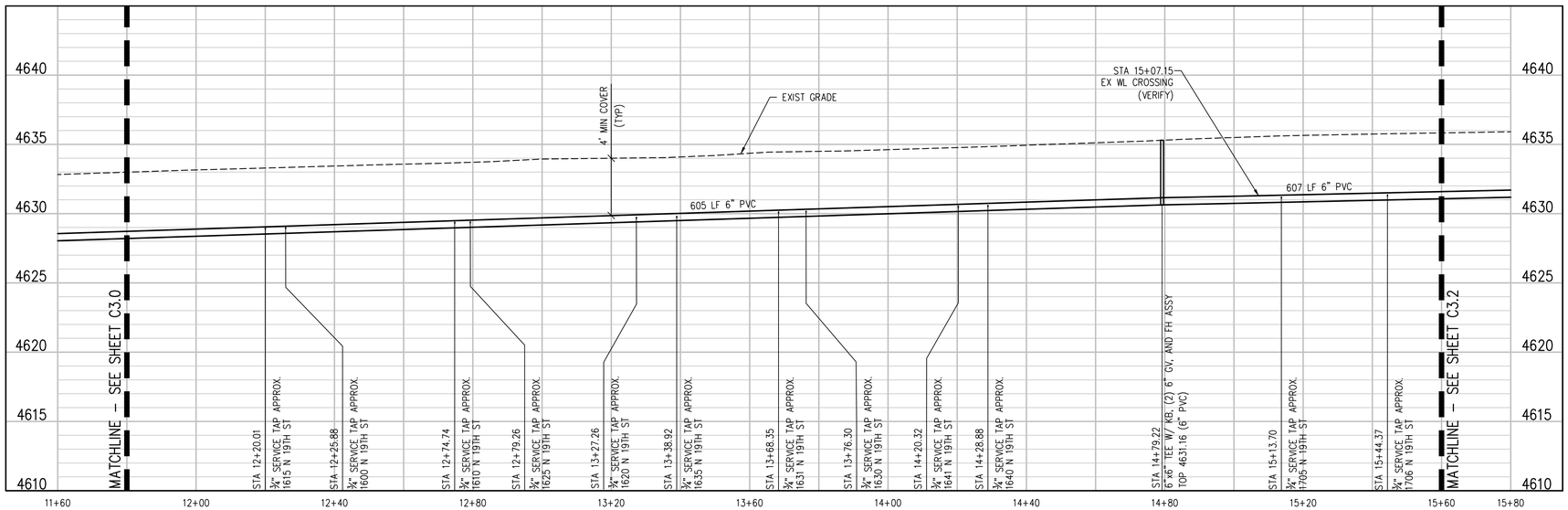
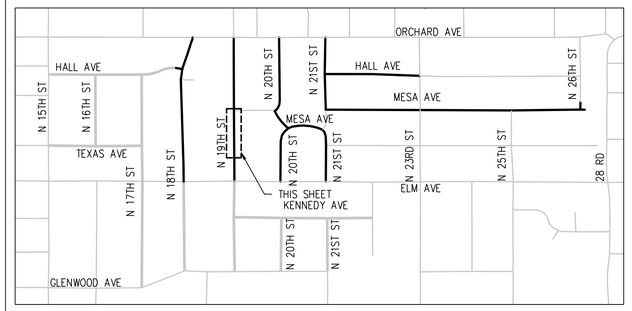
C3.0







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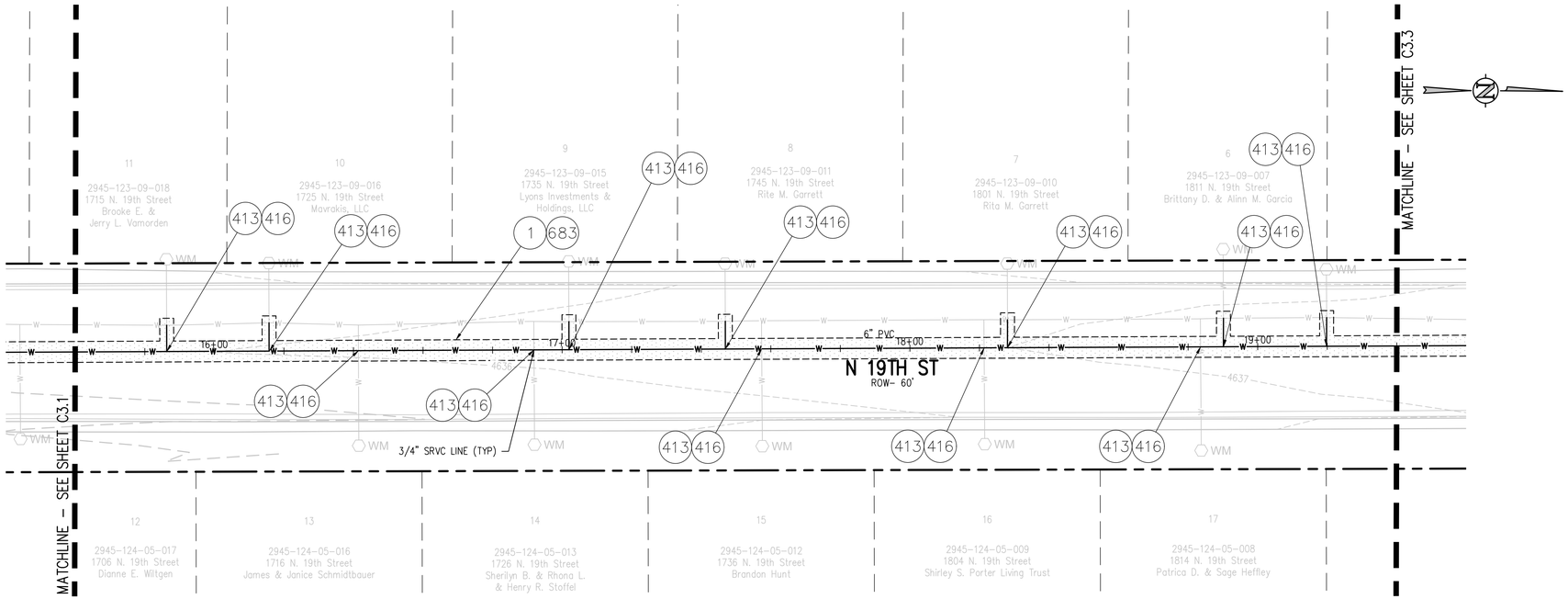
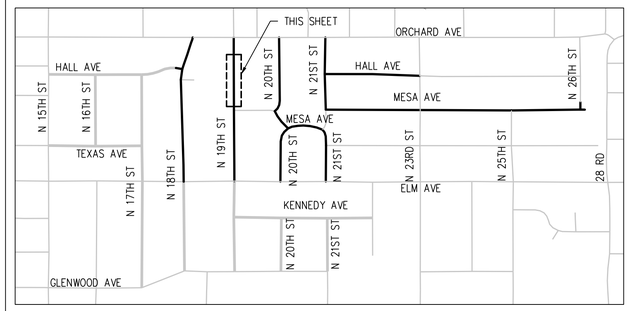
C3.1





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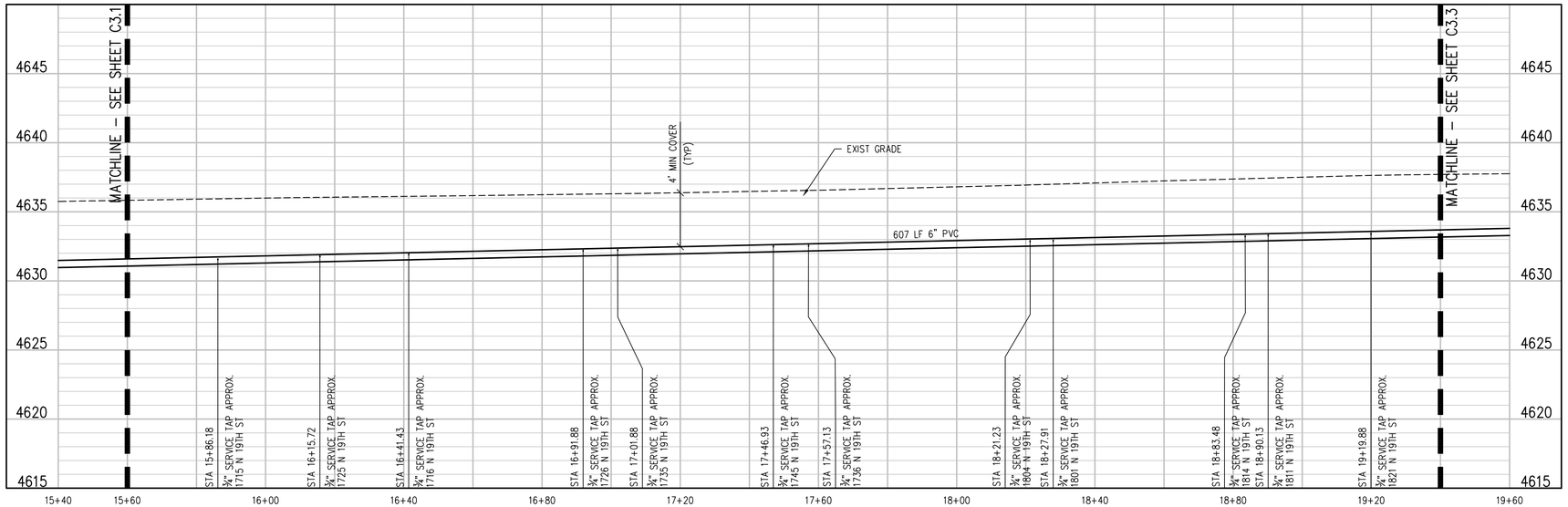

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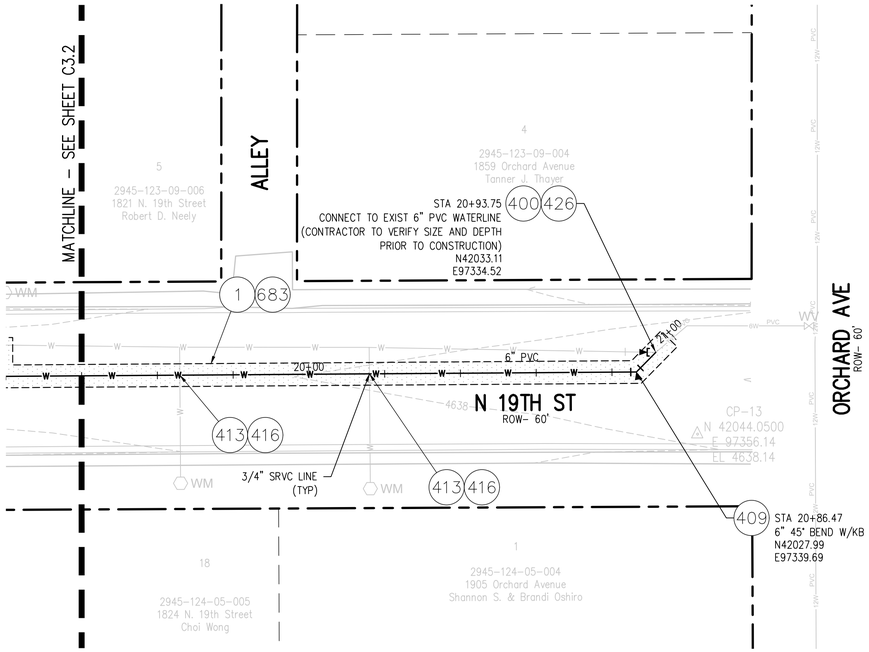
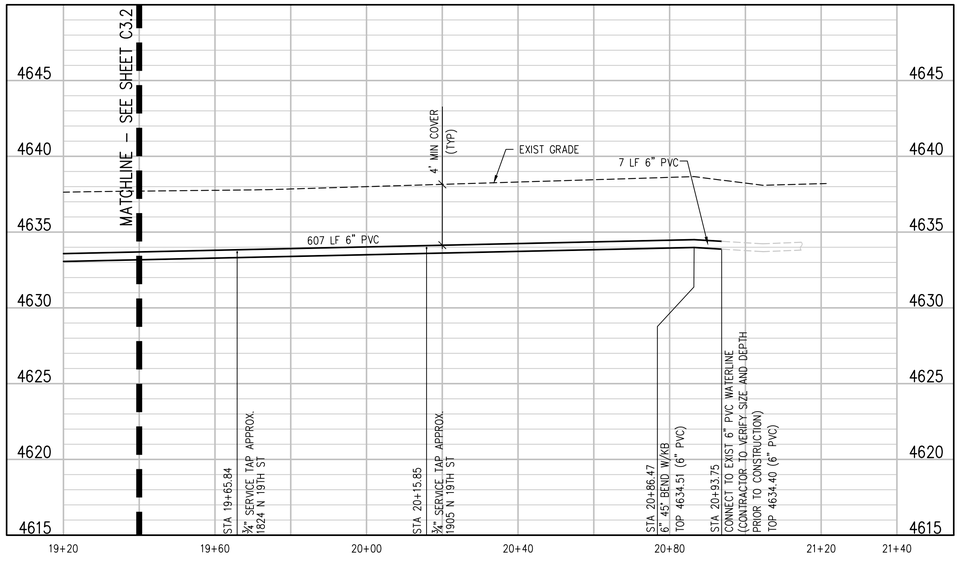
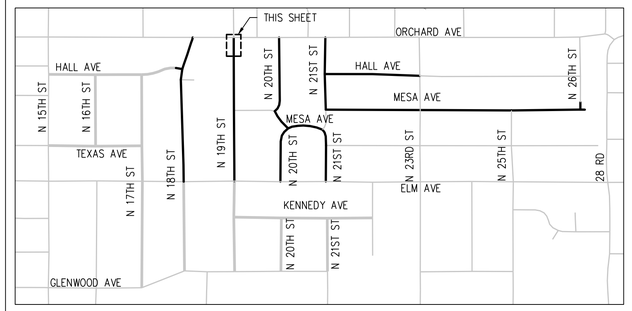
C3.2







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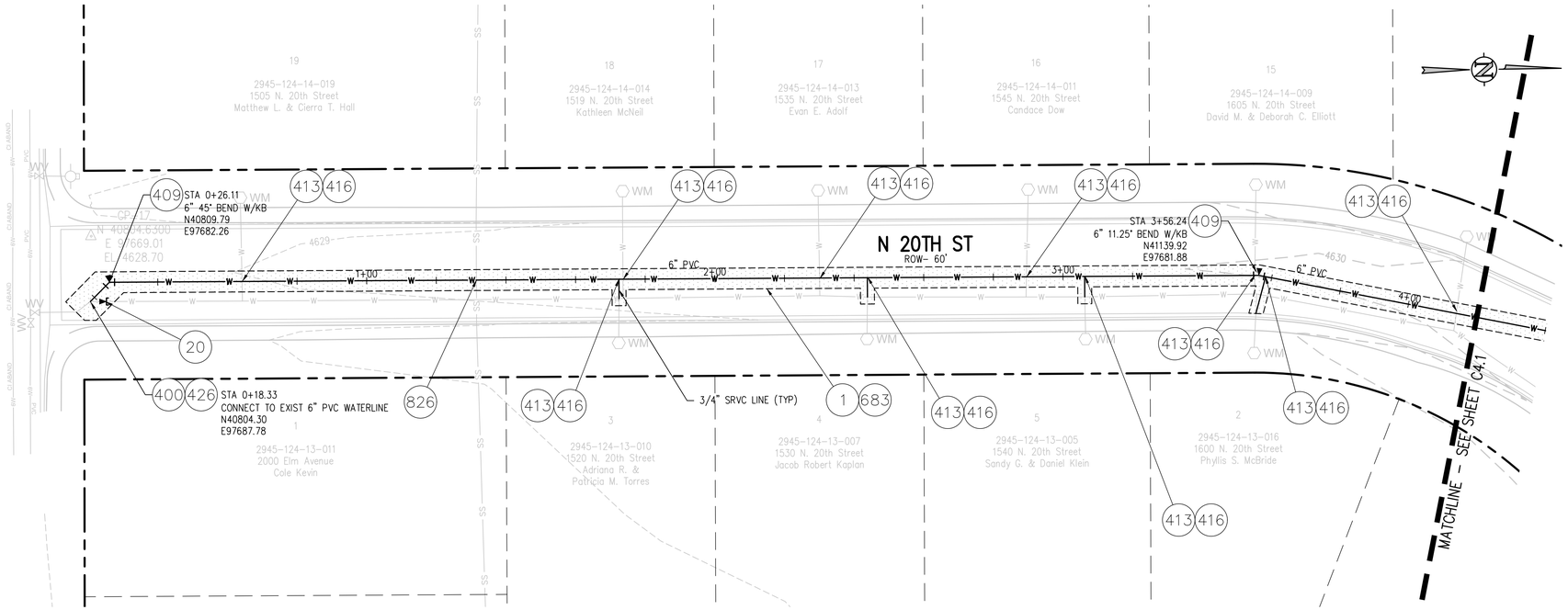
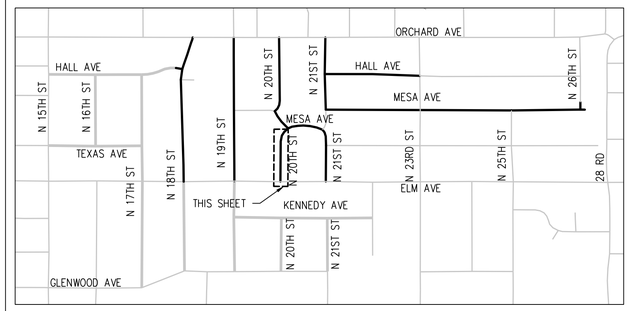
2022 WATERLINE REPLACEMENT PROJECT – PHASE 2
N 19TH ST WATER PLAN & PROFILE

C3.3





KEY MAP
NTS

CONSTRUCTION NOTES

(1) 202 - REMOVAL OF ASPHALT MAT. SAW CUT AND REMOVE ASPHALT AS SHOWN. (INDICATED BY DOT HATCH PATTERN).

