

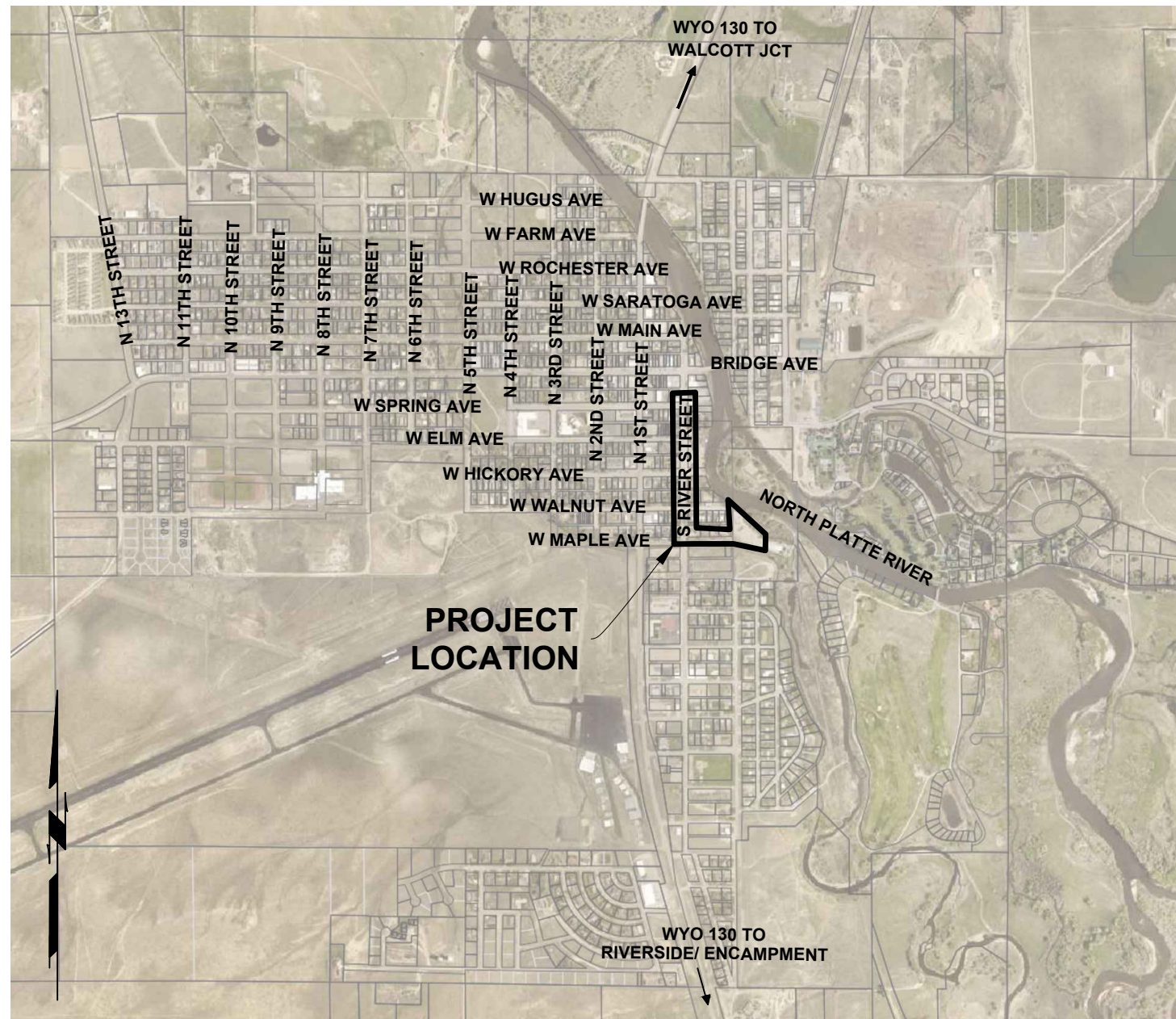
CONSTRUCTION DRAWINGS OF SOUTH RIVER STREET WATERLINE REPLACEMENT

TOWN OF SARATOGA, WY

PROJECT FUNDED BY
TOWN OF SARATOGA 1% SPECIFIC PURPOSE TAX
OSLI - ARPA GRANT

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LOCATION MAP
SCALE: 1" = 1500'



WATER SYSTEM OWNER & PARTY TO CONTRACT
SARATOGA CARBON COUNTY IMPACT JPB
PO BOX 486
SARATOGA, WY 82331
307-326-8335

OWNER
TOWN OF SARATOGA
PO BOX 486
SARATOGA, WY 82331
307-326-8335

ENGINEER
ENGINEERING ASSOCIATES
PO BOX 370, 211 N. 1ST ST.
SARATOGA, WY 82331
307-326-8301



F:\2023\Saratoga 23400.00 - 23499.00\23420.00 - SCCUPB - S. River St. Waterline Replacement\AutoCAD\24-0130 S. RIVER ST. WATERLINE.dwg TITLE 1/31/24 CRAIG

DATE	DRAWING LOG	BY	CHECKED	APPROVED
1/31/24	ISSUED FOR BID	ARS	CK	CK
10/10/23	PROGRESS PLAN SET	HNM	CK	CK
08/28/23	ORIGINAL DRAWING	HNM	CK	CK

DRAWN BY: ARS
JOB NO. 23420.00
FIELD BOOK NO. OFFICE



ENGINEERING ASSOCIATES
CONSULTING ENGINEERS & SURVEYORS

OWNER: TOWN OF SARATOGA

PROJECT: S. RIVER ST. WATERLINE REPLACEMENT
TITLE: TITLE SHEET

LEGEND

<p>—W— — — — EXISTING TREATED WATER</p> <p>—W— — — — PROPOSED TREATED WATER</p> <p>—WS— — — — EXISTING TREATED WATER SERVICE</p> <p>—WS— — — — PROPOSED TREATED WATER SERVICE</p> <p>—SS— — — — EXISTING SANITARY SEWER LINE</p> <p>—SS— — — — EXISTING SANITARY SEWER SERVICE</p> <p>—ST— — — — EXISTING STORM WATER DRAIN</p> <p>—ST— — — — PROPOSED STORM WATER DRAIN</p> <p>—HW— — — — EXISTING HOT WATER LINE</p> <p>————— EDGE OF EXISTING GRAVEL</p> <p>— — — — — EDGE OF EXISTING PAVEMENT</p> <p>————— EDGE OF EXISTING CONCRETE</p> <p>—T— — — — EXISTING TELEPHONE LINE</p> <p>—G— — — — EXISTING GAS LINE</p> <p>—FO— — — — EXISTING FIBER OPTIC LINE</p> <p>—OPU— — — — EXISTING OVERHEAD UTILITY LINE</p> <p>—x— — — — EXISTING FENCE</p> <p> ASPHALT REMOVE/REPLACE</p> <p> PROPOSED CHIP SEAL</p> <p> GRAVEL SURFACING REMOVE/REPLACE</p> <p> PROPOSED FLOWFILL</p> <p> PROPOSED CONCRETE</p> <p> PROPOSED LANDSCAPE RESTORATION</p>	<p> EXISTING WATER SERVICE CURB STOP</p> <p> PROPOSED WATER SERVICE CURB STOP</p> <p> EXISTING WATER SERVICE METER PIT</p> <p> PROPOSED WATER SERVICE METER PIT</p> <p> EXISTING TREATED WATER VALVE</p> <p> PROPOSED TREATED WATER VALVE</p> <p> EXISTING FIRE HYDRANT (FHY)</p> <p> PROPOSED FIRE HYDRANT (FHY)</p> <p> PROPOSED WATERLINE FITTING</p> <p> PROPOSED REDUCER FITTING</p> <p> PROPOSED FES (FLARED END SECTION)</p> <p> EXISTING SANITARY MANHOLE</p> <p> EXISTING SEWER CLEAN OUT</p> <p> EXISTING GAS METER</p> <p> EXISTING POWER POLE</p> <p> EXISTING GUY WIRE</p> <p> EXISTING TREES/BUSH</p> <p> EXISTING SIGN</p> <p> EXISTING TELEPHONE BOX</p>
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GENERAL NOTES:

1. PROPERTY BOUNDARIES & AERIAL IMAGERY PROVIDED ARE APPROXIMATE & ARE FOR REFERENCE ONLY.
2. UNDERGROUND UTILITY LOCATIONS PROVIDED ARE BASED ON THE BEST AVAILABLE INFORMATION & INFORMATION PROVIDED BY OTHERS. LOCATIONS ARE PROVIDED TO ASSIST CONTRACTOR BUT DO NOT RELIEVE THE CONTRACTOR OF ANY RESPONSIBILITY FOR UTILITY LOCATES AND CARE DURING EXCAVATION.
3. CONTRACTOR SHALL EXERCISE CAUTION WHEN WORKING AROUND ALL UTILITIES. ALL UTILITIES DAMAGED BY THE CONTRACTOR ARE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED UTILITY AT THEIR COST TO THE SAME OR BETTER CONDITION, AS DETERMINED BY UTILITY OWNER.
4. THE CONTRACTOR SHALL PROTECT ALL FENCING, TREES, VEGETATION & EQUIPMENT, UNLESS OTHERWISE NOTED. ALL DAMAGE IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. COORDINATE ANY NECESSARY REMOVALS & REPLACEMENTS WITH ENGINEER.
5. PROTECT ALL PROPERTY CORNERS & SURVEY MONUMENTS. IF DAMAGED, CONTRACTOR SHALL EMPLOY A LICENSED PROFESSIONAL LAND SURVEYOR FOR RESETTling.
6. CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS & PAY ASSOCIATED FEES UNLESS OTHERWISE NOTED.
7. PROTECT PROJECT AREA FROM WEATHER, EROSION, MUD, DUST & ALL OTHER WEATHER RELATED ISSUES. CLEAN MUD FROM STREETS & WATER SITE AS NECESSARY FOR DUST CONTROL. COST FOR SITE MAINTENANCE SHALL BE CONSIDERED SUBSIDIARY TO OTHER BID ITEMS.
8. CONTRACTOR IS RESPONSIBLE FOR RESETTling OF ALL SIGNS DISTURBED DURING CONSTRUCTION ACTIVITIES TO EXISTING CONDITIONS.
9. ALL SURFACING OR OTHER DISTURBANCE BY THE CONTRACTOR SHALL BE RESTORED TO THE ORIGINAL CONDITION UNLESS OTHERWISE NOTED.
10. ALL MATERIAL & WORKMANSHIP SHALL HAVE A 1-YEAR WARRANTY & ALL TRENCH COMPACTION SHALL CARRY A 2-YEAR WARRANTY UPON ISSUANCE OF SUBSTANTIAL COMPLETION.
11. INSTALLATION SHALL BE IN ACCORDANCE WITH WYOMING PUBLIC WORKS STANDARD SPECIFICATIONS, SPECIAL PROVISIONS, TOWN OF SARATOGA REQUIREMENTS, WYDEQ REGULATIONS, AND SPECIFIC PROJECT FUNDING REQUIREMENTS UNLESS OTHERWISE NOTED.
12. FLOWFILL SHALL BE CEMENT-TREATED BACKFILL TYPE 2

WATER NOTES:

1. FIELD VERIFY EXISTING WATER MAIN PIPE OUTER DIAMETER. PROVIDE FITTINGS & NECESSARY GASKETS TO ACCOMMODATE VARYING PIPE SIZES.
2. ALL EXISTING WATER MAINS TO BE ABANDONED IN PLACE, UNLESS OTHERWISE NOTED OR DIRECTED BY ENGINEER. ABANDONMENT INCLUDES CAPPING OR PLUGGING EXISTING MAINS. IF WATER MAIN PIPING IS TO BE REMOVED, THE CONTRACTOR SHALL DISPOSE OF DEMO MATERIAL AT A PERMITTED LANDFILL & IS RESPONSIBLE FOR ALL COST ASSOCIATED FOR DISPOSAL (TIPPING FEES) & TRANSPORTATION.
3. EXISTING WATER MAIN VALVES TO BE ABANDONED IN PLACE, CLOSE VALVE, REMOVE TOP 2 SECTIONS OF VALVE BOXES, BACKFILL & COMPACT.
4. ALL FIRE HYDRANTS REMOVED SHALL BE SALVAGED TO THE TOWN OF SARATOGA, UNLESS OTHERWISE NOTED OR DIRECTED BY ENGINEER.
5. ALL BACKFILL SHALL MEET 95% ASTM D698, +2/-3% MOISTURE IN ALL AREAS UNLESS OTHERWISE NOTED.
6. VERIFY LOCATION & PROVIDE SEPARATION BETWEEN WATER & SEWER MAINS/SERVICES IN ACCORDANCE WITH SPECIFICATION 2665 – WATER LINES.
7. ALL WATER MAINS THAT DO NOT MEET SEWER SEPARATION REQUIREMENTS SHALL BE ENCASED IN FLOWABLE FILL OR CASED AS SHOWN IN THE DETAILS & EXPLAINED IN THE PROJECT MANUAL.
8. WATER SERVICES THAT DO NOT MEET SEWER SEPARATION REQUIREMENTS SHALL BE CASED IN A CONTINUOUS 2" PIPE, 10' EACH SIDE OF SEWER CROSSING.
9. THE LOCATIONS OF WATER SERVICES ARE APPROXIMATE, CONTRACTOR IS RESPONSIBLE TO LOCATE & VERIFY SIZE & MATERIAL TYPE PRIOR TO CONNECTION. CONNECT ONLY WATER SERVICES SHOWN IN THE DRAWINGS OR AS DIRECTED BY ENGINEER.
10. DURING INSTALLATION IF ANY UNKNOWN UTILITIES ARE FOUND NOTIFY ENGINEER IMMEDIATELY.
11. WATER SERVICE TO RESIDENTS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. PROVIDE SUFFICIENT NOTICE (MIN 24 HOURS) TO RESIDENTS WHEN NECESSARY FOR CONNECTIONS TO THE NEW WATER MAIN.
12. PROVIDE TEMPORARY WATER SERVICE TO RESIDENTS WHEN WATER SERVICE OUTAGES ARE ANTICIPATED TO EXCEED 8 HOURS.
13. WATER SERVICE CURB STOPS & METER PITS ARE TO BE INSTALLED WITHIN TOWN RIGHT-OF-WAY. EXISTING CURB STOPS & METERS WITHIN PRIVATE PROPERTY SHALL REMAIN UNLESS OTHERWISE DIRECTED BY ENGINEER OR NOTED. MINIMIZE DISTURBANCES TO EXISTING YARDS & DRIVEWAYS.
14. PROVIDE CORE-BLUE (OR APPROVED EQUAL) OR STAINLESS T-BOLTS AND NUTS.
15. MEGA-LUG (OR APPROVED EQUAL) GLANDS SHALL BE USED AT ALL WATER MAIN CONNECTIONS.
16. WRAP ALL BURIED METALLIC FITTINGS WITH POLY WRAP & PROVIDE CATHODIC PROTECTION AS DESCRIBED IN SPECIFICATIONS.
17. DAMAGE TO ANY EXISTING TRACER WIRE OR CATHODIC PROTECTION SHALL BE REPAIRED BY THE CONTRACTOR.

SPECIAL NOTES:

1. ALL WATER SERVICE PIPE SHALL BE 3/4" OR 1" DR9 CTS POLY PIPE.
2. ALL WATER MAIN SHALL BE CL235 C900 PVC.

SEWER NOTES:

1. LOCATIONS OF SANITARY SEWER SERVICES ARE APPROXIMATED. WHEN SANITARY SEWER SERVICES ARE DISTURBED DURING WATER MAIN EXCAVATION, FIX WITH A NEW PIECE OF 4" SDR35 SEWER PIPE & A SHEAR RESISTANT FERNCO (OR APPROVED EQUAL).
2. PLACE FLOWFILL OR INSTALL CASING OVER WATER MAIN AS REQUIRED & BACKFILL ACCORDINGLY. FLOWFILL ON WATER MAIN SHOWN AT APPROXIMATE LOCATIONS IN PLAN VIEW FOR REFERENCE.

NOTE

ENGINEERING ASSOCIATES HAS DESIGNED THIS PROJECT USING RECORD INFORMATION, PHYSICAL EVIDENCE FOUND ON THE GROUND, & KNOWLEDGE GAINED FROM HISTORIC RECORDS & EXPERIENCE IN OPERATION BY THE TOWN OF SARATOGA OFFICIALS. WHILE REASONABLE EFFORTS HAVE BEEN MADE TO IDENTIFY THE LOCATION & NATURE OF EXISTING UTILITIES, NEITHER ENGINEERING ASSOCIATES OR THE TOWN OF SARATOGA GUARANTEES THE ACCURACY OF INFORMATION RELATING TO EXISTING WATERLINES, PROPERTY LINES, SERVICE LINES, OR ADJACENT UTILITIES. BIDDERS SHALL TAKE INTO ACCOUNT THAT THIS IS A WATERLINE REPLACEMENT PROJECT & THERE WILL BE VARIATIONS FROM INFORMATION AVAILABLE IN TOWN RECORDS & SHOWN IN THESE DRAWINGS. UNIT PRICE BID ITEMS ARE INTENDED TO BE USED TO COMPENSATE SUCCESSFUL BIDDERS FOR CONSTRUCTING THE PROJECT IN A WORKMANLIKE MANNER. BIDDER SHOULD TAKE THIS INTO ACCOUNT WHEN PROVIDING UNIT COSTS TO BID THE PROJECT.

P:\2023\Saratoga 23400.00 - 23499.00\23420.00 - SCCUPB - S. River St. Waterline Replacement\AutoCAD\24-0130 S. RIVER ST. WATERLINE REPLACEMENT INDEX & NOTES 1/31/24 CRAIG

DATE	DRAWING LOG	BY	CHECKED	APPROVED
1/31/24	ISSUED FOR BID	ARS	CK	CK
10/10/23	PROGRESS PLAN SET	HNM	CK	CK
08/28/23	ORIGINAL DRAWING	HNM	CK	CK

DRAWN BY: ARS
 JOB NO. 23420.00
 FIELD BOOK NO. OFFICE



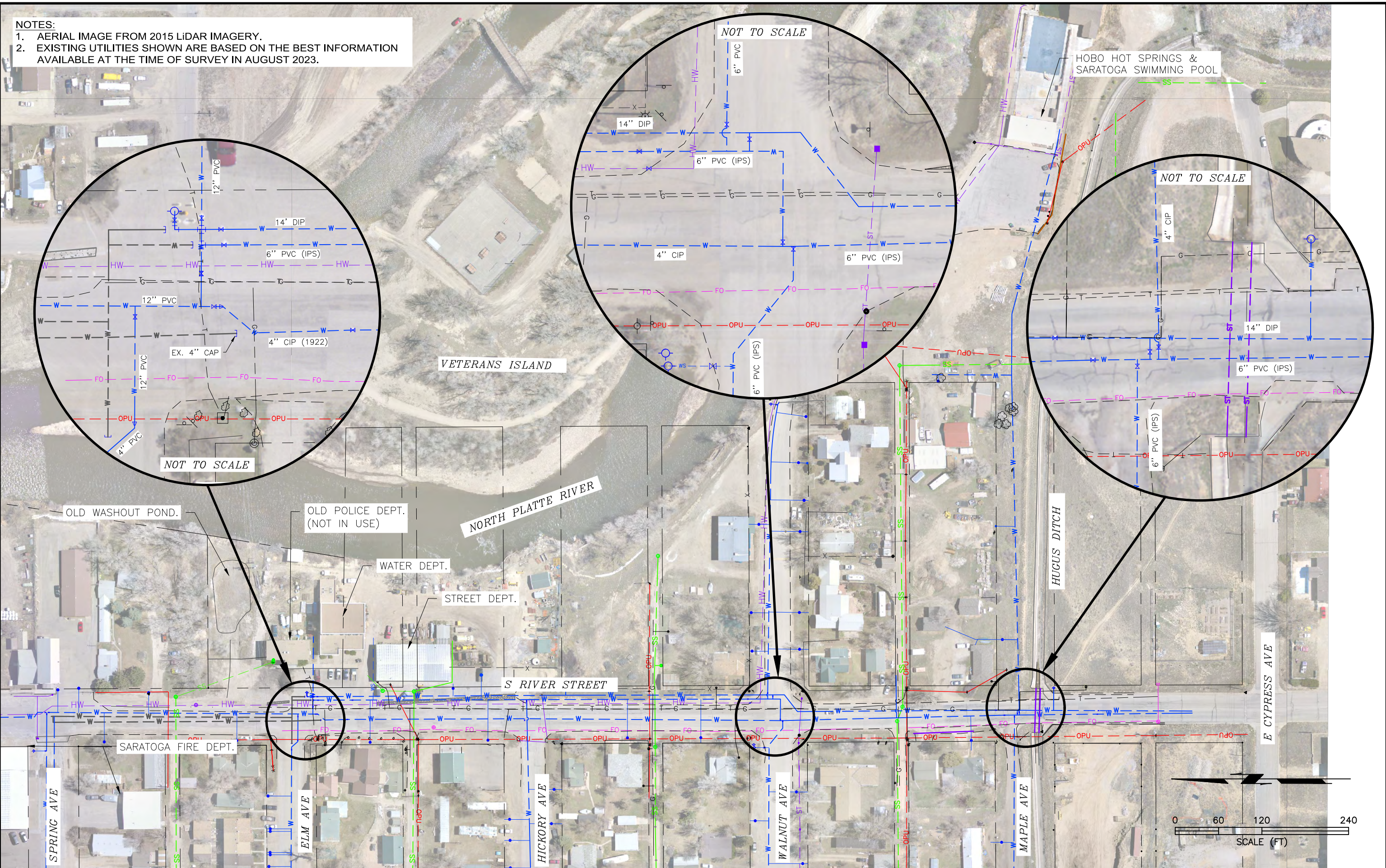
ENGINEERING ASSOCIATES
 CONSULTING ENGINEERS & SURVEYORS

OWNER: TOWN OF SARATOGA

PROJECT: S. RIVER ST. WATERLINE REPLACEMENT
 TITLE: INDEX & NOTES

T1.1

NOTES:
 1. AERIAL IMAGE FROM 2015 LIDAR IMAGERY.
 2. EXISTING UTILITIES SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE AT THE TIME OF SURVEY IN AUGUST 2023.