(20) 202 - ABANDON PIPE. ABANDONED BY PLUGGING REMAINING ENDS WITH CONCRETE.

(400) 102.7/108.2 - WATER MAIN PIPE (C-900 PVC DR-18) (SIZE AS SHOWN). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.

(409) 102.8/108.3 - ELBOW (SIZE AND ANGLE AS SHOWN)

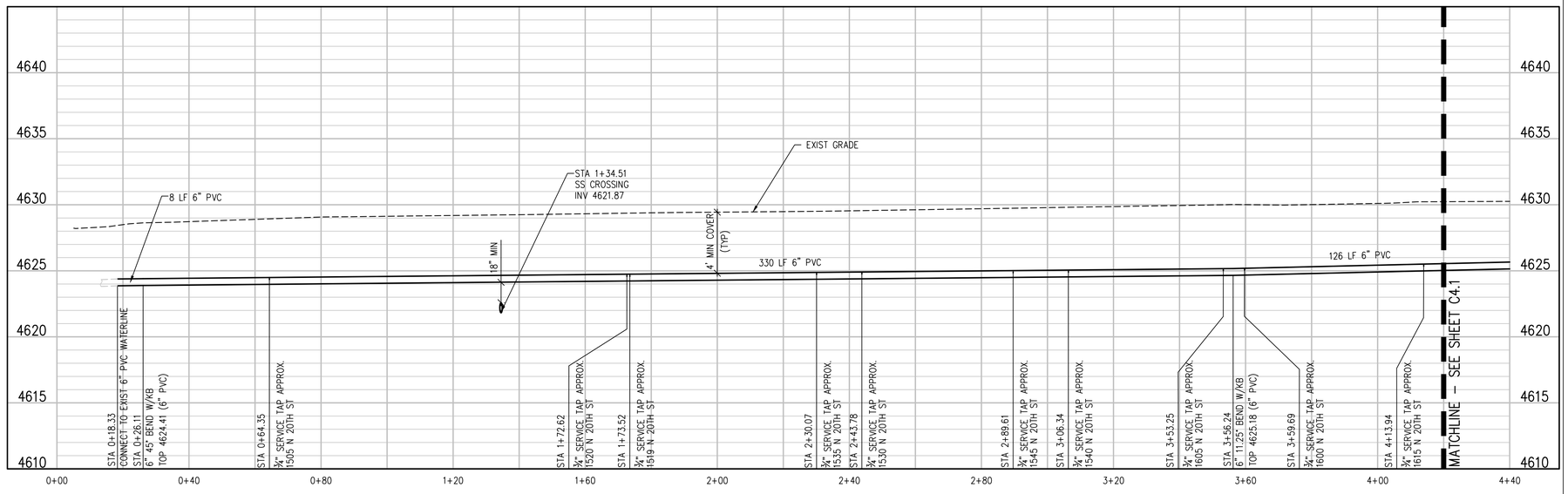
(413) 102.7C/108.4 - WATER SERVICE LINE (TYPE K COPPER) (SIZE AS SHOWN ON PLAN)

(416) 102.8J/108.4 - CORPORATION STOP (INSTALL ONLY) (SIZE AS SHOWN ON PLAN)

(426) CONNECT TO EXISTING WATER PIPE/VALVE/FITTING. THE CONTRACT UNIT PRICE FOR WATER PIPE SHALL INCLUDE THE COST OF CONNECTION TO EXISTING PIPELINE

(683) 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (4" THICK ON TOP OF 6" ABC) (GRADING SX, BINDER GRADE PG 64-22, GYR 75.) (TWO 2" LIFTS)

(826) PROTECT EXISTING UTILITY LINE IN PLACE



NOTES:
1. CONNECT TO EXISTING SERVICE LINES OR EXTEND SERVICE LINES TO NEW 6" WATERLINE
2. ALL CURB STOP AND SERVICE LINE LOCATIONS ARE APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION
3. IF CURB STOP WAS NOT LOCATED FIELD LOCATE CURB STOP AND REPLACE EXIST SRVC CONNECTION WITH NEW CONNECTION TO NEW 6" WATERLINE

DESCRIPTION	DATE
REVISION 1	
REVISION 2	
REVISION 3	
REVISION 4	

DRAWN BY ZCF DATE 3/8/2023
DESIGNED BY LAL/ZCF DATE 3/8/2023
CHECKED BY CDB/JJM DATE 12/8/2022
APPROVED BY DATE

SCALES:
PLAN HORIZONTAL 0 10 20 40
VERTICAL 0 5 10

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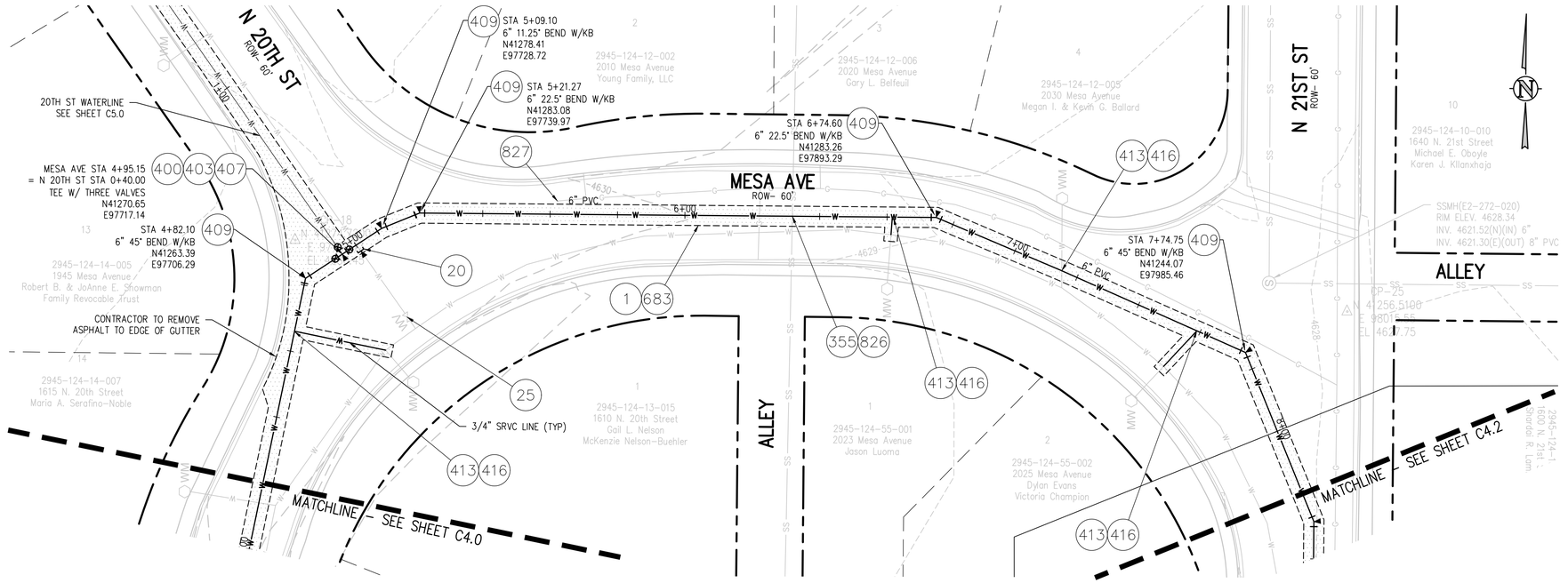
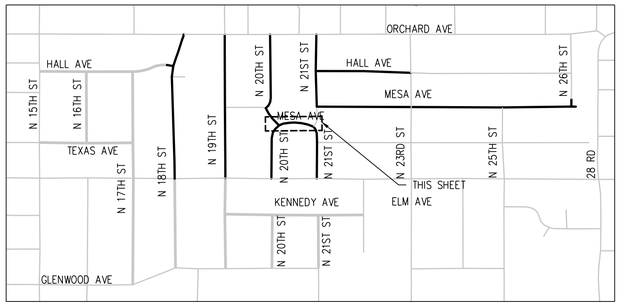
2022 WATERLINE REPLACEMENT PROJECT – PHASE 2
N 20TH ST WATER PLAN & PROFILE

C4.0





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CONSTRUCTION NOTES

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(25) 202 - ABANDON EXISTING WATER VALVE. CLOSE VALVE, REMOVE TOP HALF OF EXISTING VALVE BOX, FILL CAVITY TO FINISHED SUBGRADE WITH FLOW FILL MATERIAL.

(355) 104.40 - CAP TOP HALF OF SEWER IN CONCRETE PER STD. DETAIL GU-04. (WATER LINE LESS THAN 18" ABOVE SEWER LINE)

(400) 102.7/108.2 - WATER MAIN PIPE (C-900 DR-18 PVC) (SIZE AS SHOWN). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.

(403) 102.8B/108.3 - GATE VALVE. (SIZE AS SHOWN)

(407) 102.8/108.3 - TEE (SIZE AS SHOWN)

(409) 102.8/108.3 - ELBOW (SIZE AND ANGLE AS SHOWN)

(413) 102.7C/108.4 - WATER SERVICE LINE (TYPE K COPPER) (SIZE AS SHOWN ON PLAN)

(416) 102.8J/108.4 - CORPORATION STOP (INSTALL ONLY) (SIZE AS SHOWN ON PLAN)

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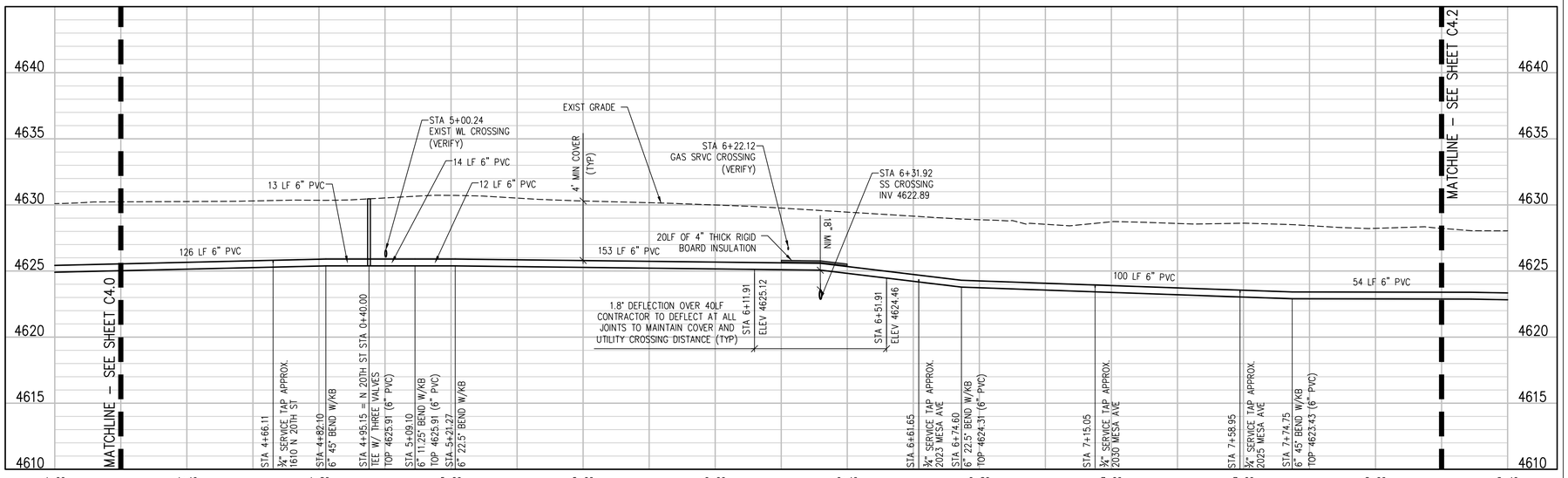
(827) PROTECT EXISTING GAS.