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DATE	DRAWING LOG	BY	CHECKED	APPROVED
1/31/24	ISSUED FOR BID	ARS	CK	CK
10/10/23	PROGRESS PLAN SET	HNM	CK	CK
08/28/23	ORIGINAL DRAWING	HNM	CK	CK

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 JOB NO. 23420.00
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ENGINEERING ASSOCIATES
 CONSULTING ENGINEERS & SURVEYORS

OWNER: **TOWN OF SARATOGA**

PROJECT: **S. RIVER ST. WATERLINE REPLACEMENT**
 TITLE: **EXISTING SITE**

C1

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DATE	DRAWING LOG	BY	CHECKED	APPROVED
1/31/24	ISSUED FOR BID	ARS	CK	CK
10/10/23	PROGRESS PLAN SET	HNM	CK	CK
08/28/23	ORIGINAL DRAWING	HNM	CK	CK

DRAWN BY: ARS
 JOB NO. 23420.00
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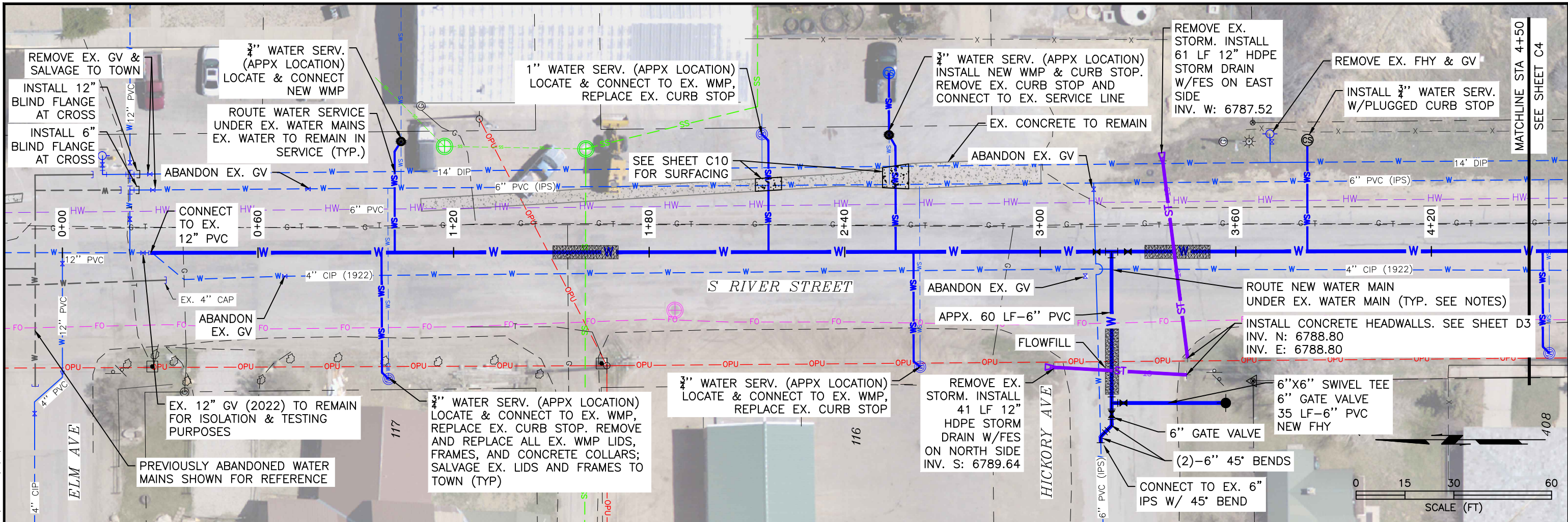
ENGINEERING ASSOCIATES
 CONSULTING ENGINEERS & SURVEYORS

OWNER:
 TOWN OF SARATOGA

PROJECT: S. RIVER ST. WATERLINE REPLACEMENT
 TITLE: PROPOSED SITE

C2

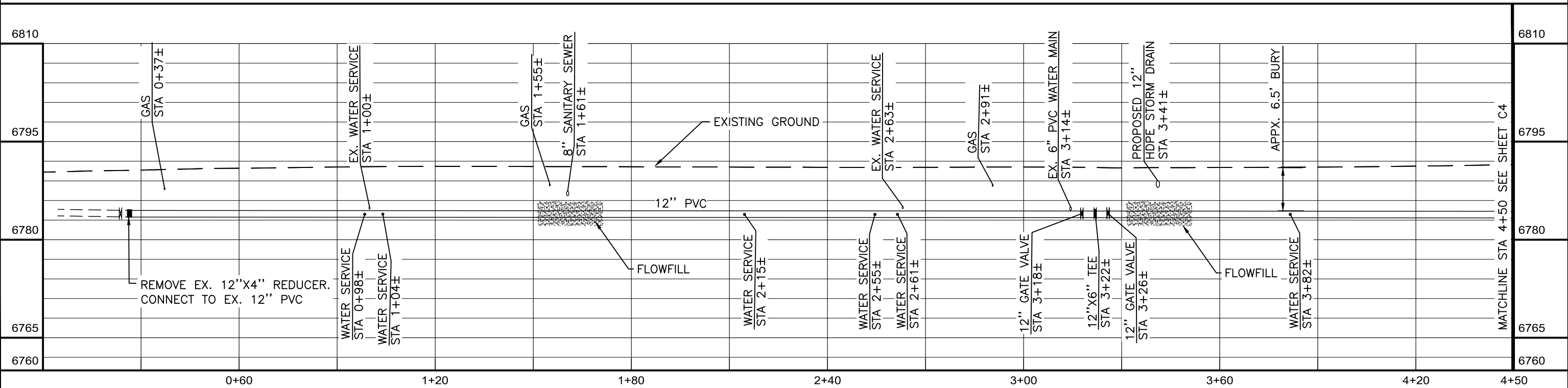
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SCALES:
 1" = 30' HOR
 1" = 15' VERT

NOTES:
 1. VERIFY DEPTH OF ALL EXISTING WATER MAIN CROSSINGS & CONNECTIONS PRIOR TO INSTALLATION OF WATER MAIN AND FITTINGS. INSTALL WATER MAIN DEEPER WHEN NECESSARY TO CROSS BELOW EXISTING WATER MAINS. USE 6" VERTICAL BENDS AS NECESSARY TO MAKE CONNECTION TO EXISTING WATER MAINS.

2. ALL NEW AND EXISTING WATER METER PITS SHALL HAVE A NEW TRAFFIC RATED LID, FRAME AND CONCRETE COLLAR INSTALLED, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.



DATE	DRAWING LOG	BY	CHECKED	APPROVED
1/31/24	ISSUED FOR BID	ARS	CK	CK
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08/28/23	ORIGINAL DRAWING	HNM	CK	CK

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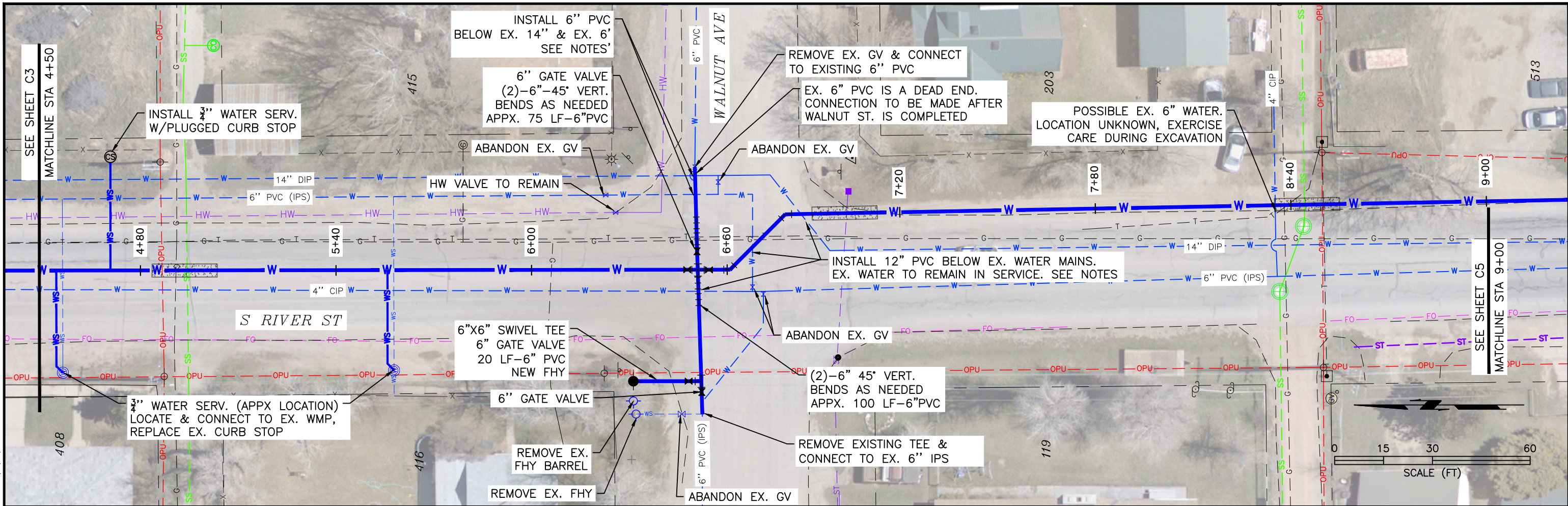
ENGINEERING ASSOCIATES
 CONSULTING ENGINEERS & SURVEYORS

OWNER: TOWN OF SARATOGA

PROJECT: S. RIVER ST. WATERLINE REPLACEMENT
 TITLE: RIVER STREET PLAN & PROFILE (0+00-4+50)

C3

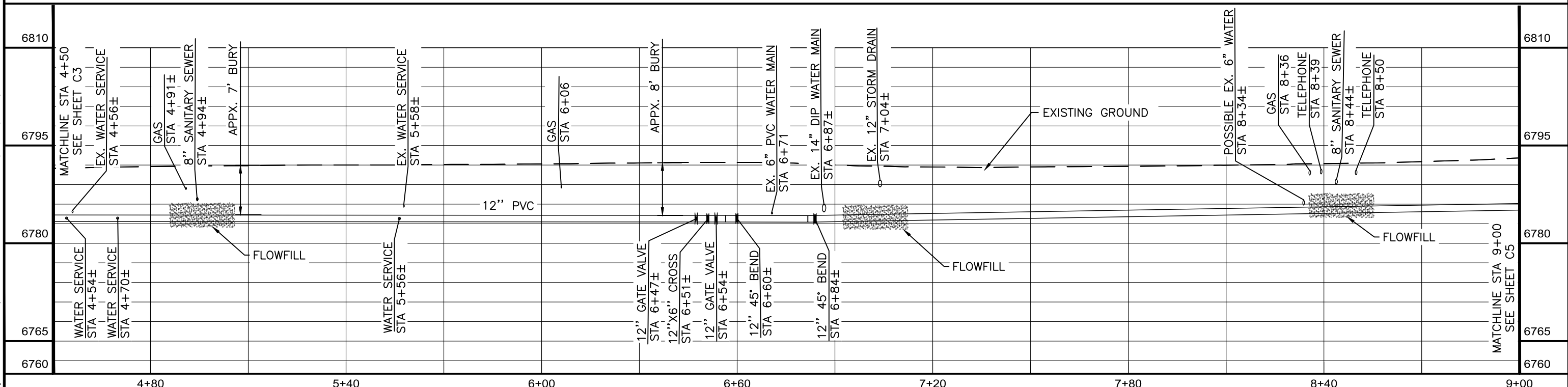
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SCALES:
1" = 30' HOR
1" = 15' VERT

NOTES:
1. VERIFY DEPTH OF ALL EXISTING WATER MAIN CROSSINGS & CONNECTIONS PRIOR TO INSTALLATION OF WATER MAIN AND FITTINGS. INSTALL WATER MAIN DEEPER WHEN NECESSARY TO CROSS BELOW EXISTING WATER MAINS. USE 6" VERTICAL BENDS AS NECESSARY TO MAKE CONNECTION TO EXISTING WATER MAINS.

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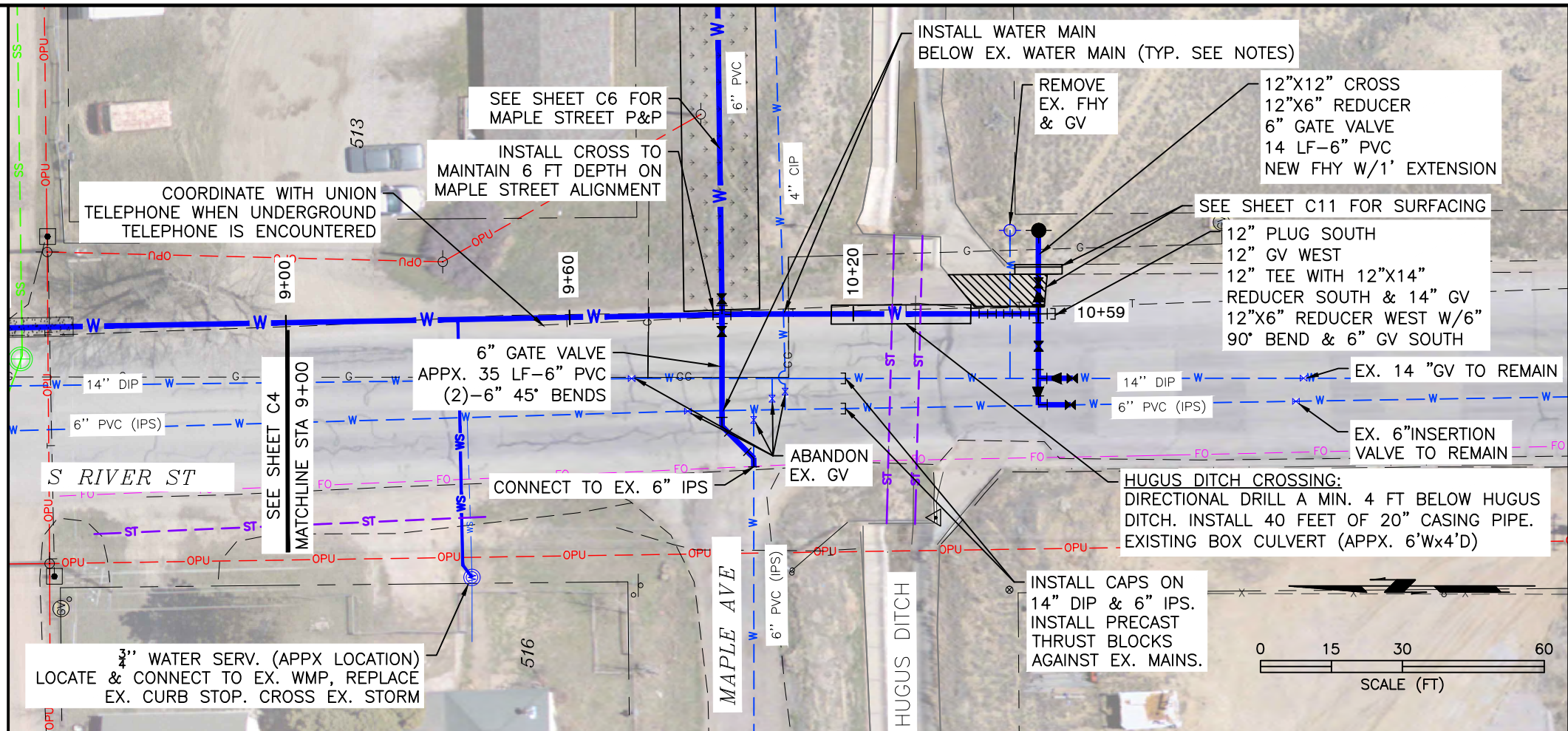
ENGINEERING ASSOCIATES
CONSULTING ENGINEERS & SURVEYORS

OWNER:
TOWN OF SARATOGA

PROJECT: S. RIVER ST. WATERLINE REPLACEMENT
TITLE: RIVER STREET PLAN & PROFILE (4+50 - 9+00)

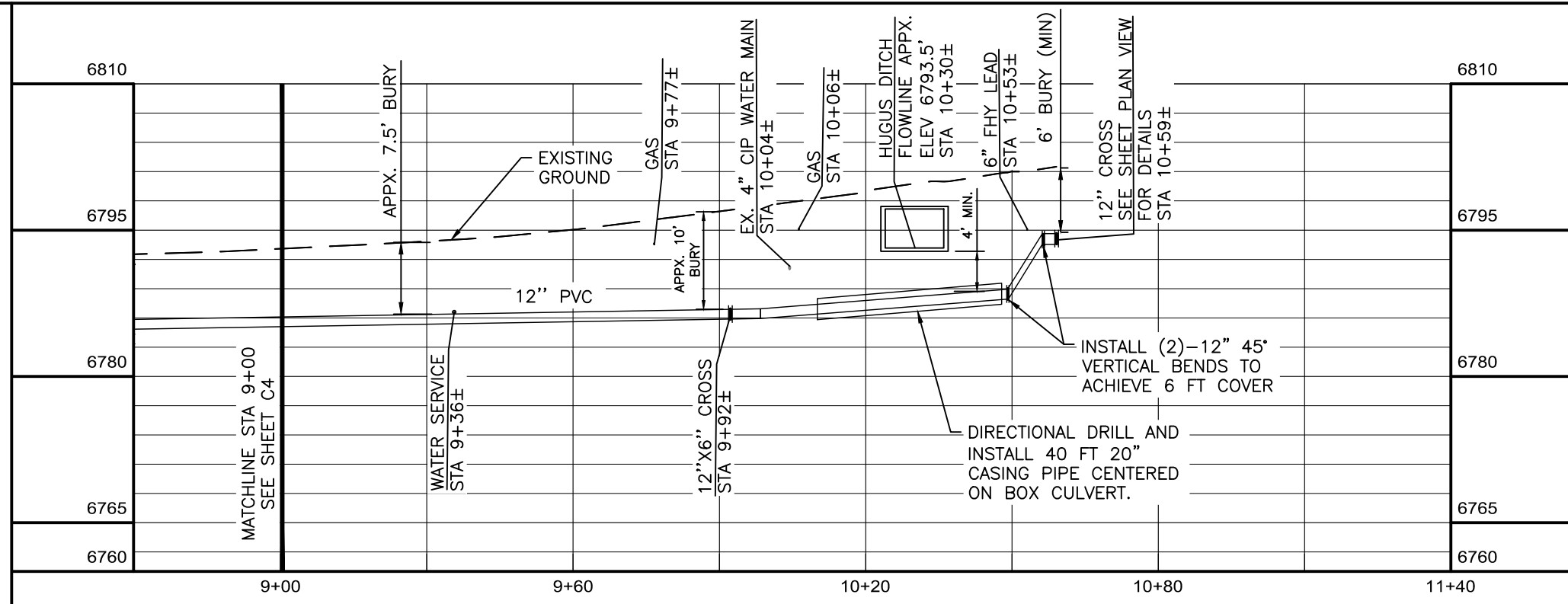
C4

P:\2023\Saratoga 23400.00 - 23499.00\23420.00 - SCCUPB - S. River St. Waterline Replacement\AutoCAD\24-0130 S. RIVER ST WATERLINE.dwg RIVER STREET P&P (9+00-10+59) 1/31/24 CRAIG



SCALES:
 1" = 30' HOR
 1" = 15' VERT

- NOTES:
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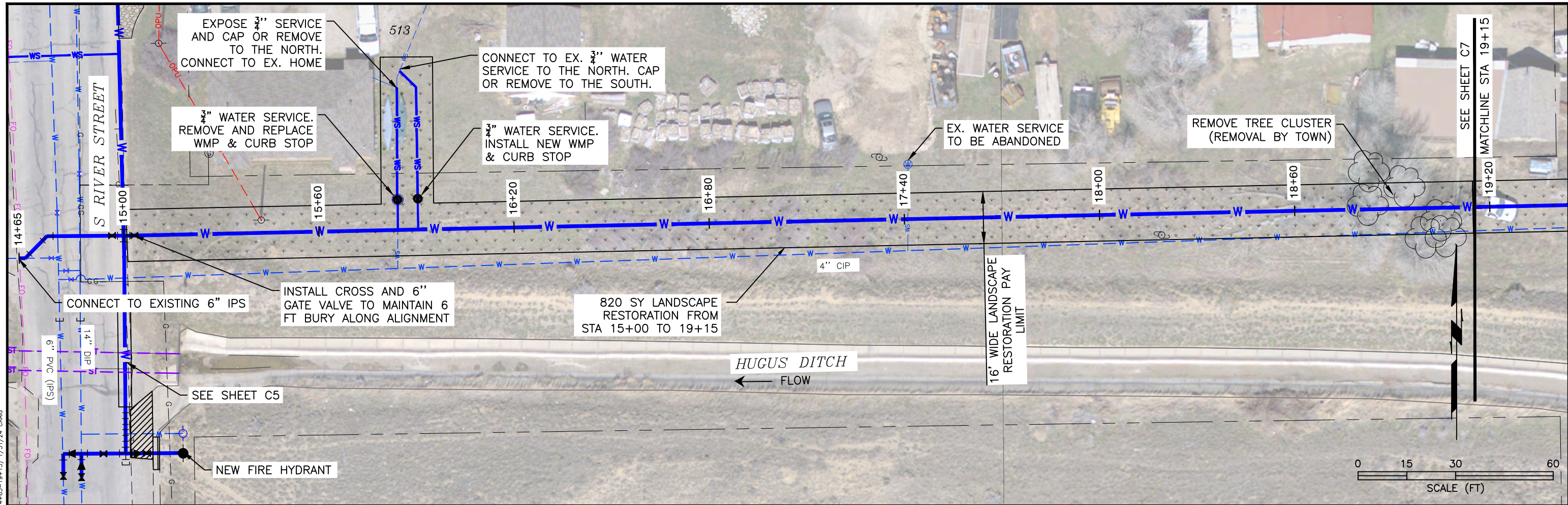

ENGINEERING ASSOCIATES
 CONSULTING ENGINEERS & SURVEYORS

OWNER: TOWN OF SARATOGA

PROJECT: S. RIVER ST. WATERLINE REPLACEMENT
 TITLE: RIVER STREET PLAN & PROFILE (9+00 - 10+59)