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2022 WATERLINE REPLACEMENT PROJECT – PHASE 2
MESA AVE WATER PLAN & PROFILE

C4.1

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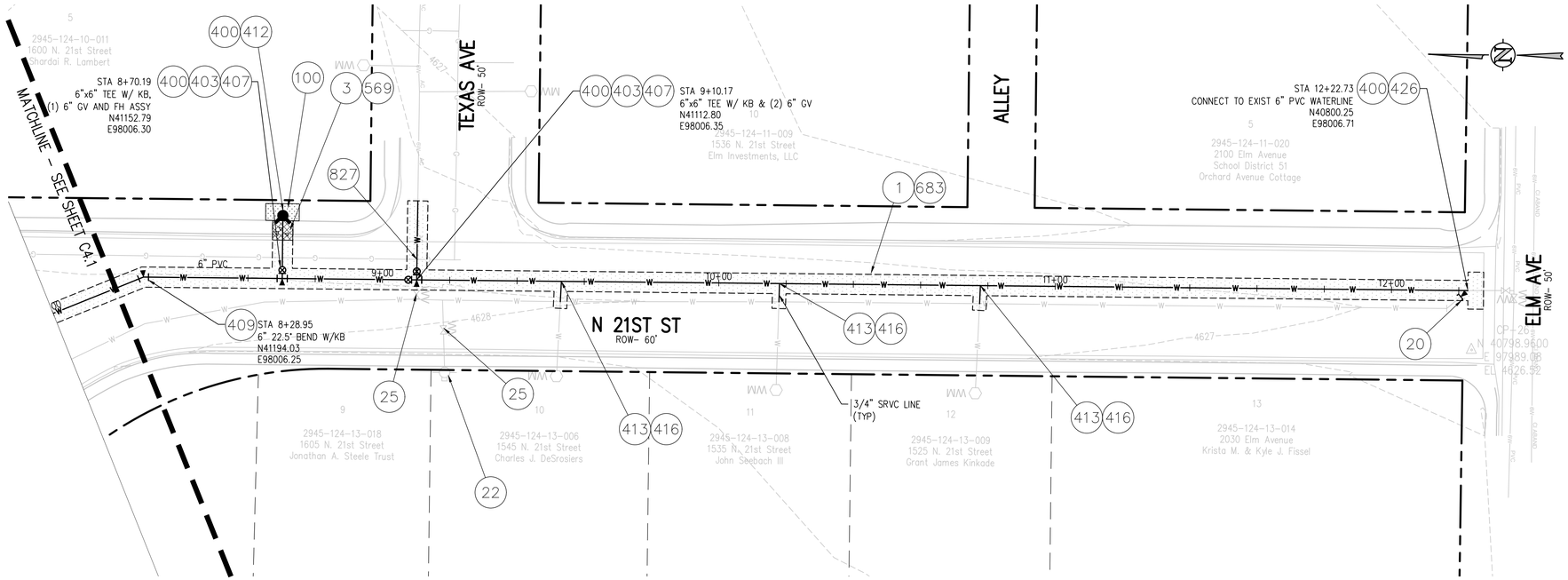

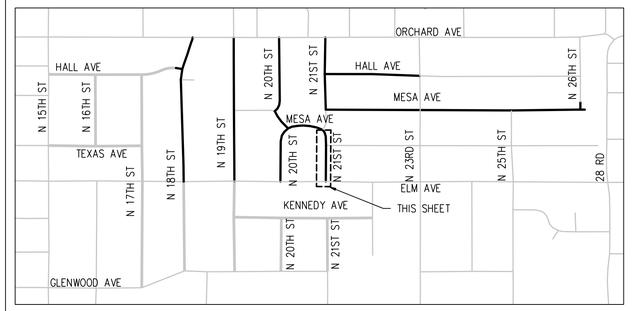

KEY MAP
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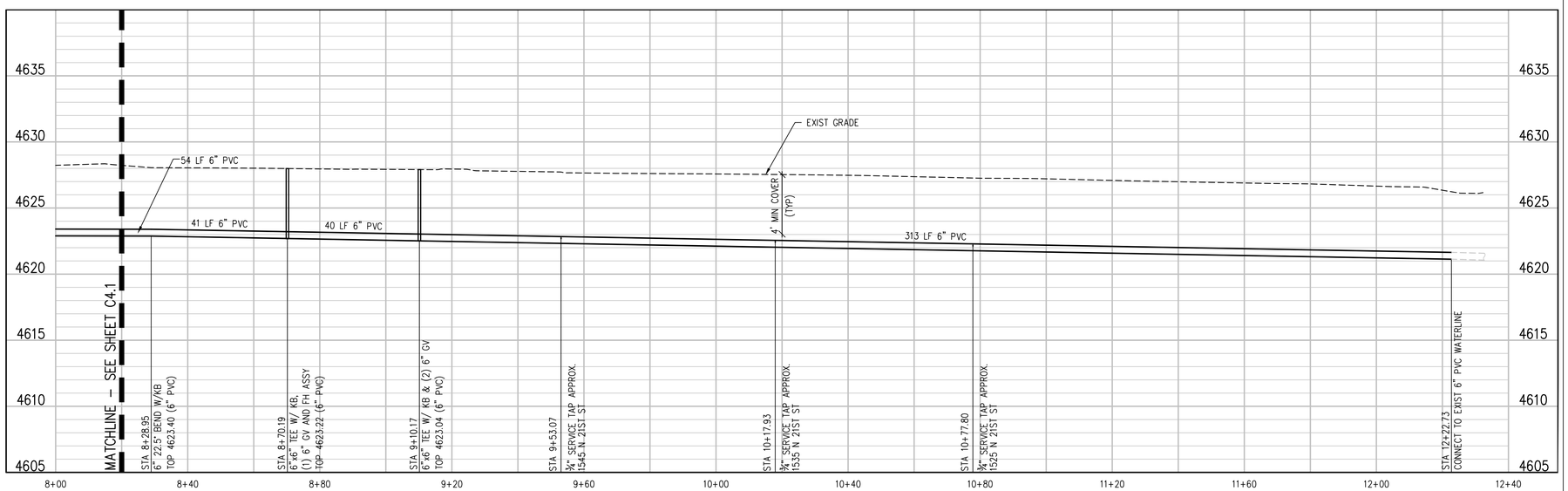

CONSTRUCTION NOTES

(1) 202 - REMOVAL OF ASPHALT MAT. SAW CUT AND REMOVE ASPHALT AS SHOWN. (INDICATED BY DOT HATCH PATTERN).

(3) 202 - REMOVAL OF CONCRETE. SAW CUT AND REMOVE CONCRETE AS SHOWN. (INDICATED BY CROSS HATCH PATTERN) INCLUDES BUT NOT LIMITED TO CURB, GUTTER, SIDEWALK, DRIVEWAY, SLABS, V-PAN, CURB RAMPS, INTERSECTION CORNERS, APRONS, AND LANDSCAPE BORDERS

(20) 202 - ABANDON PIPE. ABANDONED BY PLUGGING REMAINING ENDS WITH CONCRETE.

(22) 202 - REMOVE EXISTING FIRE HYDRANT AND RETURN TO CITY SHOPS.

(25) 202 - ABANDON EXISTING WATER VALVE. CLOSE VALVE, REMOVE TOP HALF OF EXISTING VALVE BOX, FILL CAVITY TO FINISHED SUBGRADE WITH FLOW FILL MATERIAL.

(100) 210 - RESET LANDSCAPE GROUND COVER. CONTRACTOR SHALL REMOVE GROUND COVER AND ANY UNDERLYING WEED BARRIER AS NEEDED AND STOCKPILE MATERIALS. CONTRACTOR SHALL RESET THESE MATERIALS AND PROVIDE ADDITIONAL MATERIALS AS NEEDED TO RESTORE LANDSCAPING.

(400) 102.7/108.2 - WATER MAIN PIPE (C-900 DR-18 PVC) (SIZE AS SHOWN). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.

(403) 102.8B/108.3 - GATE VALVE. (SIZE AS SHOWN)

(407) 102.8/108.3 - TEE (SIZE AS SHOWN)

(409) 102.8/108.3 - ELBOW (SIZE AND ANGLE AS SHOWN)

(412) 102.8A/108.3 - FIRE HYDRANT

(413) 102.7C/108.4 - WATER SERVICE LINE (TYPE K COPPER) (SIZE AS SHOWN ON PLAN)

(416) 102.8J/108.4 - CORPORATION STOP (INSTALL ONLY) (SIZE AS SHOWN ON PLAN)

(426) CONNECT TO EXISTING WATER PIPE/VALVE/FITTING. THE CONTRACT UNIT PRICE FOR WATER PIPE SHALL INCLUDE THE COST OF CONNECTION TO EXISTING PIPELINE

(569) 608.06 - MONOLITHIC CURB, GUTTER AND SIDEWALK (5' WIDE)

(683) 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (4" THICK ON TOP OF 6" ABC) (GRADING SX, BINDER GRADE PG 64-22, GYR 75.) (TWO 2" LIFTS)

(827) PROTECT EXISTING GAS.

NOTES:
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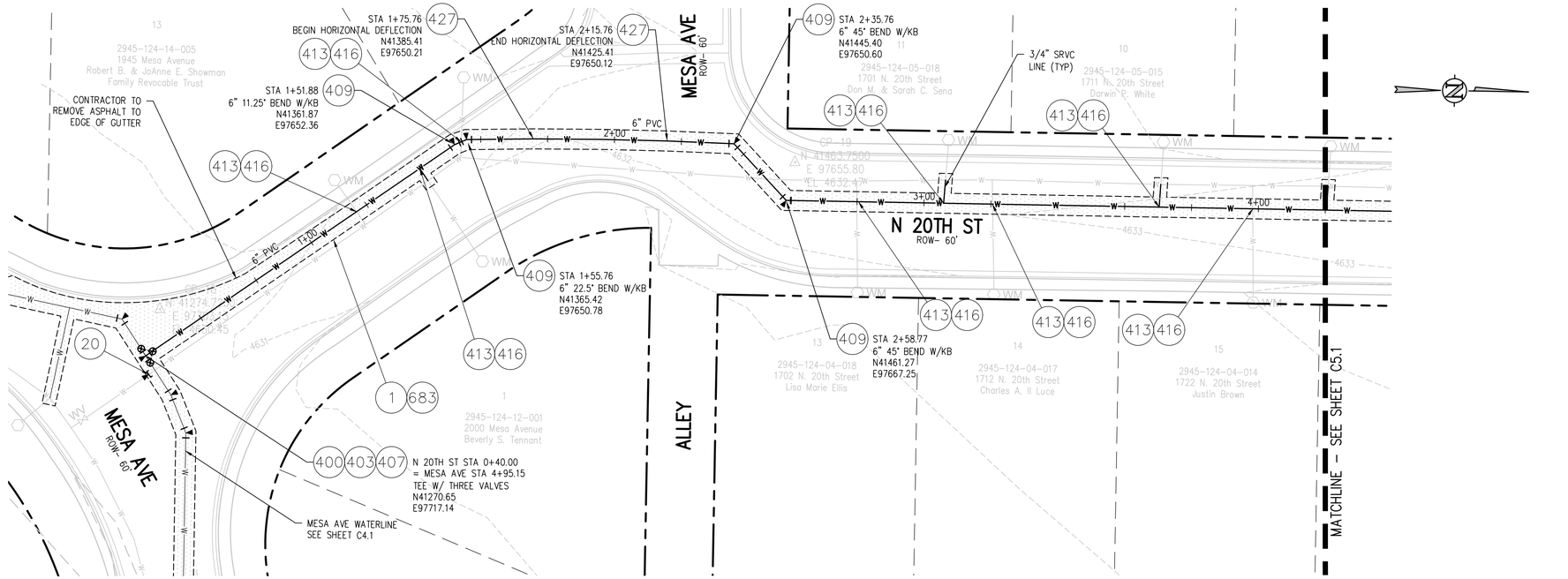
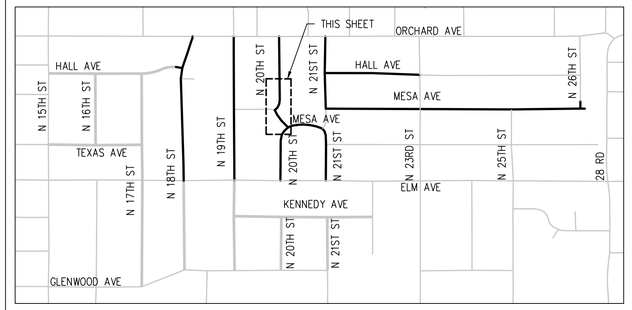
2022 WATERLINE REPLACEMENT PROJECT – PHASE 2
N 21ST ST WATER PLAN & PROFILE

C4.2





KEY MAP
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CONSTRUCTION NOTES

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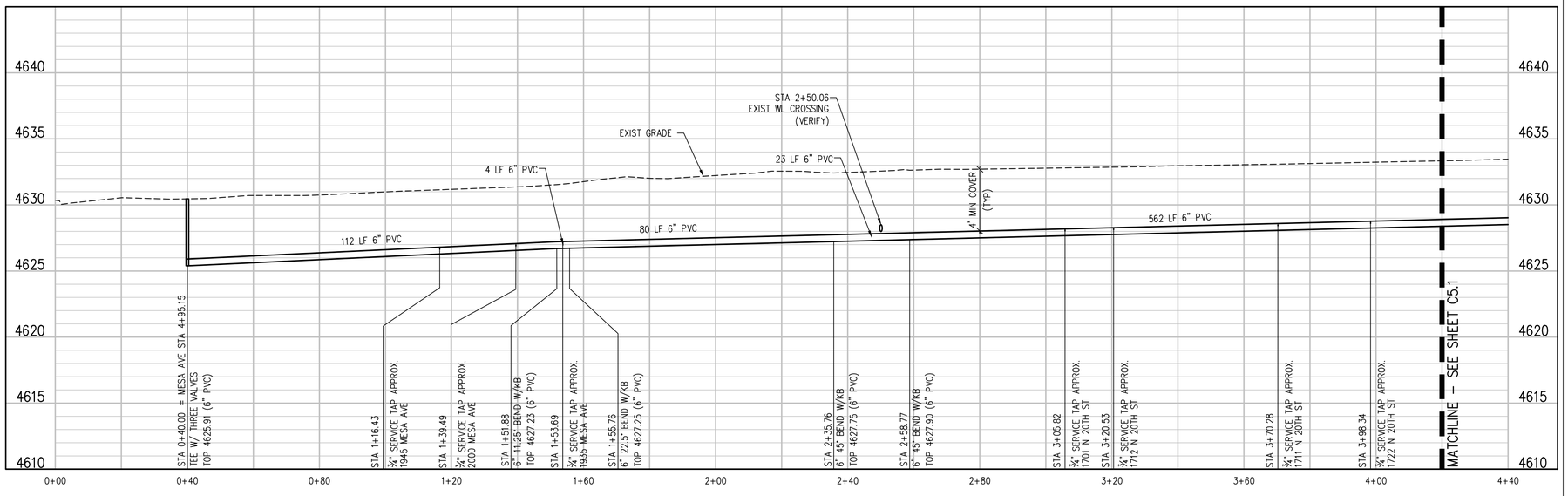
416. 102.8J/108.4 - CORPORATION STOP (INSTALL ONLY) (SIZE AS SHOWN ON PLAN)
427. DEFLECT PIPE AS SHOWN.
683. 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (4" THICK ON TOP OF 6" ABC) (GRADING SX, BINDER GRADE PG 64-22, GYR 75) (TWO 2" LIFTS)



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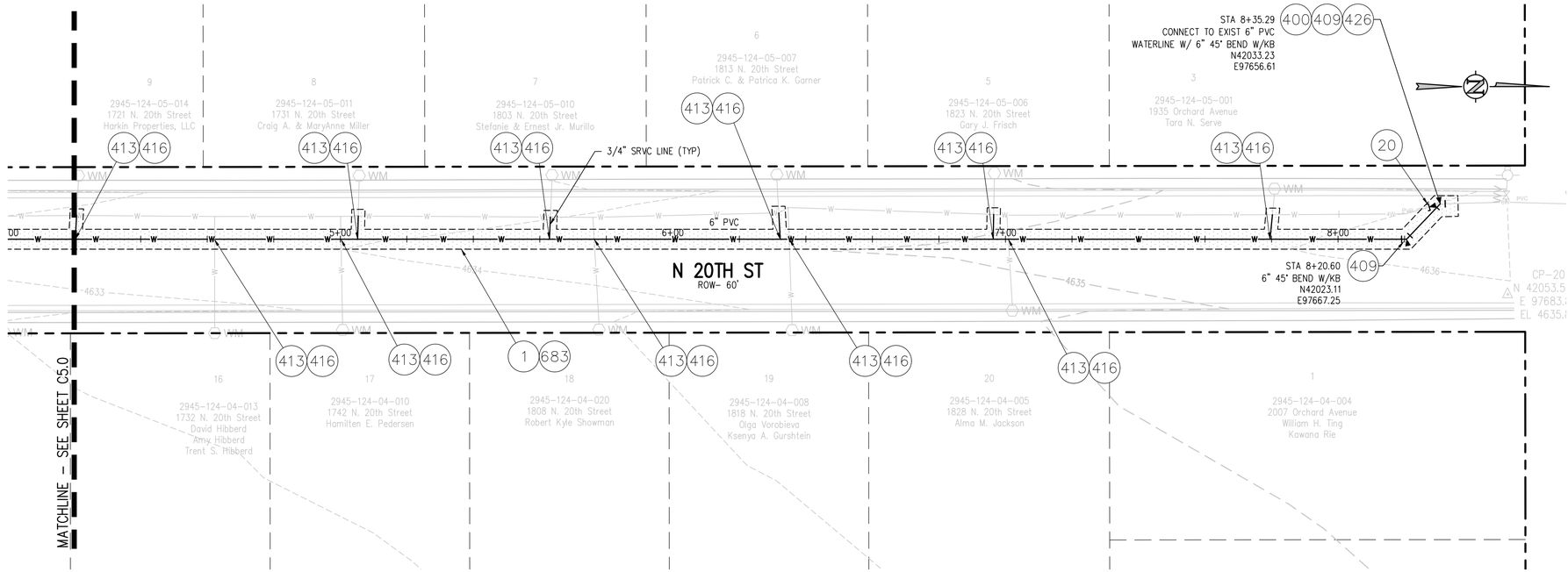
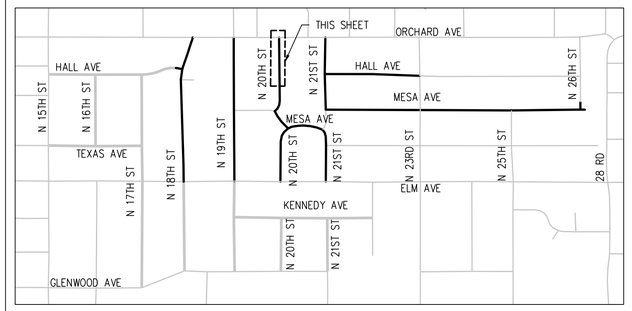
N 20TH ST WATER PLAN & PROFILE