C5

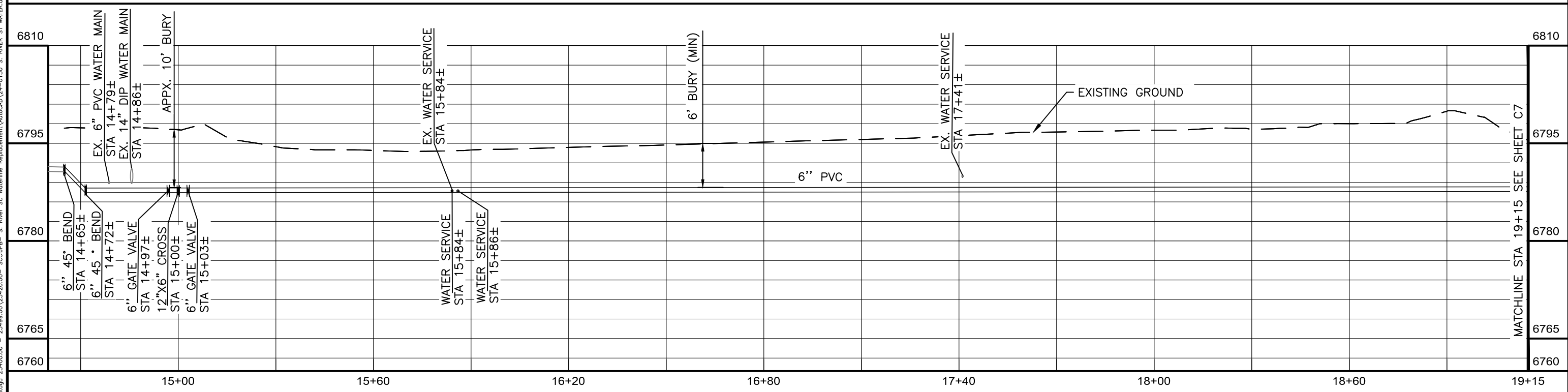
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SCALES:
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NOTES:
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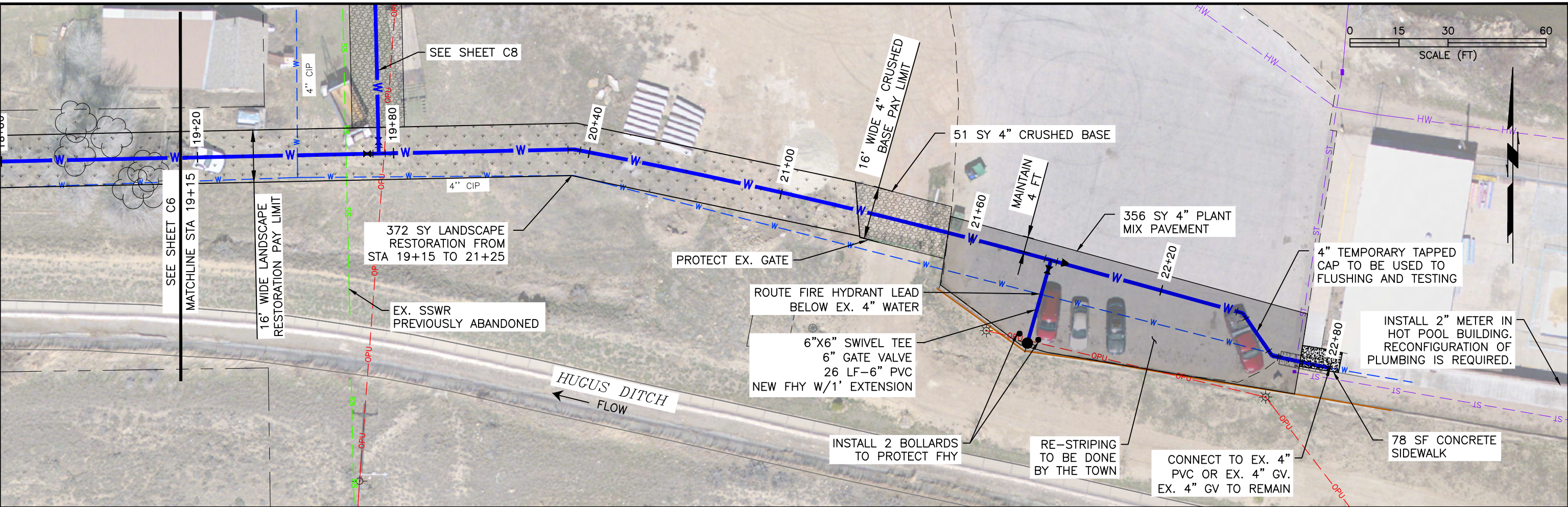
ENGINEERING ASSOCIATES
 CONSULTING ENGINEERS & SURVEYORS

OWNER: TOWN OF SARATOGA

PROJECT: S. RIVER ST. WATERLINE REPLACEMENT
 TITLE: MAPLE STREET PLAN & PROFILE (14+65-19+15)

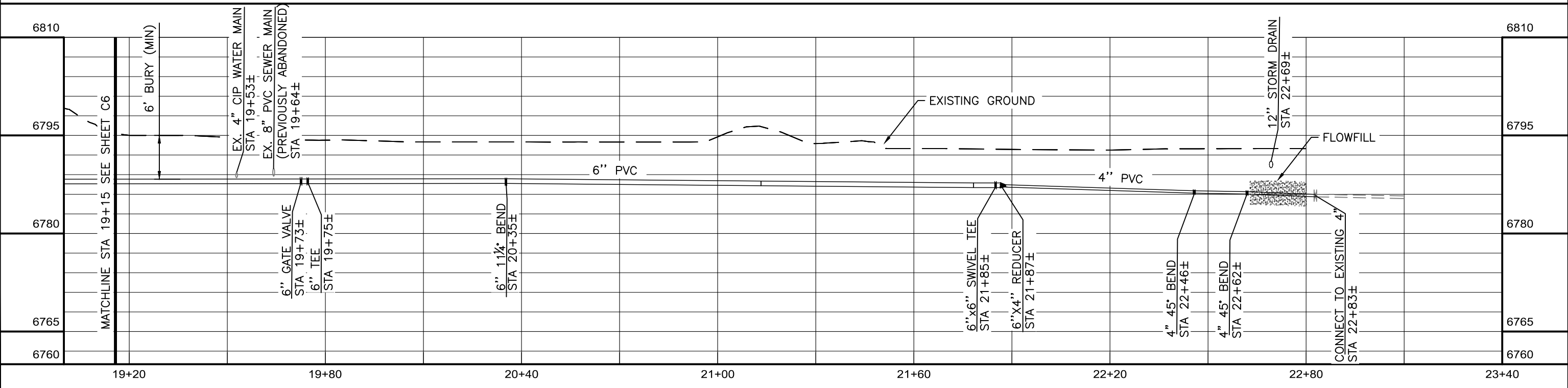
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SCALES:
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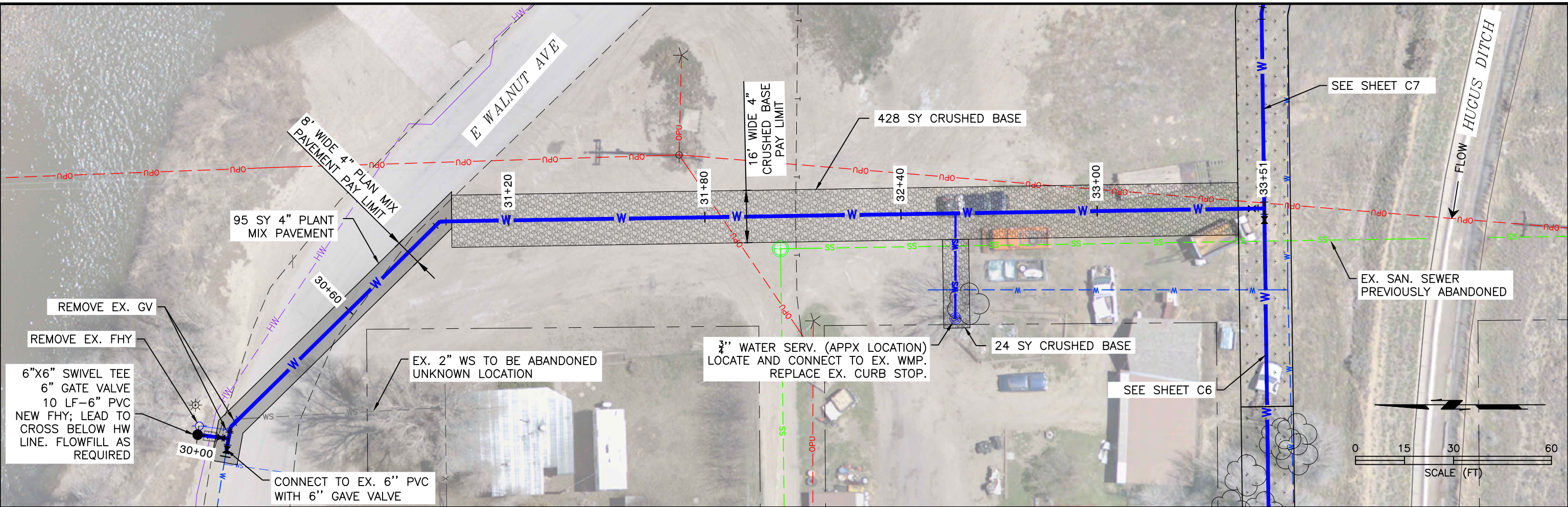
ENGINEERING ASSOCIATES
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OWNER:
 TOWN OF SARATOGA

PROJECT: S. RIVER ST. WATERLINE REPLACEMENT
 TITLE: MAPLE STREET PLAN & PROFILE (19+15-22+83)

C7

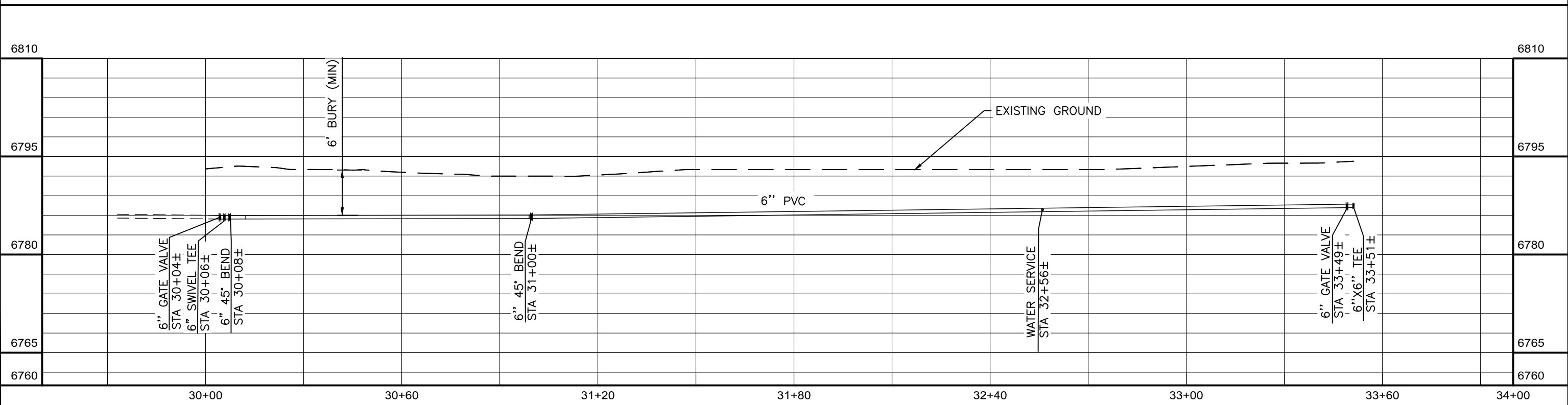
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SCALES:
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NOTES:
 1. VERIFY DEPTH OF ALL EXISTING WATER MAIN CROSSINGS & CONNECTIONS PRIOR TO INSTALLATION OF WATER MAIN AND FITTINGS. INSTALL WATER MAIN DEEPER WHEN NECESSARY TO CROSS BELOW EXISTING WATER MAINS. USE 6" VERTICAL BENDS AS NECESSARY TO MAKE CONNECTION TO EXISTING WATER MAINS.