C5.0





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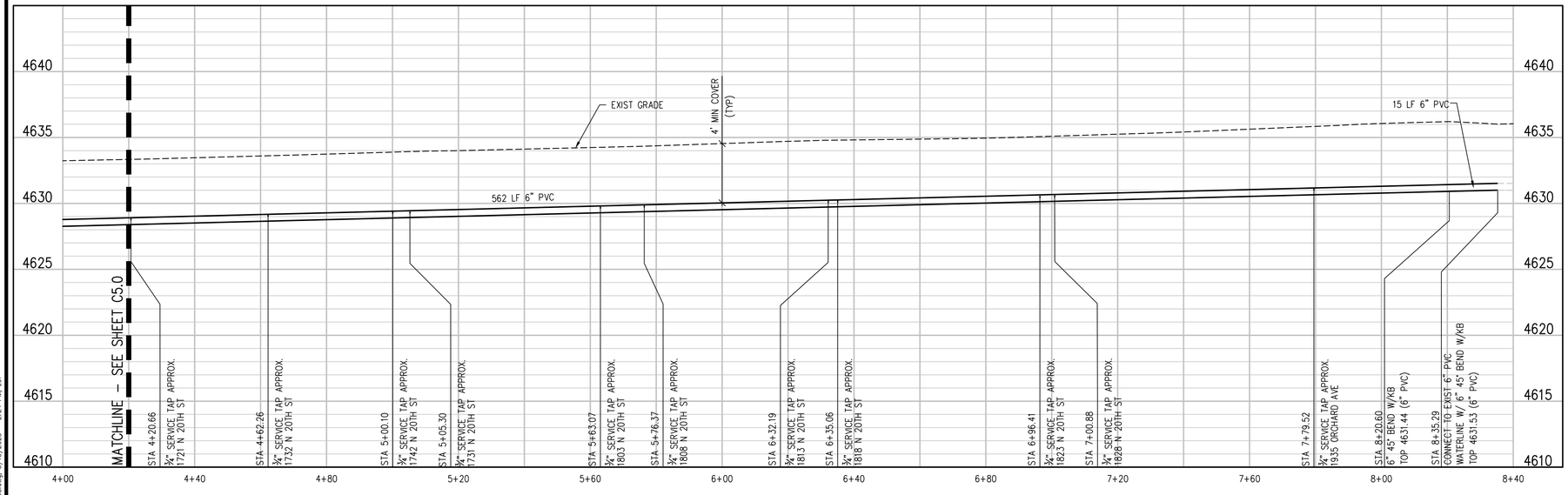

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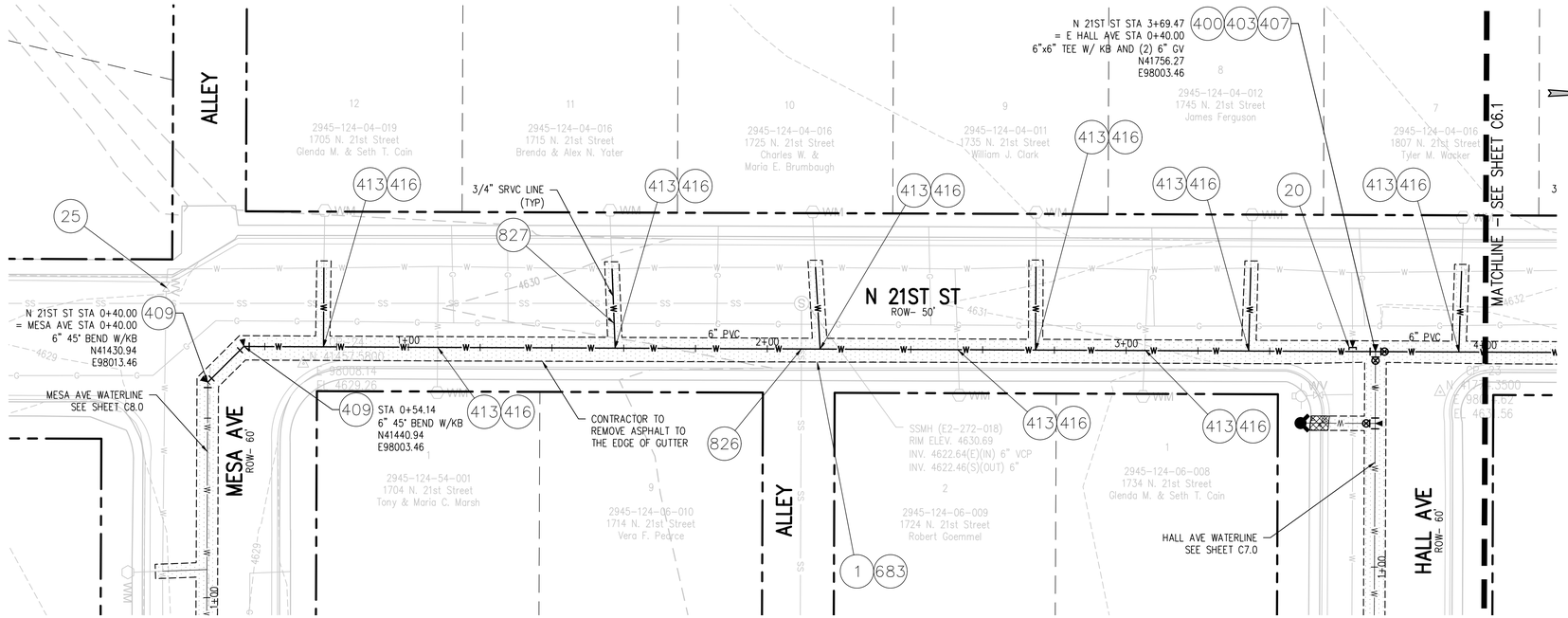
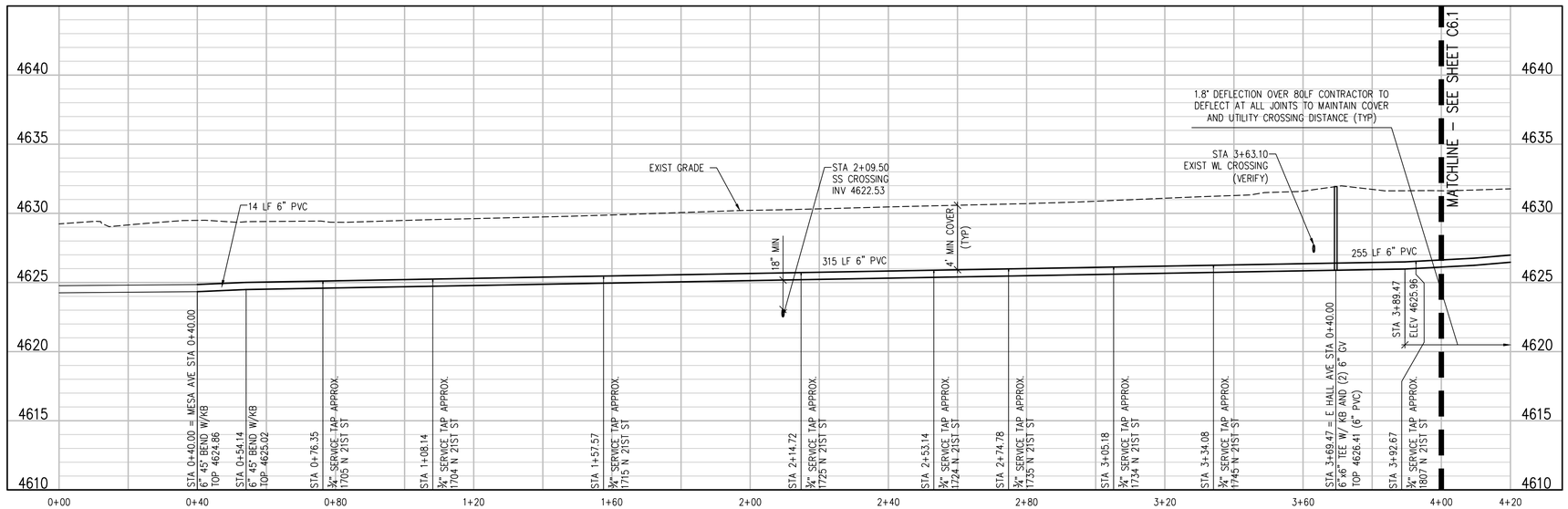
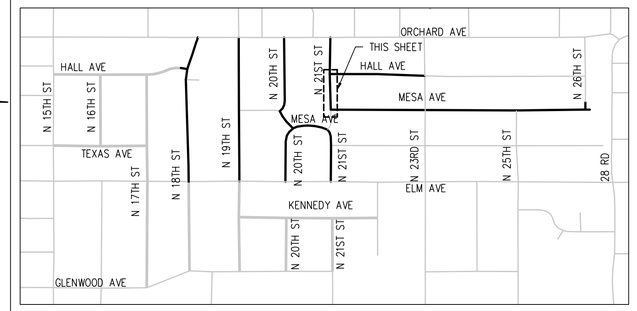
C5.1







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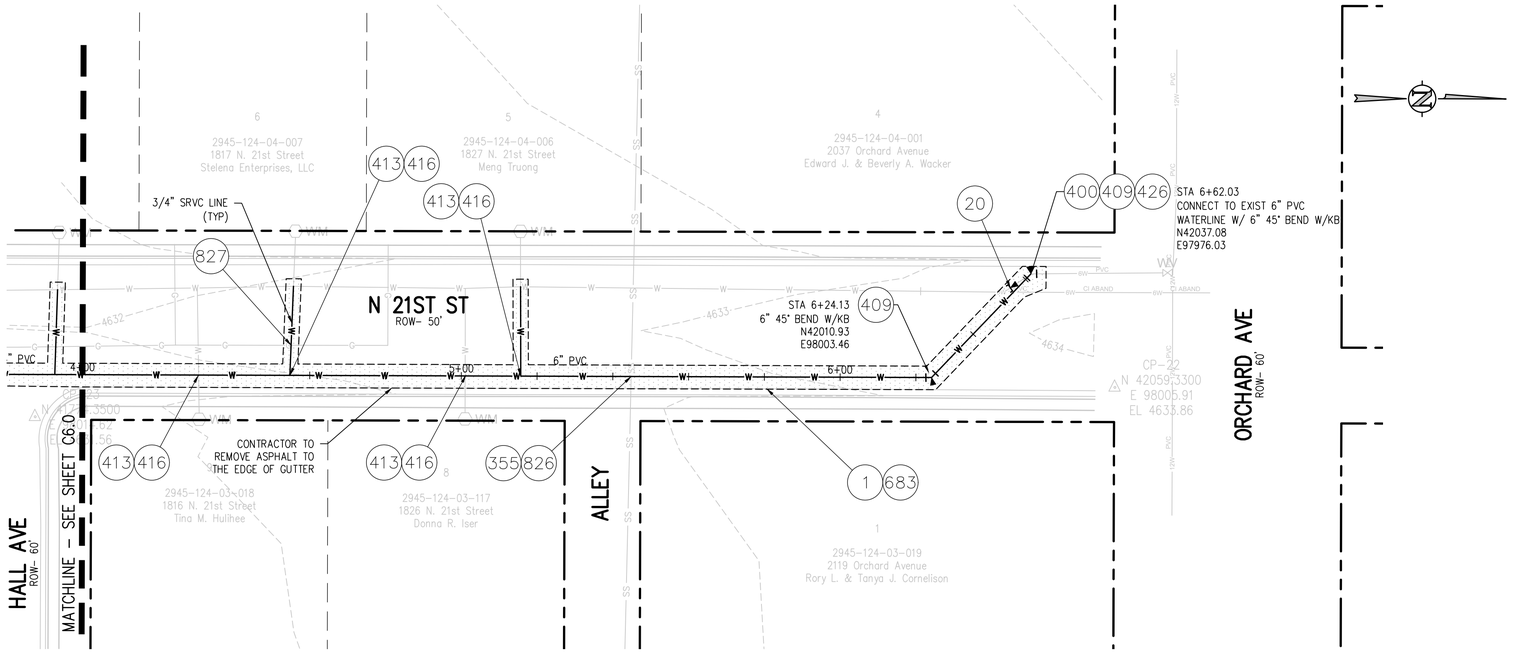
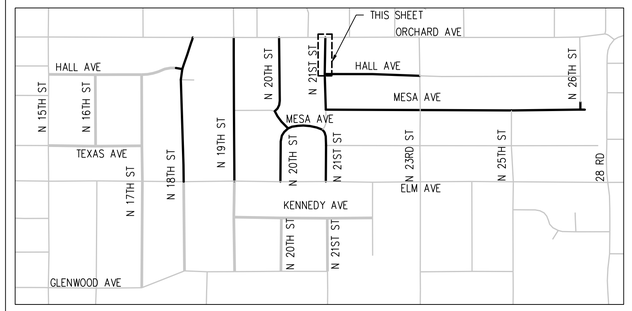
C6.0





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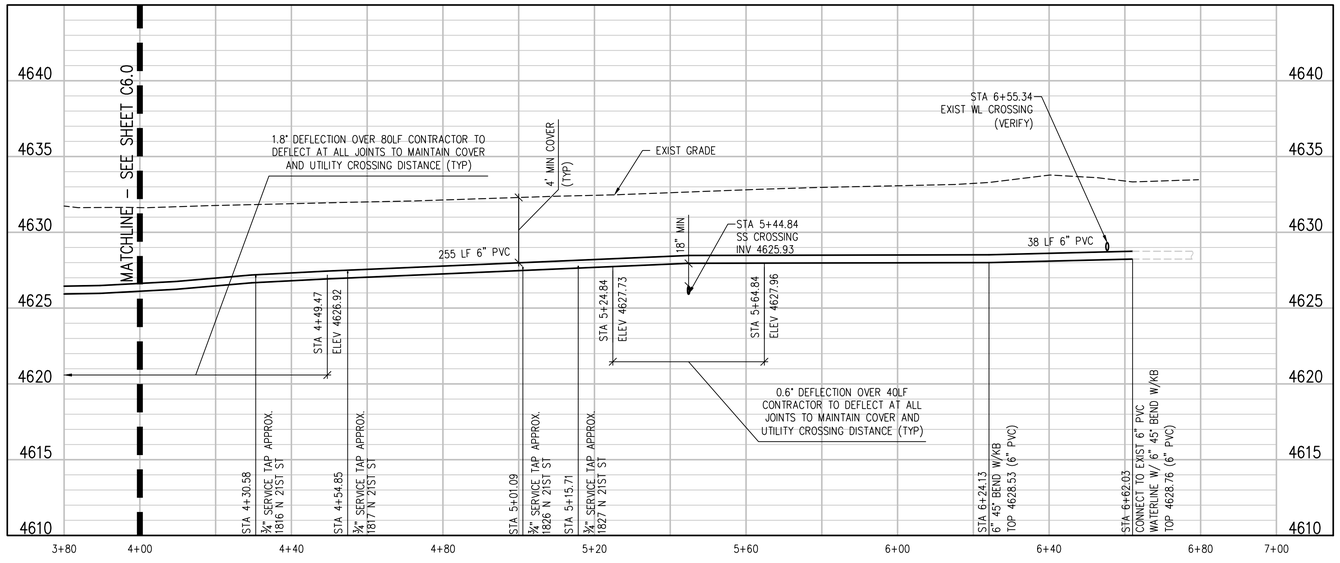

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3. IF CURB STOP WAS NOT LOCATED FIELD LOCATE CURB STOP AND REPLACE EXIST SRVC CONNECTION WITH NEW CONNECTION TO NEW 6" WATERLINE

DESCRIPTION	DATE
REVISION 1	
REVISION 2	
REVISION 3	
REVISION 4	

DRAWN BY ZCF DATE 3/8/2023
DESIGNED BY LAL/ZCF DATE 3/8/2023
CHECKED BY CDB/JJM DATE 12/8/2022
APPROVED BY DATE

SCALES:
PLAN
HORIZONTAL 0 10 20 40
VERTICAL 0 5 10

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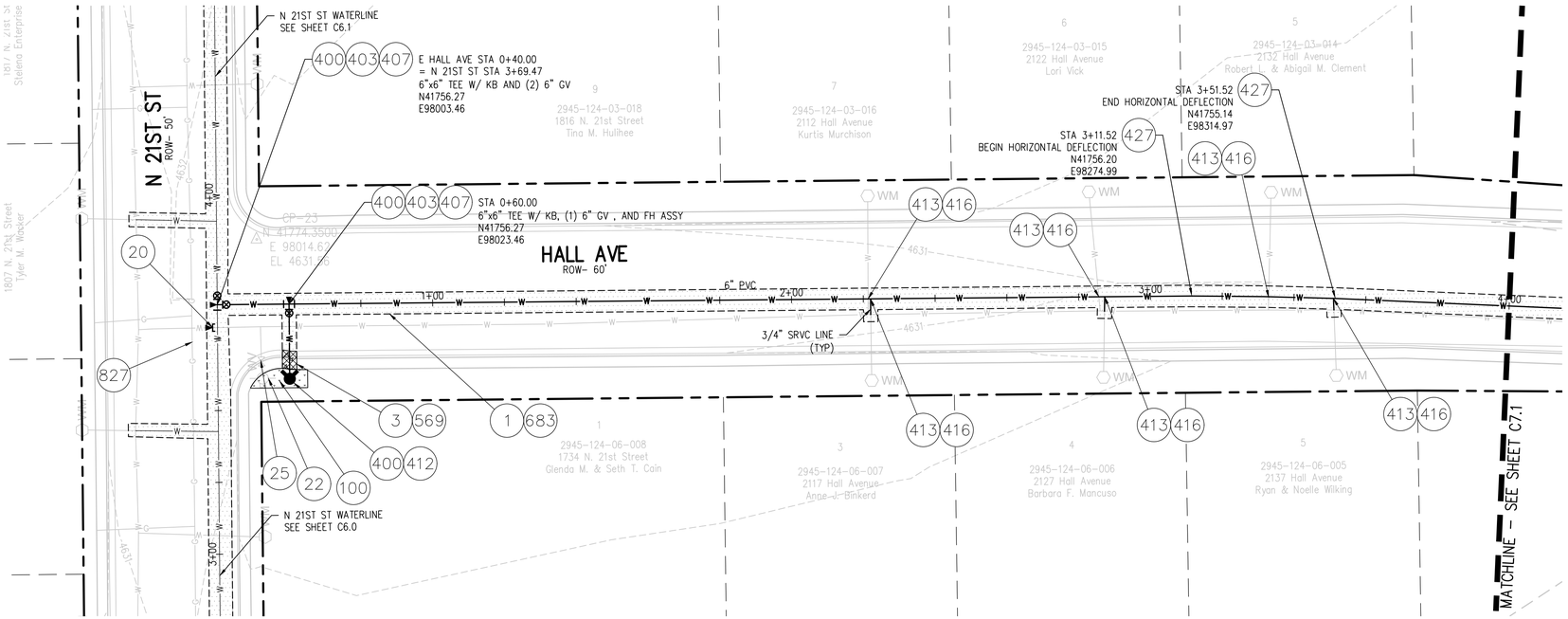
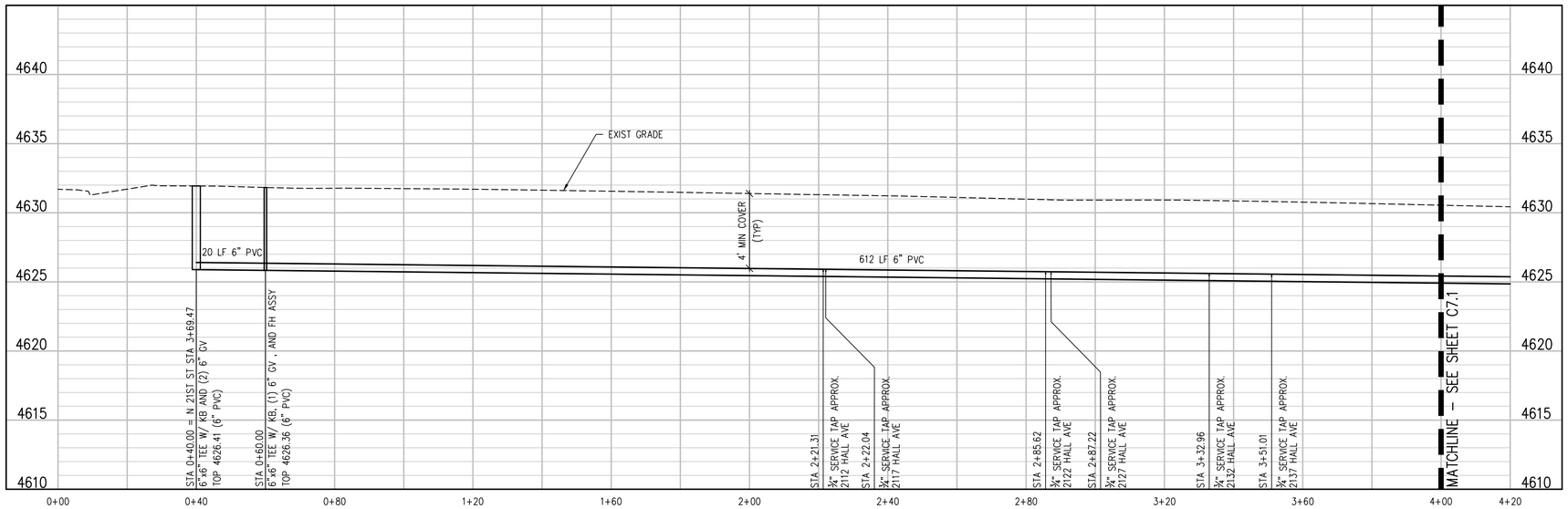
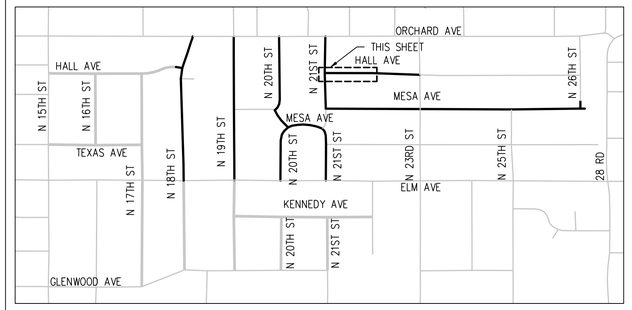
2022 WATERLINE REPLACEMENT PROJECT – PHASE 2
N 21ST ST WATER PLAN & PROFILE

C6.1







KEY MAP
NTS

CONSTRUCTION NOTES

1. 202 - REMOVAL OF ASPHALT MAT. SAW CUT AND REMOVE ASPHALT AS SHOWN. (INDICATED BY DOT HATCH PATTERN).
3. 202 - REMOVAL OF CONCRETE. SAW CUT AND REMOVE CONCRETE AS SHOWN. (INDICATED BY CROSS HATCH PATTERN) INCLUDES BUT NOT LIMITED TO CURB, GUTTER, SIDEWALK, DRIVEWAY, SLABS, V-PAN, CURB RAMPS, INTERSECTION CORNERS, APRONS, AND LANDSCAPE BORDERS
20. 202 - ABANDON PIPE. ABANDONED BY PLUGGING REMAINING ENDS WITH CONCRETE.
22. 202 - REMOVE EXISTING FIRE HYDRANT AND RETURN TO CITY SHOPS.
25. 202 - ABANDON EXISTING WATER VALVE. CLOSE VALVE, REMOVE TOP HALF OF EXISTING VALVE BOX, FILL CAVITY TO FINISHED SUBGRADE WITH FLOW FILL MATERIAL.
100. 210 - RESET LANDSCAPE GROUND COVER. CONTRACTOR SHALL REMOVE GROUND COVER AND ANY UNDERLYING WEED BARRIER AS NEEDED AND STOCKPILE MATERIALS. CONTRACTOR SHALL RESET THESE MATERIALS AND PROVIDE ADDITIONAL MATERIALS AS NEEDED TO RESTORE LANDSCAPING.
400. 102.7/108.2 - WATER MAIN PIPE (C-900 DR-18 PVC) (SIZE AS SHOWN). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.
403. 102.8b/108.3 - GATE VALVE. (SIZE AS SHOWN)
407. 102.8/108.3 - TEE (SIZE AS SHOWN)
412. 102.8A/108.3 - FIRE HYDRANT
413. 102.7C/108.4 - WATER SERVICE LINE (TYPE K COPPER) (SIZE AS SHOWN ON PLAN)
416. 102.8J/108.4 - CORPORATION STOP (INSTALL ONLY) (SIZE AS SHOWN ON PLAN)
427. DEFLECT PIPE AS SHOWN.
569. 608.06 - MONOLITHIC CURB, GUTTER AND SIDEWALK (5' WIDE)
683. 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (4" THICK ON TOP OF 6" ABC) (GRADING SX, BINDER GRADE PG 64-22, GYR 75) (TWO 2" LIFTS)
827. PROTECT EXISTING GAS.

NOTES:
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REVISION 4	

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SCALES:
PLAN 0 20 40
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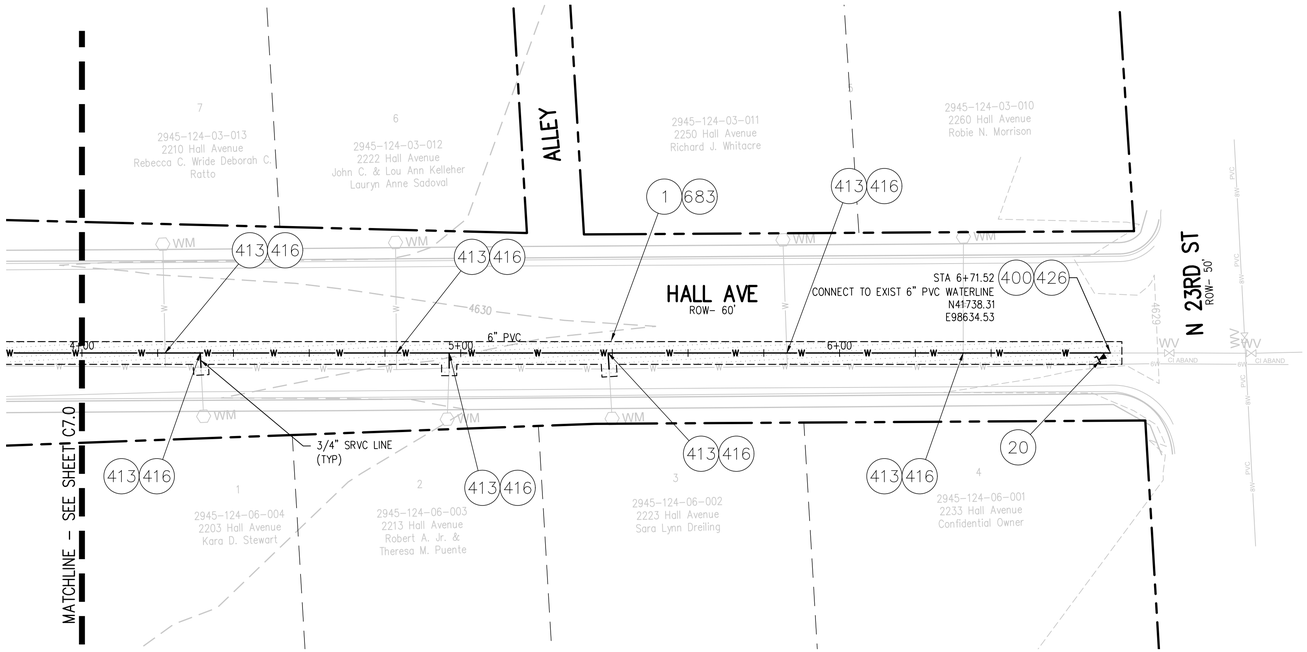
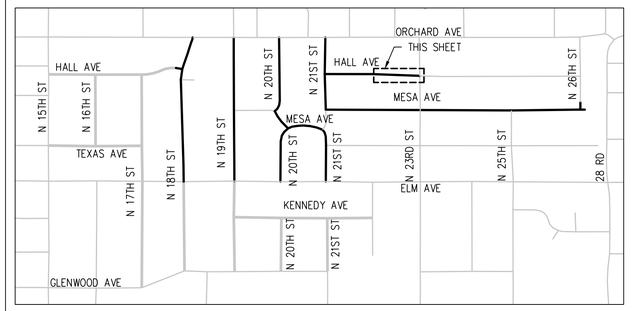
2022 WATERLINE REPLACEMENT PROJECT – PHASE 2
HALL AVE WATER PLAN & PROFILE