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10/10/23	PROGRESS PLAN SET	HNM	CK	CK
08/28/23	ORIGINAL DRAWING	HNM	CK	CK

DRAWN BY: ARS
 JOB NO. 23420.00
 FIELD BOOK NO. OFFICE



ENGINEERING ASSOCIATES
 CONSULTING ENGINEERS & SURVEYORS

OWNER: TOWN OF SARATOGA

PROJECT: S. RIVER ST. WATERLINE REPLACEMENT
 TITLE: WALNUT STREET PLAN & PROFILE (30+04-33+51)

C8

CONTROL POINT SUMMARY				
PCPT No.	NORTHING	EASTING	ELEVATION	DESCRIPTION
2	675918.5420	1456888.5450	6789.78	X IN CONC
3	675346.4490	1456822.2240	6790.85	REBAR
4	675013.3570	1456896.6530	6791.53	NAIL
5	674681.4240	1456842.0950	6799.28	X IN CONC
7	675089.4780	1457260.2210	6794.66	NAIL

REMOVE EXISTING CONCRETE COLLAR. LOWER MANHOLE LID AND FRAME TO 1" BELOW FINISHED GRADE AFTER PAVING. INSTALL NEW CONCRETE COLLAR & EX. LID AND FRAME. INSTALL RISER RINGS AS NEEDED.

PCPT NO. 2
ELEV. 6789.78 FT

REMOVE 84 SF CONCRETE VALLEY GUTTER. REPLACE WITH 4" PLANT MIX PAVEMENT. GRADE TO DRAIN

8'x12' 4" PLANT MIX PAVEMENT PATCH

8'x8' 4" PLANT MIX PAVEMENT PATCH

SEE SHEET C10
MATCHLINE

CHIP SEAL WIDTH VARIES.
SEE SHEET C12

PROPOSED CHIP SEAL EXTENTS

S RIVER STREET

EDGE OF EXISTING ASPHALT

6' WIDE 4" PLANT MIX PAVEMENT

8' WIDE 4" PLANT MIX PAVEMENT PAY LIMIT (TYP. TRENCH)

14.2 SY CRUSHED BASE

14 FT WIDE CONCRETE VALLEY GUTTER. APPX. 510 SF

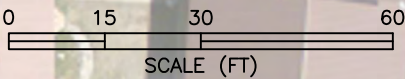
6789.25 FT

6789.32 FT

6789.39 FT

SPRING AVE

ELM AVE



P:\2023\Saratoga 23400.00 - 23499.00\23420.00 - SCUPPB - S. River St. Waterline Replacement\AutoCAD\24-0130 S. RIVER ST. WATERLINE RIVER ST SURFACING-SPRING TO ELM 1/31/24 CRAIG

DATE	DRAWING LOG	BY	CHECKED	APPROVED
1/31/24	ISSUED FOR BID	ARS	CK	CK
10/10/23	PROGRESS PLAN SET	HNM	CK	CK
08/28/23	ORIGINAL DRAWING	HNM	CK	CK

DRAWN BY: ARS
JOB NO. 23420.00
FIELD BOOK NO. OFFICE



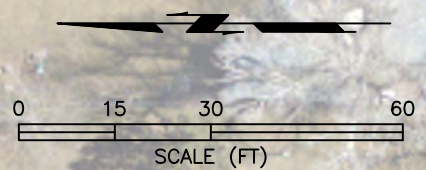
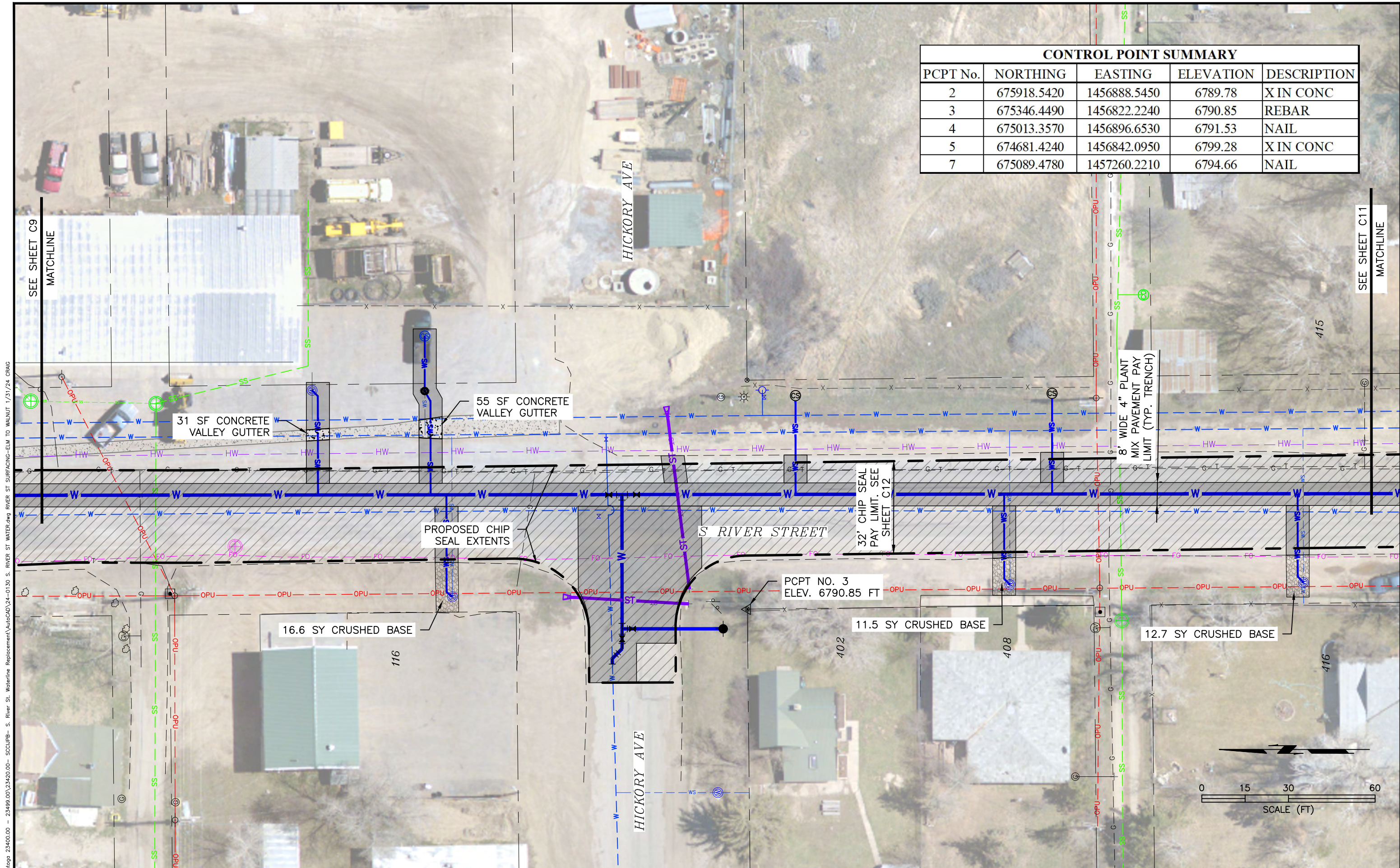
ENGINEERING ASSOCIATES
CONSULTING ENGINEERS & SURVEYORS

OWNER: TOWN OF SARATOGA

PROJECT: S. RIVER ST. WATERLINE REPLACEMENT
TITLE: RIVER STREET SURFACING - SPRING TO ELM

C9

CONTROL POINT SUMMARY				
PCPT No.	NORTHING	EASTING	ELEVATION	DESCRIPTION
2	675918.5420	1456888.5450	6789.78	X IN CONC
3	675346.4490	1456822.2240	6790.85	REBAR
4	675013.3570	1456896.6530	6791.53	NAIL
5	674681.4240	1456842.0950	6799.28	X IN CONC
7	675089.4780	1457260.2210	6794.66	NAIL



P:\2023\Saratoga 23400.00 - 23499.00\23420.00 - SCUPB - S. River St. Waterline Replacement\AutoCAD\24-0130 S. River St. WATER-ELM TO WALNUT 1/31/24 CRAIG

DATE	DRAWING LOG	BY	CHECKED	APPROVED
1/31/24	ISSUED FOR BID	ARS	CK	CK
10/10/23	PROGRESS PLAN SET	HNM	CK	CK
08/28/23	ORIGINAL DRAWING	HNM	CK	CK

DRAWN BY: ARS
 JOB NO. 23420.00
 FIELD BOOK NO. OFFICE



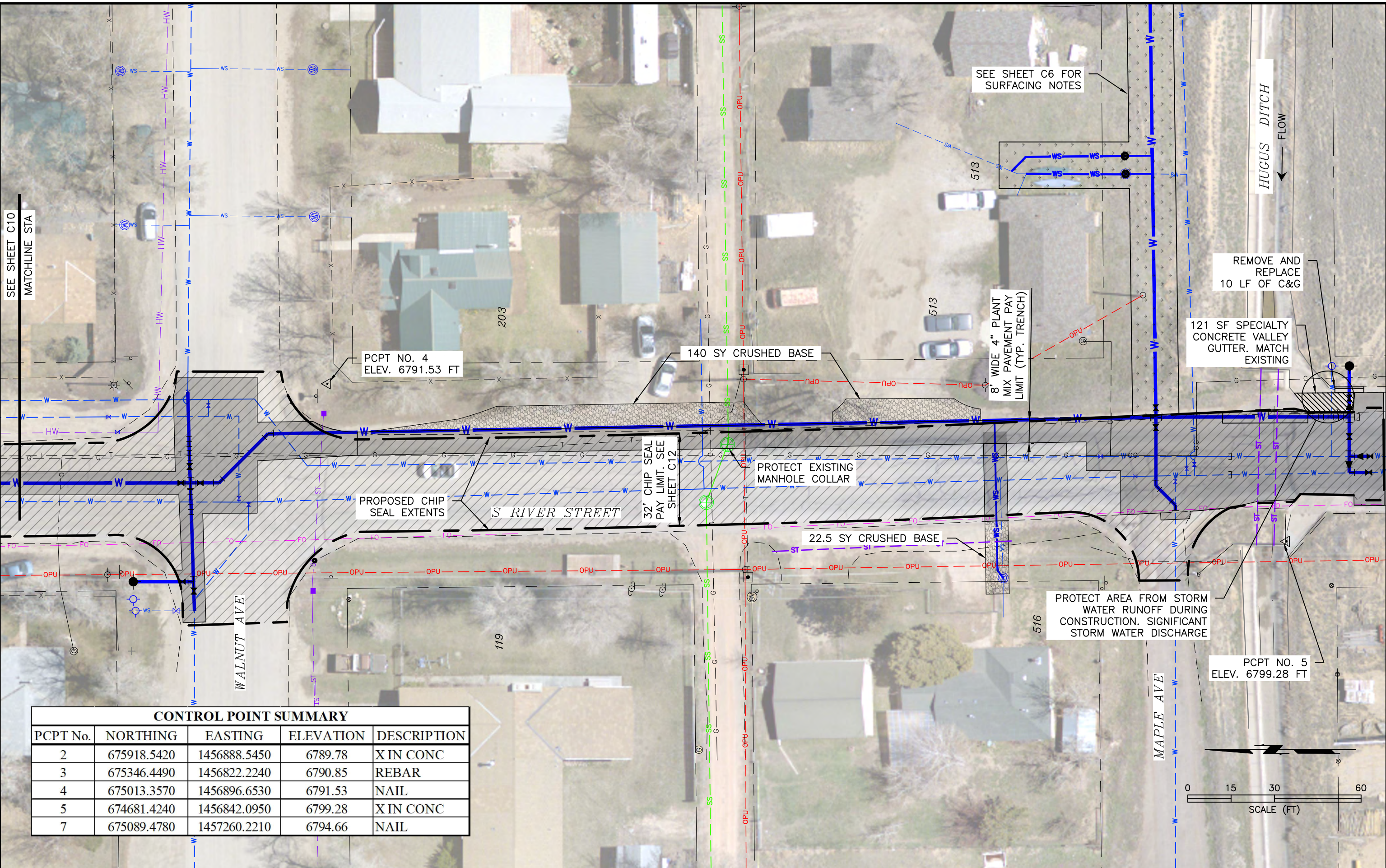
ENGINEERING ASSOCIATES
 CONSULTING ENGINEERS & SURVEYORS

OWNER: TOWN OF SARATOGA

PROJECT: S. RIVER ST. WATERLINE REPLACEMENT
 TITLE: RIVER STREET SURFACING - ELM TO WALNUT

C10

P:\2023\Saratoga 23400.00 - 23499.00\23420.00 - SCCUPB - S. River St. Waterline Replacement\AutoCAD\24-0130 S. RIVER ST. WATERLINE REPLACEMENT - WALNUT TO MAPLE 1/31/24 CRAIG



CONTROL POINT SUMMARY

PCPT No.	NORTHING	EASTING	ELEVATION	DESCRIPTION
2	675918.5420	1456888.5450	6789.78	X IN CONC
3	675346.4490	1456822.2240	6790.85	REBAR
4	675013.3570	1456896.6530	6791.53	NAIL
5	674681.4240	1456842.0950	6799.28	X IN CONC
7	675089.4780	1457260.2210	6794.66	NAIL

DATE	DRAWING LOG	BY	CHECKED	APPROVED
1/31/24	ISSUED FOR BID	ARS	CK	CK
10/10/23	PROGRESS PLAN SET	HNM	CK	CK
08/28/23	ORIGINAL DRAWING	HNM	CK	CK

DRAWN BY: ARS
 JOB NO. 23420.00
 FIELD BOOK NO. OFFICE

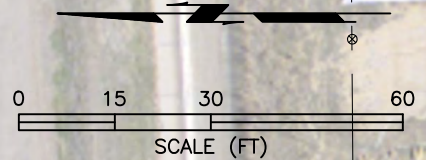


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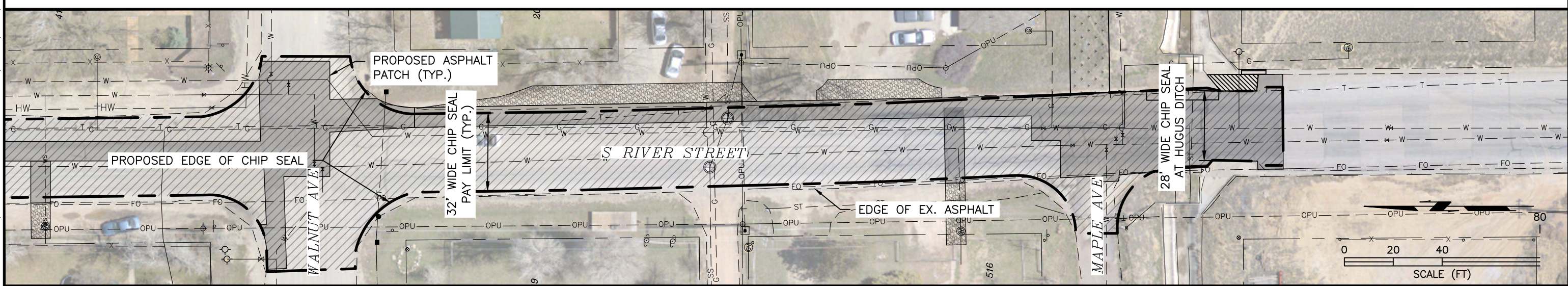
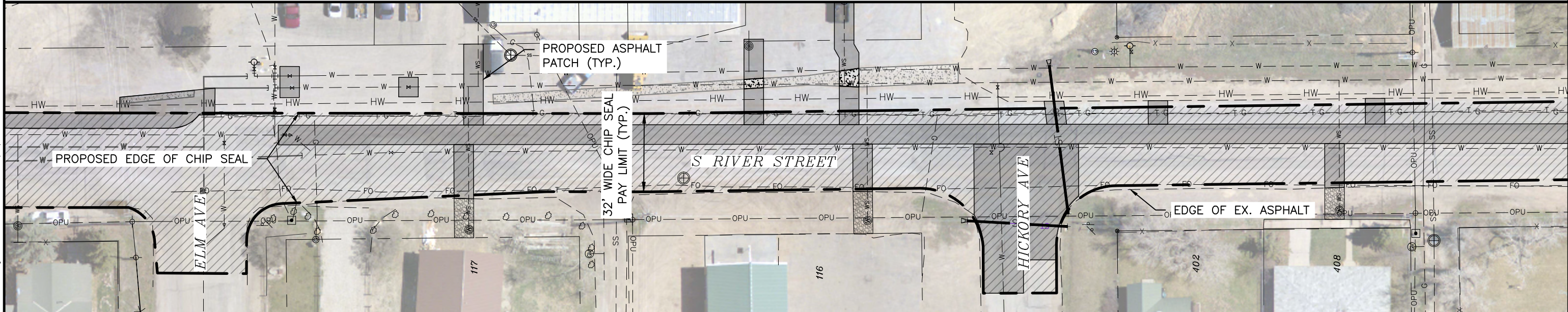
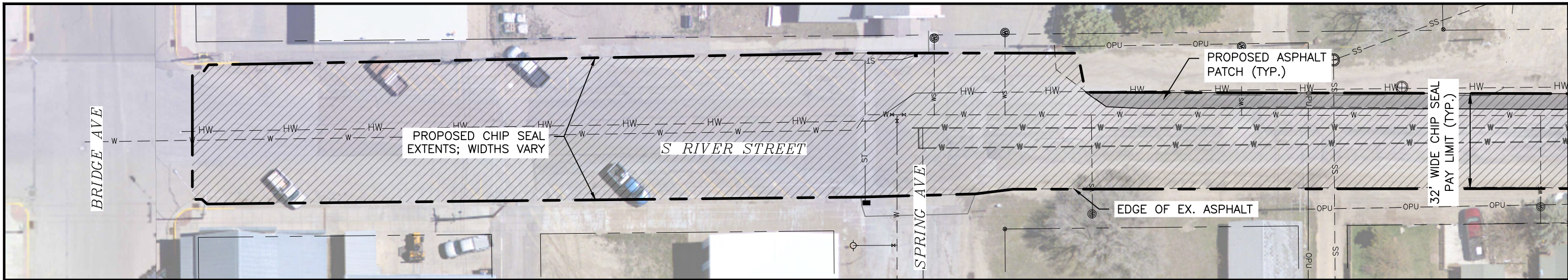
OWNER:
 TOWN OF SARATOGA

PROJECT: S. RIVER ST. WATERLINE REPLACEMENT
 TITLE: RIVER STREET SURFACING - WALNUT TO MAPLE

C11



P:\2023\Saratoga 23400.00 - 23499.00\Waterline Replacement\AutoCAD\24-0130 S. RIVER ST. WATERLINE REPLACEMENT\ADD ALT-1-CHIP SEAL EXTENTS 1/31/24 CRAIG



DATE	DRAWING LOG	BY	CHECKED	APPROVED
1/31/24	ISSUED FOR BID	ARS	CK	CK
10/10/23	PROGRESS PLAN SET	HNM	CK	CK
08/28/23	ORIGINAL DRAWING	HNM	CK	CK

DRAWN BY: ARS
 JOB NO. 23420.00
 FIELD BOOK NO. OFFICE

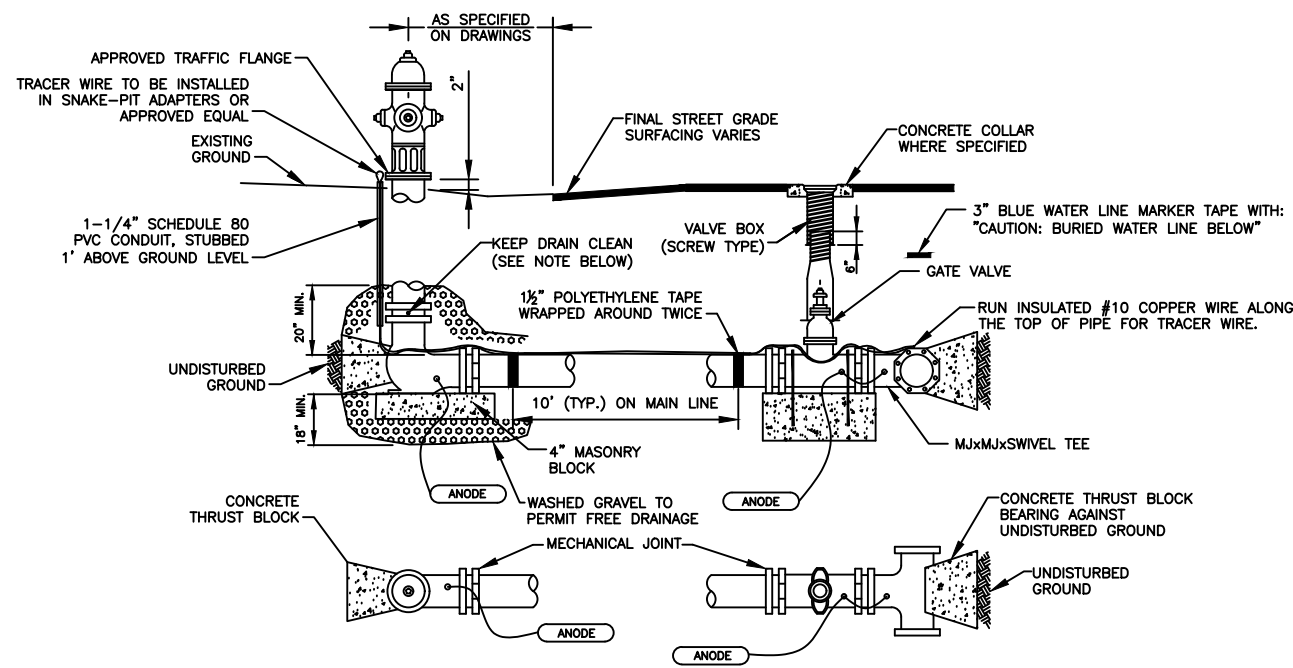


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OWNER: TOWN OF SARATOGA

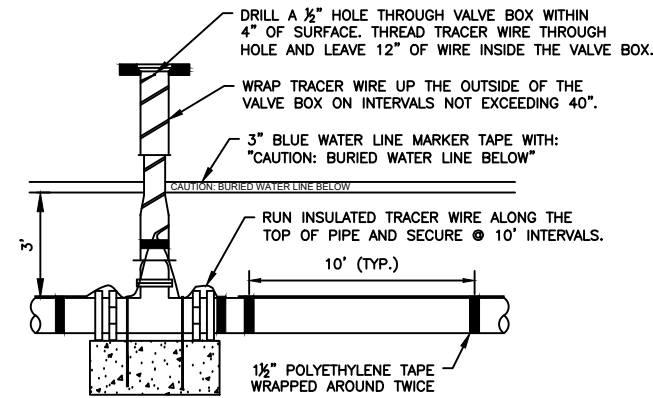
PROJECT: S. RIVER ST. WATERLINE REPLACEMENT
 TITLE: ADD. ALT. #1 - CHIP SEAL EXTENTS