C7.0





KEY MAP
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CONSTRUCTION NOTES

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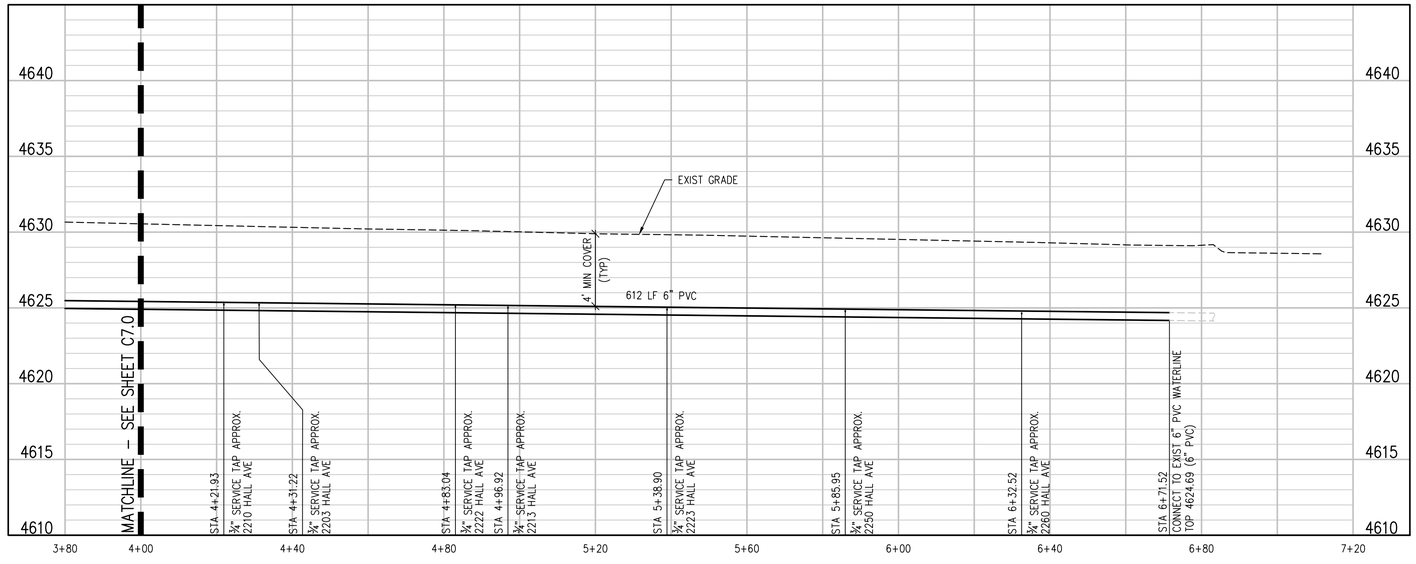
413. 102.7C/108.4 - WATER SERVICE LINE (TYPE K COPPER) (SIZE AS SHOWN ON PLAN)
416. 102.8J/108.4 - CORPORATION STOP (INSTALL ONLY) (SIZE AS SHOWN ON PLAN)
426. CONNECT TO EXISTING WATER PIPE/VALVE/FITTING. THE CONTRACT UNIT PRICE FOR WATER PIPE SHALL INCLUDE THE COST OF CONNECTION TO EXISTING PIPELINE
683. 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (4" THICK ON TOP OF 6" ABC) (GRADING SX, BINDER GRADE PG 64-22, GYR 75) (TWO 2" LIFTS)



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REVISION 4	

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VERTICAL 0 5 10

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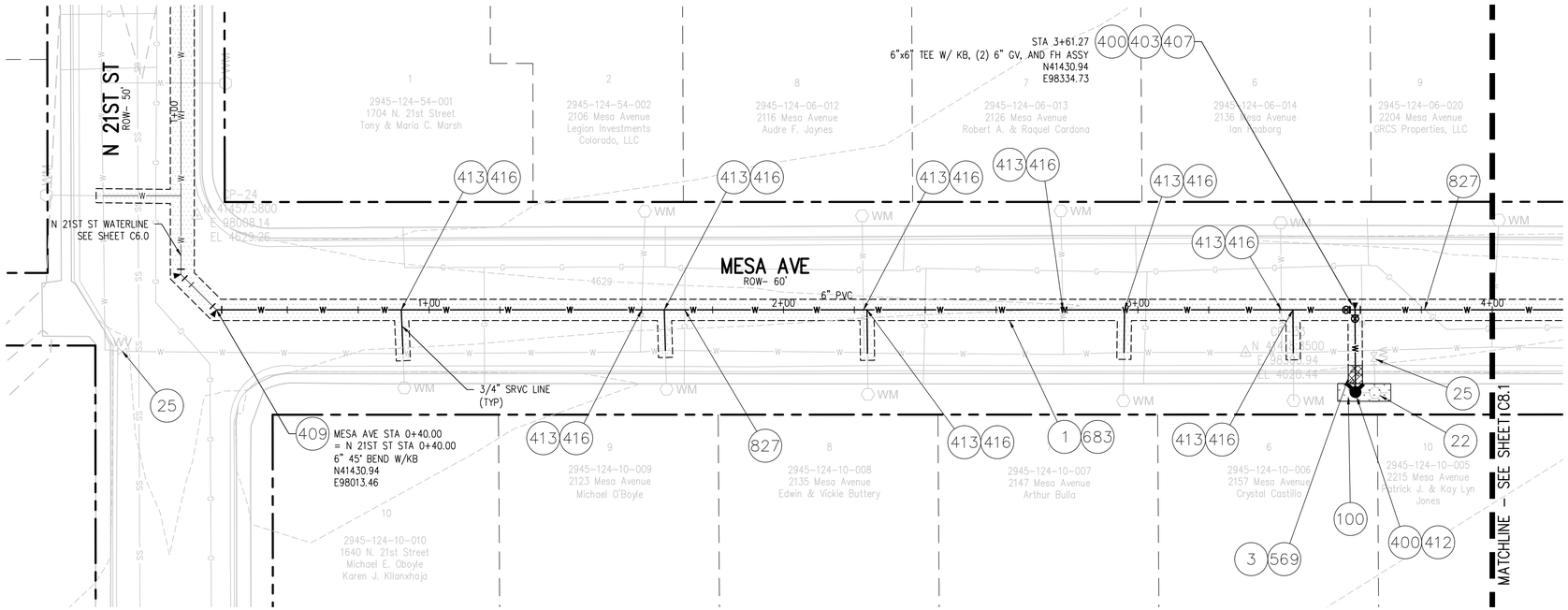
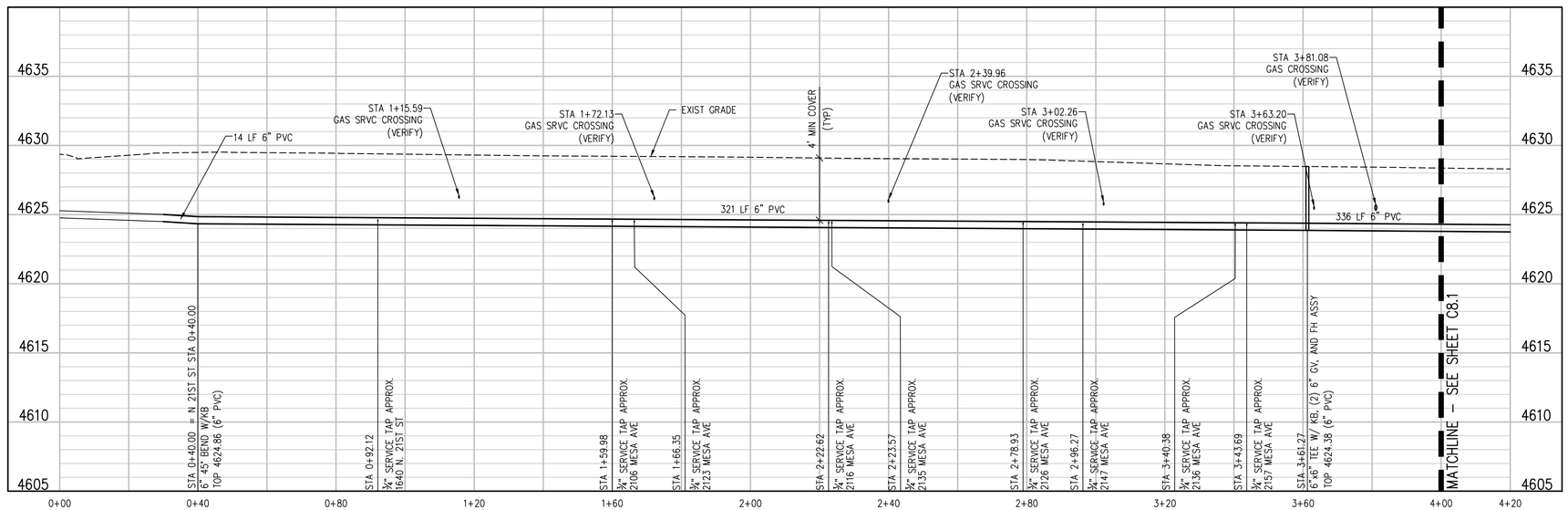
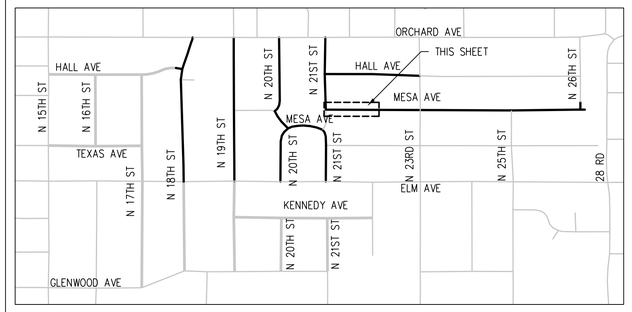
2022 WATERLINE REPLACEMENT PROJECT – PHASE 2
HALL AVE WATER PLAN & PROFILE

C7.1







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100. 210 - RESET LANDSCAPE GROUND COVER. CONTRACTOR SHALL REMOVE GROUND COVER AND ANY UNDERLYING WEED BARRIER AS NEEDED AND STOCKPILE MATERIALS. CONTRACTOR SHALL RESET THESE MATERIALS AND PROVIDE ADDITIONAL MATERIALS AS NEEDED TO RESTORE LANDSCAPING.
400. 102.7/108.2 - WATER MAIN PIPE (C-900 DR-18 PVC) (SIZE AS SHOWN). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.
403. 102.8B/108.3 - GATE VALVE. (SIZE AS SHOWN)
407. 102.8/108.3 - TEE (SIZE AS SHOWN)
409. 102.8/108.3 - ELBOW (SIZE AND ANGLE AS SHOWN)
412. 102.8A/108.3 - FIRE HYDRANT
413. 102.7C/108.4 - WATER SERVICE LINE (TYPE K COPPER) (SIZE AS SHOWN ON PLAN)
416. 102.8J/108.4 - CORPORATION STOP (INSTALL ONLY) (SIZE AS SHOWN ON PLAN)
569. 608.06 - MONOLITHIC CURB, GUTTER AND SIDEWALK (5' WIDE)
683. 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (4" THICK ON TOP OF 6" ABC) (GRADING SX, BINDER GRADE PG 64-22, GYR 75) (TWO 2" LIFTS)
827. PROTECT EXISTING GAS.

NOTES:
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SCALES:
PLAN HORIZONTAL 0 10 20 40
VERTICAL 0 10

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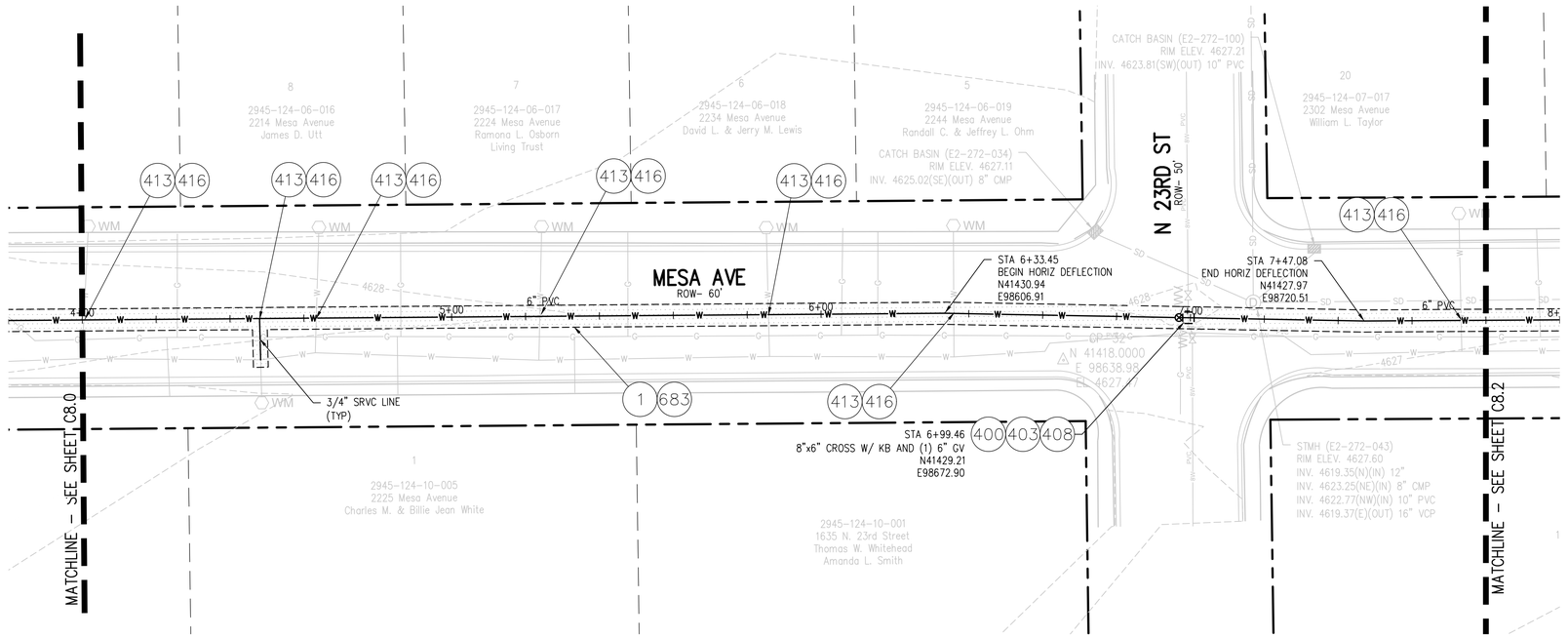
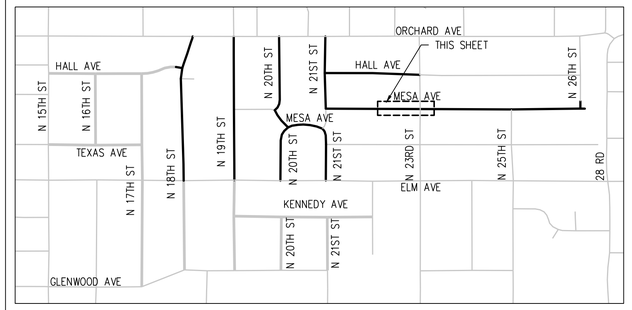
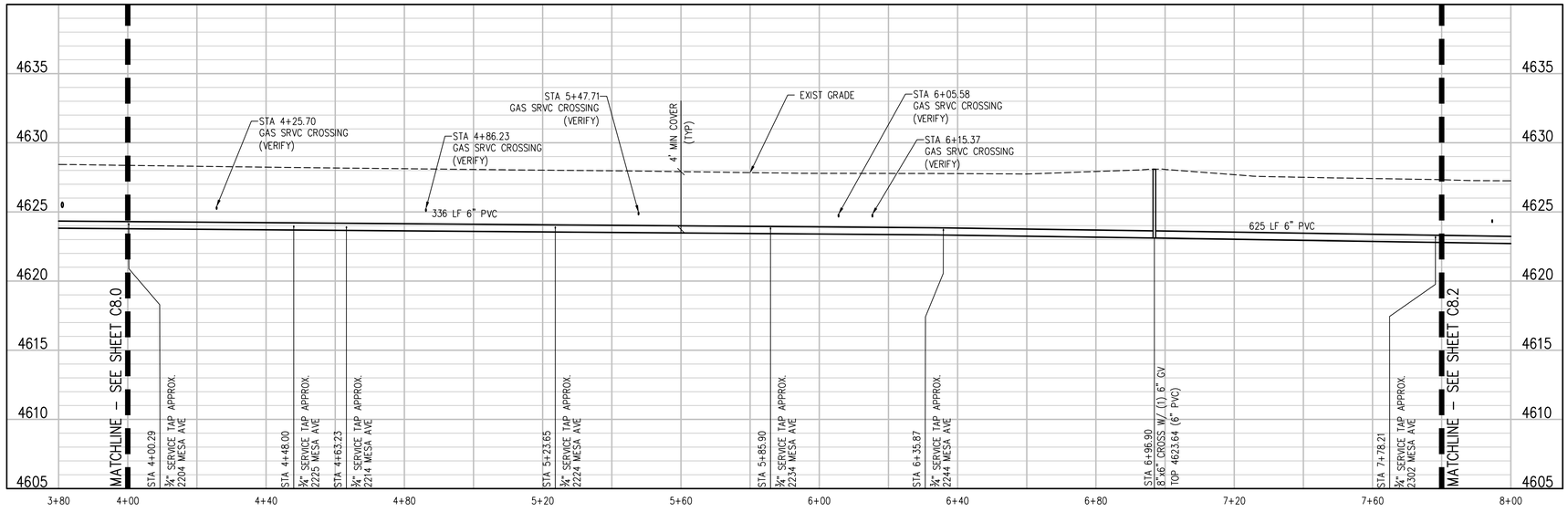
2022 WATERLINE REPLACEMENT PROJECT – PHASE 2
MESA AVE WATER PLAN & PROFILE

C8.0





KEY MAP
NTS



CONSTRUCTION NOTES

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403. 102.8B/108.3 - GATE VALVE. (SIZE AS SHOWN)
408. 102.8/108.3 - CROSS (SIZE AS SHOWN)
413. 102.7C/108.4 - WATER SERVICE LINE (TYPE K COPPER) (SIZE AS SHOWN ON PLAN)
416. 102.8J/108.4 - CORPORATION STOP (INSTALL ONLY) (SIZE AS SHOWN ON PLAN)
426. CONNECT TO EXISTING WATER PIPE/VALVE/FITTING. THE CONTRACT UNIT PRICE FOR WATER PIPE SHALL INCLUDE THE COST OF CONNECTION TO EXISTING PIPELINE
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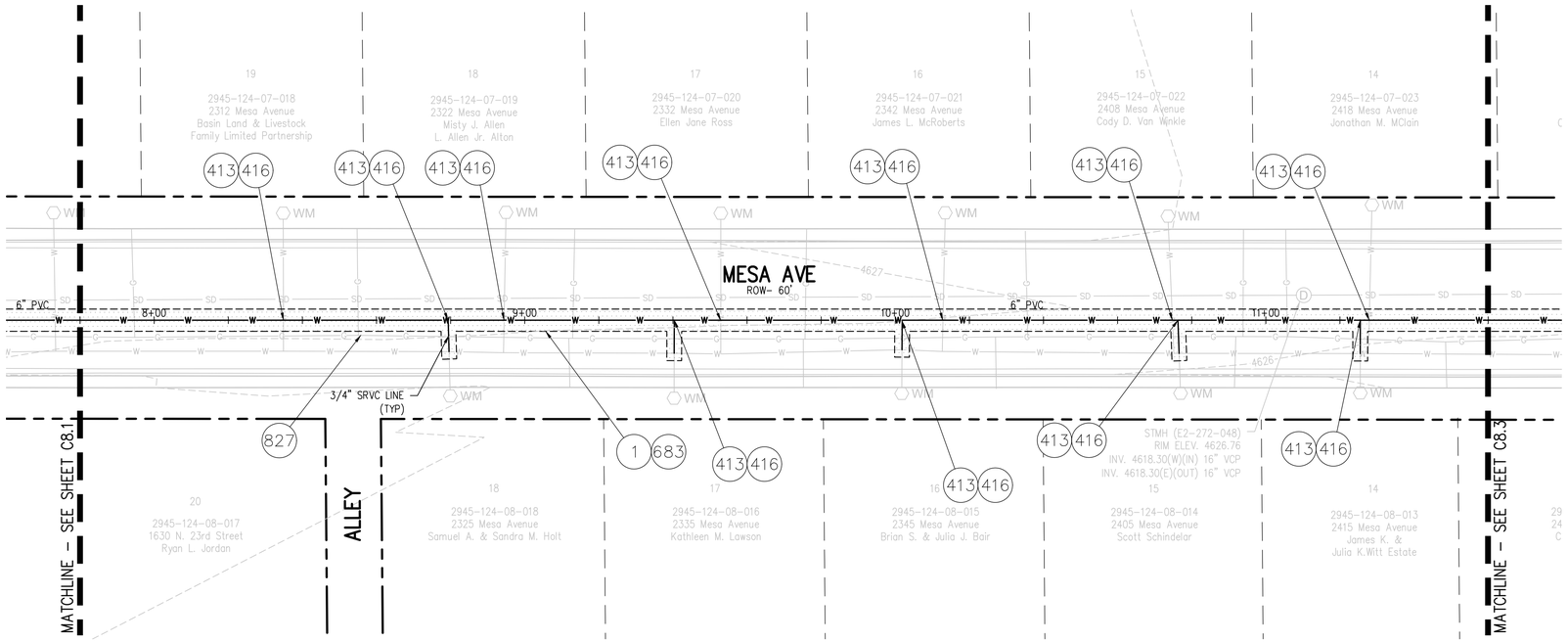
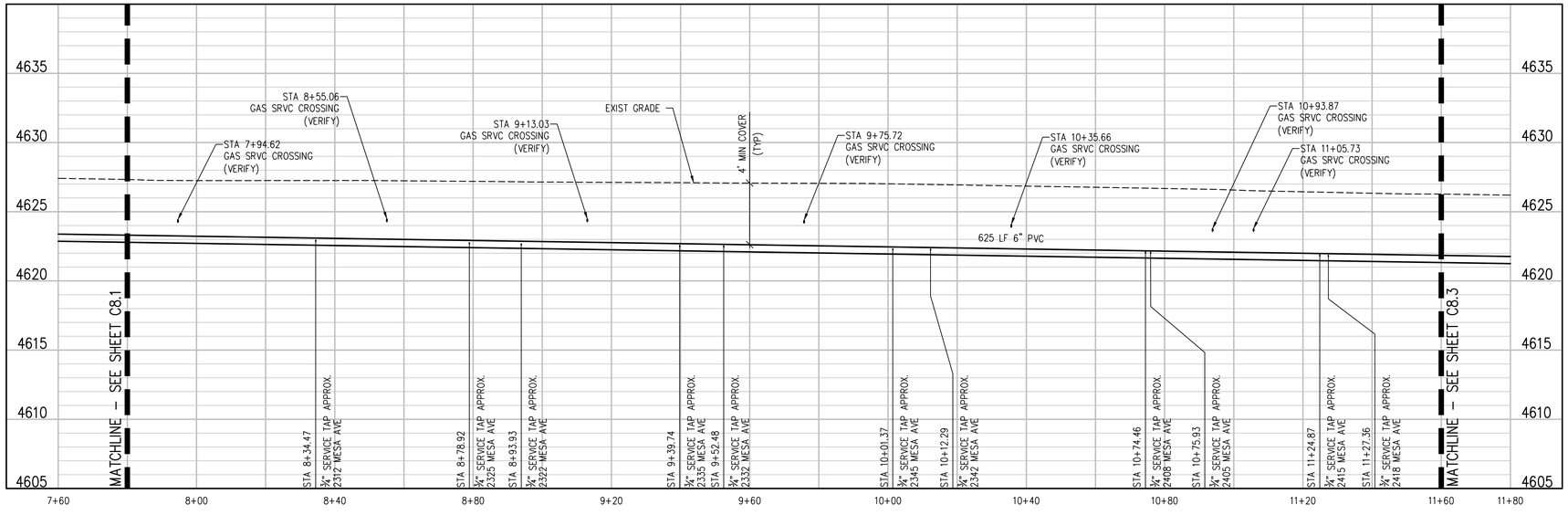
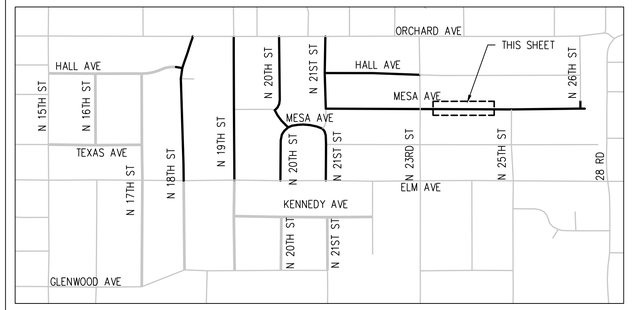
2022 WATERLINE REPLACEMENT PROJECT – PHASE 2
MESA AVE WATER PLAN & PROFILE

C8.1







KEY MAP
NTS

CONSTRUCTION NOTES

1. 202 - REMOVAL OF ASPHALT MAT. SAW CUT AND REMOVE ASPHALT AS SHOWN. (INDICATED BY DOT HATCH PATTERN).
413. 102.7C/108.4 - WATER SERVICE LINE (TYPE K COPPER) (SIZE AS SHOWN ON PLAN)
416. 102.8J/108.4 - CORPORATION STOP (INSTALL ONLY) (SIZE AS SHOWN ON PLAN)
683. 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (4" THICK ON TOP OF 6" ABC) (GRADING SX, BINDER GRADE PG 64-22, GYR 75) (TWO 2" LIFTS)
827. PROTECT EXISTING GAS.

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HORIZONTAL 0 10 20 40
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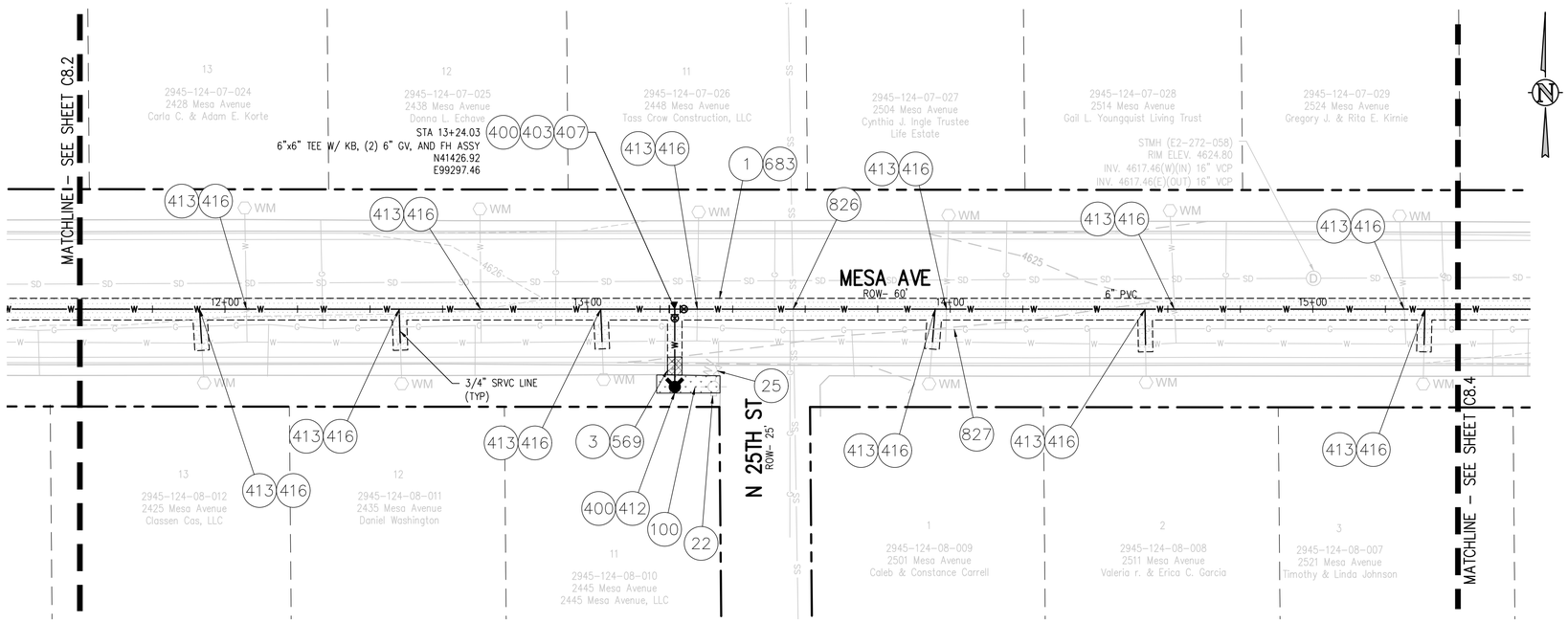
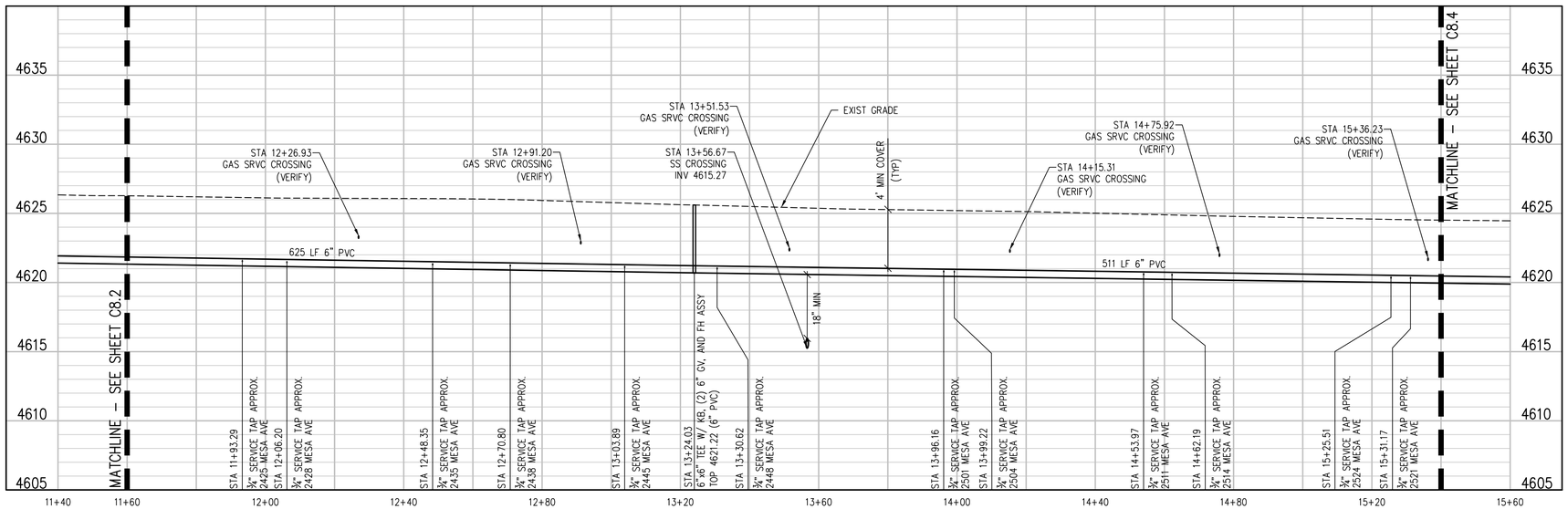
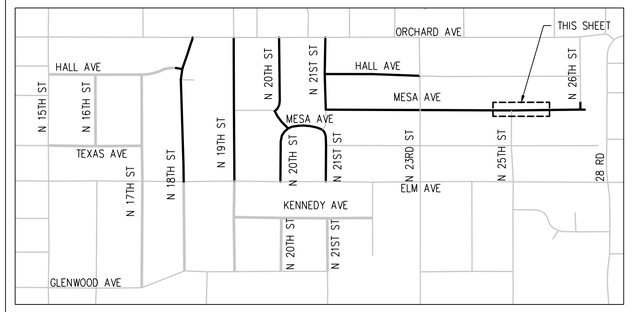
2022 WATERLINE REPLACEMENT PROJECT – PHASE 2
MESA AVE WATER PLAN & PROFILE

C8.2







KEY MAP
NTS

CONSTRUCTION NOTES

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403. 102.8B/108.3 - GATE VALVE. (SIZE AS SHOWN)
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827. PROTECT EXISTING GAS.

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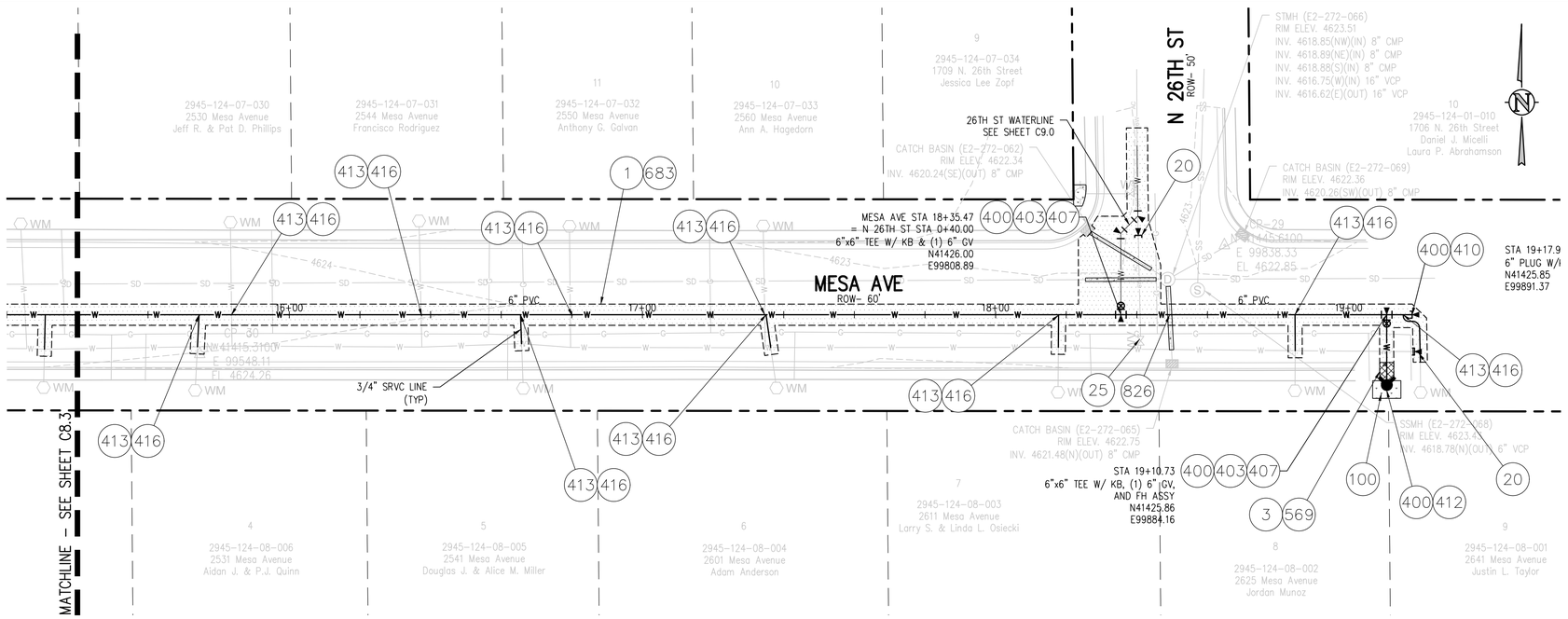
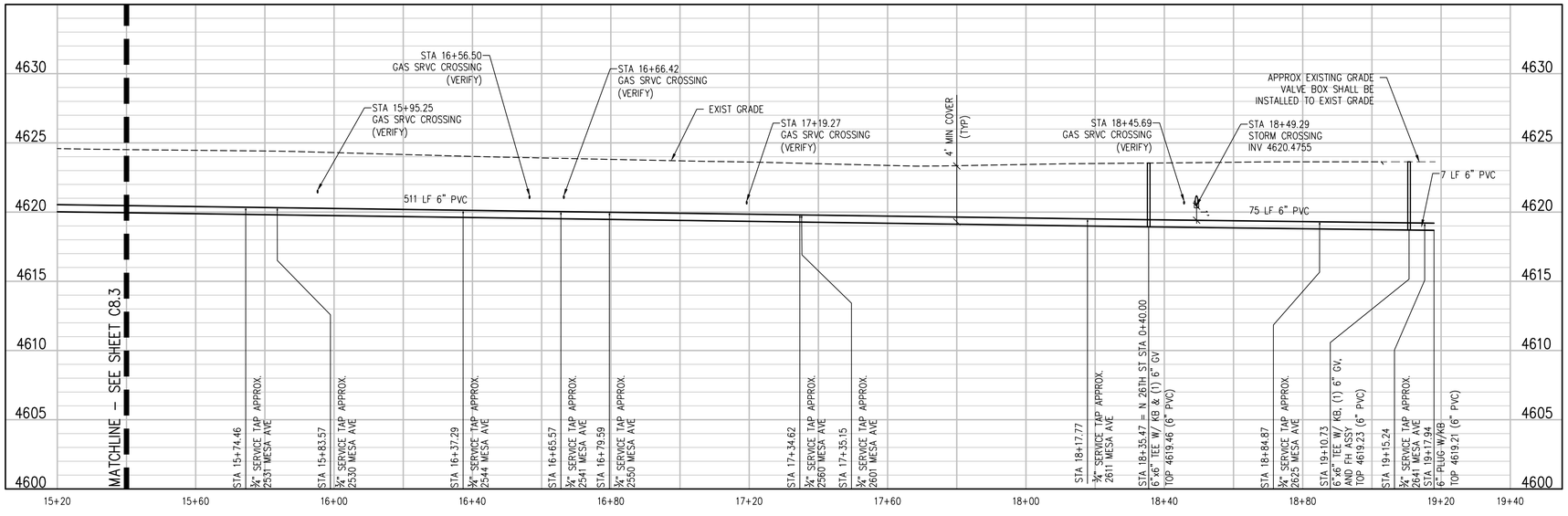
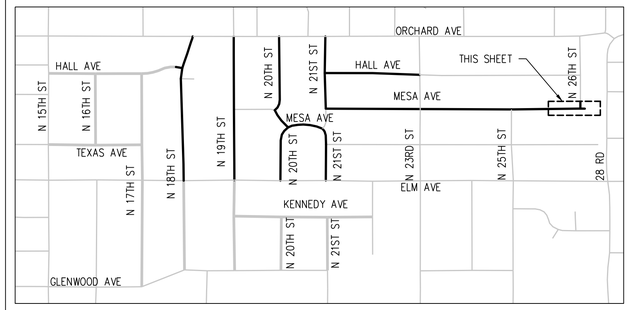
MESA AVE WATER PLAN & PROFILE

C8.3







KEY MAP
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1. 202 - REMOVAL OF ASPHALT MAT. SAW CUT AND REMOVE ASPHALT AS SHOWN. (INDICATED BY DOT HATCH PATTERN).
3. 202 - REMOVAL OF CONCRETE. SAW CUT AND REMOVE CONCRETE AS SHOWN. (INDICATED BY CROSS HATCH PATTERN) INCLUDES BUT NOT LIMITED TO CURB, GUTTER, SIDEWALK, DRIVEWAY, SLABS, V-PAN, CURB RAMPS, INTERSECTION CORNERS, APRONS, AND LANDSCAPE BORDERS.
20. 202 - ABANDON PIPE. ABANDONED BY PLUGGING REMAINING ENDS WITH CONCRETE.
25. 202 - ABANDON EXISTING WATER VALVE. CLOSE VALVE, REMOVE TOP HALF OF EXISTING VALVE BOX, FILL CAVITY TO FINISHED SUBGRADE WITH FLOW FILL MATERIAL.
400. 102.7/108.2 - WATER MAIN PIPE (C-900 DR-18 PVC) (SIZE AS SHOWN). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.
403. 102.8B/108.3 - GATE VALVE. (SIZE AS SHOWN)
407. 102.8/108.3 - TEE (SIZE AS SHOWN)
410. 102.8/108.3 - END CAP / PLUG (SIZE AS SHOWN).
412. 102.8A/108.3 - FIRE HYDRANT
413. 102.7C/108.4 - WATER SERVICE LINE (TYPE K COPPER) (SIZE AS SHOWN ON PLAN)
416. 102.8J/108.4 - CORPORATION STOP (INSTALL ONLY) (SIZE AS SHOWN ON PLAN)
569. 608.06 - MONOLITHIC CURB, GUTTER AND SIDEWALK (5' WIDE)
683. 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (4" THICK ON TOP OF 6" ABC) (GRADING SX, BINDER GRADE PG 64-22, GYR 75) (TWO 2" LIFTS)
826. PROTECT EXISTING UTILITY LINE IN PLACE

NOTES:
1. CONNECT TO EXISTING SERVICE LINES OR EXTEND SERVICE LINES TO NEW 6" WATERLINE
2. ALL CURB STOP AND SERVICE LINE LOCATIONS ARE APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION
3. IF CURB STOP WAS NOT LOCATED FIELD LOCATE CURB STOP AND REPLACE EXIST SRVC CONNECTION WITH NEW CONNECTION TO NEW 6" WATERLINE

DESCRIPTION	DATE
REVISION 1	
REVISION 2	
REVISION 3	
REVISION 4	

DRAWN BY ZCF DATE 3/8/2023
DESIGNED BY LAL/ZCF DATE 3/8/2023
CHECKED BY CDB/JJM DATE 12/8/2022
APPROVED BY DATE

SCALES:
PLAN
HORIZONTAL 0 10 20 40
VERTICAL 0 5 10

CITY OF Grand Junction COLORADO

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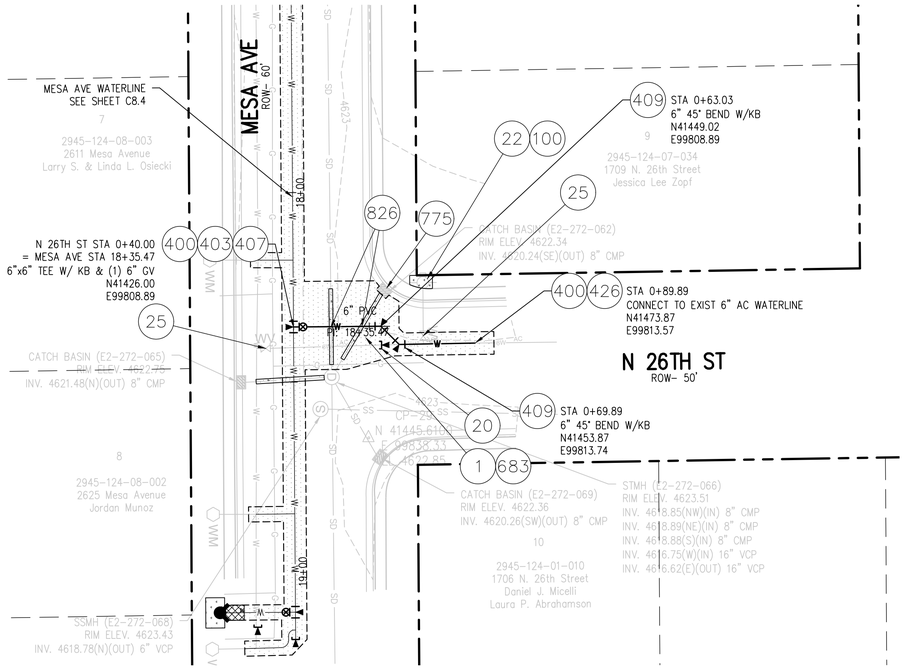
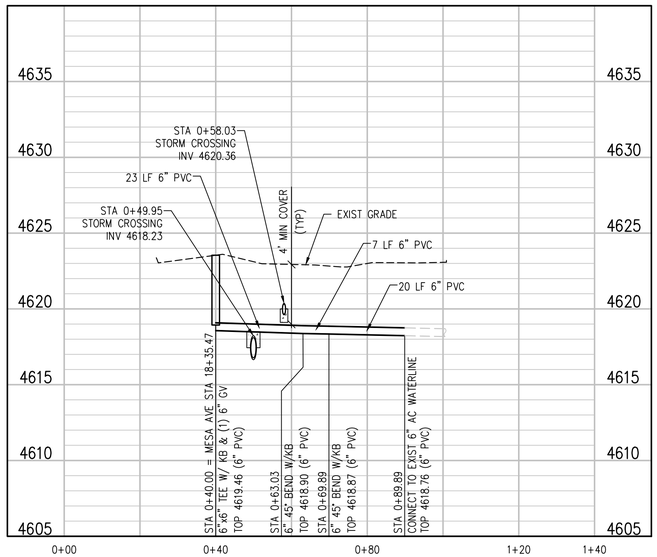
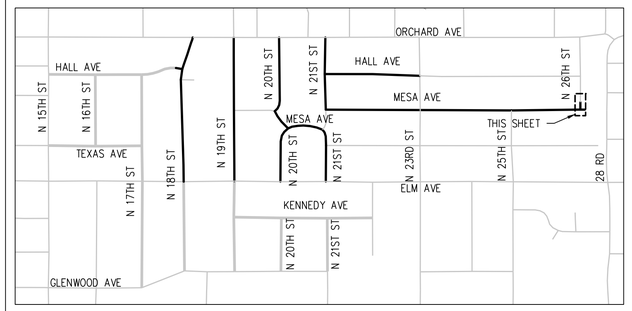
2022 WATERLINE REPLACEMENT PROJECT – PHASE 2
MESA AVE WATER PLAN & PROFILE

C8.4







KEY MAP
NTS

CONSTRUCTION NOTES

1. 202 - REMOVAL OF ASPHALT MAT. SAW CUT AND REMOVE ASPHALT AS SHOWN. (INDICATED BY DOT HATCH PATTERN).
20. ABANDON PIPE. ABANDONED BY PLUGGING REMAINING ENDS WITH CONCRETE.
22. 202 - REMOVE EXISTING FIRE HYDRANT AND RETURN TO CITY SHOPS.
25. 202 - ABANDON EXISTING WATER VALVE. CLOSE VALVE, REMOVE TOP HALF OF EXISTING VALVE BOX, FILL CAVITY TO FINISHED SUBGRADE WITH FLOW FILL MATERIAL.
100. 210 - RESET LANDSCAPE GROUND COVER. CONTRACTOR SHALL REMOVE GROUND COVER AND ANY UNDERLYING WEED BARRIER AS NEEDED AND STOCKPILE MATERIALS. CONTRACTOR SHALL RESET THESE MATERIALS AND PROVIDE ADDITIONAL MATERIALS AS NEEDED TO RESTORE LANDSCAPING.
400. 102.7/108.2 - WATER MAIN PIPE (C-900 DR-18 PVC) (SIZE AS SHOWN). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.
403. 102.8B/108.3 - GATE VALVE. (SIZE AS SHOWN)
407. 102.8/108.3 - TEE (SIZE AS SHOWN)
409. 102.8/108.3 - ELBOW (SIZE AND ANGLE AS SHOWN)
426. CONNECT TO EXISTING WATER PIPE/VALVE/FITTING. THE CONTRACT UNIT PRICE FOR WATER PIPE SHALL INCLUDE THE COST OF CONNECTION TO EXISTING PIPELINE
683. 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (4" THICK ON TOP OF 6" ABC) (GRADING SX, BINDER GRADE PG 64-22, GYR 75) (TWO 2" LIFTS)
775. 208 - STORM DRAIN INLET PROTECTION (EROSION CONTROL LOG) (AS SHOWN AND PER DETAIL)
826. PROTECT EXISTING UTILITY LINE IN PLACE.

NOTES:
1. CONNECT TO EXISTING SERVICE LINES OR EXTEND SERVICE LINES TO NEW 6" WATERLINE
2. ALL CURB STOP AND SERVICE LINE LOCATIONS ARE APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION
3. IF CURB STOP WAS NOT LOCATED FIELD LOCATE CURB STOP AND REPLACE EXIST SRVC CONNECTION WITH NEW CONNECTION TO NEW 6" WATERLINE

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2022 WATERLINE REPLACEMENT PROJECT – PHASE 2
N 26TH ST WATER PLAN & PROFILE

C9.0