C12



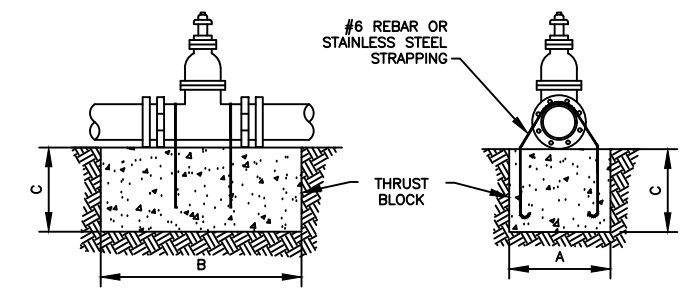
- NOTES:**
- DRAIN HOLE NOT PERMITTED IF BELOW WATER TABLE.
 - TRACER WIRE SHALL BE INSTALLED ALONG THE TOP CENTERLINE OF THE PIPE ON ALL WATER MAINS, FORCE MAINS AND NOTED WATER SERVICES. WIRE SHALL PROVIDE CONTINUITY THROUGHOUT THE SYSTEM. CONTINUITY SHALL BE DOCUMENTED BY TESTING PRIOR TO ACCEPTANCE. TRACER WIRE SHALL BE A MINIMUM OF #10 AWG WITH A BREAK LOAD OF 380LBS, A MINIMUM CONDUCTIVITY OF 21%, A 30mil HDPE INSULATION AND COLOR COATED TO MEET THE APWA STANDARD FOR IDENTIFICATION OF BURIED UTILITIES.
 - EXERCISE CARE TO PRESERVE THE INTEGRITY OF THE INSULATION ON THE TRACER WIRE. ALL DAMAGE, DEFECTS AND CONNECTIONS SHALL BE WRAPPED IN 1-1/2" POLYETHYLENE TAPE TO THE SATISFACTION OF THE ENGINEER.
 - 3" BLUE WATER LINE MARKER TAPE WITH THE WARNING: "CAUTION: BURIED WATER LINE BELOW" SHALL BE PLACED 3' ABOVE THE WATER LINE.
 - WRAP ALL METALLIC FITTINGS IN 8 MIL POLYETHYLENE.
 - ALL FIRE HYDRANT LATERALS SHALL BE 6-INCH.

A FIRE HYDRANT & TRACER WIRE
NOT TO SCALE



- NOTES:**
- TRACER WIRE SHALL BE INSTALLED ALONG THE TOP CENTERLINE OF THE PIPE ON ALL PVC AND HDPE WATERLINES, FORCE MAINS AND WATER SERVICES. WIRE SHALL PROVIDE CONTINUITY THROUGHOUT THE SYSTEM. CONTINUITY SHALL BE DOCUMENTED BY TESTING PRIOR TO ACCEPTANCE. TRACER WIRE SHALL BE A MINIMUM OF 10 GAUGE SOLID STRAND COPPER, SUITABLE FOR DIRECT BURY. ALL BARE WIRE SHALL BE SEALED WITH AN APPROVED SEALANT.
 - EXERCISE CARE TO PRESERVE THE INTEGRITY OF THE INSULATION ON THE TRACER WIRE. ALL DAMAGE, DEFECTS, AND CONNECTIONS SHALL BE WRAPPED IN 1 1/2" POLYETHYLENE TAPE TO THE SATISFACTION OF THE ENGINEER.
 - 3" BLUE WATER LINE MARKER TAPE WITH THE WARNING: "CAUTION: BURIED WATER LINE BELOW" SHALL BE PLACED 3' ABOVE THE WATER LINE.
 - LOCATE WIRE MAY BE ROUTED PAST VALVE BOX AT ENGINEERS DISCRETION.
 - WRAP ALL METALLIC FITTINGS INCLUDING VALVE BOX IN 8 MIL POLYETHYLENE.

B WATER MAIN AND WATER SERVICE TRACER WIRE
NOT TO SCALE

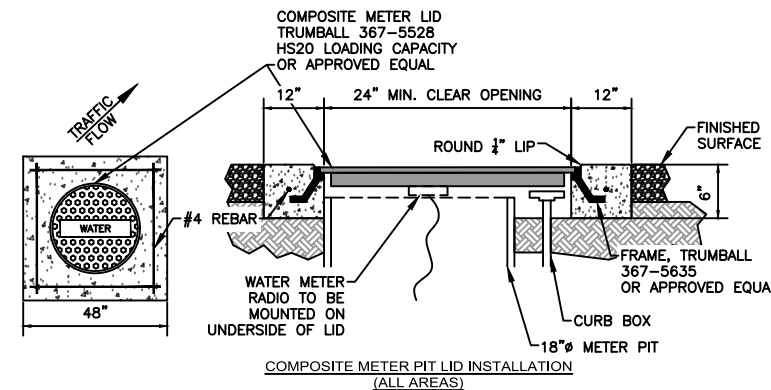


MINIMUM DIMENSIONS FOR THRUST BLOCKING

ANCHOR ROD SIZE	3/4"	3/4"	3/4"	1"	1 1/8"	1 1/4"	1 3/8"
VALVE SIZE	6" & 8"	10"	12"	14"	16"	18"	24"
150 PL	"A"	2'-0"	2'-6"	3'-0"	3'-5"	4'-4"	5'-5"
	"B"	2'-0"	2'-6"	3'-0"	3'-0"	3'-0"	3'-0"
	"C"	2'-0"	2'-0"	2'-8"	3'-0"	3'-0"	4'-0"

- NOTES:**
- THRUST BLOCKS ARE REQUIRED ON ALL VALVES AND ALL FITTINGS WITH A BEND OF 11.5 DEGREES OR GREATER.
 - COAT EXPOSED PORTIONS OF ANCHOR RODS WITH "KOPPERS" BITUMASTIC NO. 50 COATING OR APPROVED EQUAL.
 - WRAP ALL METALLIC FITTINGS IN 8 MIL POLYETHYLENE.

C THRUST BLOCKS FOR WATER MAIN VALVES
NOT TO SCALE



- NOTES:**
- COMPOSITE METER LIDS SHALL BE USED ON ALL METER PITS AND INCLUDE HANGING BRACKET FOR METER RADIO.
 - COMPOSITE METER LIDS & TRAFFIC RATED FRAMES SHALL BE INSTALLED AT ALL LOCATIONS.
 - FINAL ADJUSTMENT OF LID FRAME & PLACEMENT OF CONCRETE COLLAR WILL BE MADE AFTER FINAL SURFACING HAS BEEN INSTALLED.
 - 18" METER PIT OPENING AND CURB BOX SHALL BE ACCESSIBLE WITHIN 24" LID AND FRAME CLEAR OPENING.

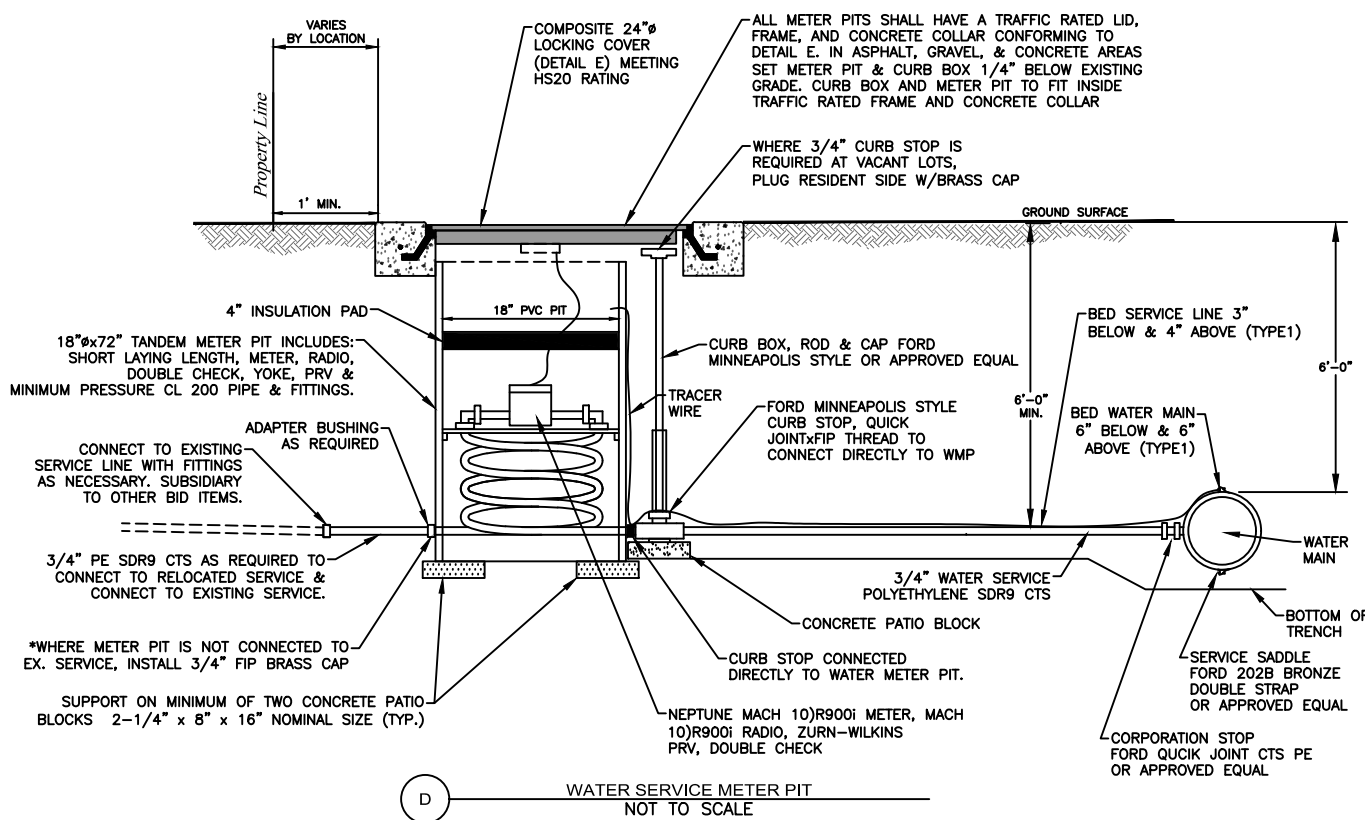
E WATER SERVICE METER PIT
NOT TO SCALE

MINIMUM DIMENSIONS FOR THRUST BLOCKING

FITTING SIZE	TEES & PLUGS		90° BENDS		45° BENDS & WYES		REDUCERS & 22 1/2° BENDS		11 1/4° BENDS	
	A	B	A	B	A	B	A	B	A	B
4"	1'-7"	1'-2"	1'-9"	1'-6"	1'-8"	0'-10"	1'-7"	0'-6"	0'-6"	0'-6"
6"	2'-0"	1'-11"	2'-5"	2'-2"	1'-10"	1'-7"	0'-10"	1'-0"	1'-0"	0'-6"
8"	2'-8"	2'-6"	3'-2"	3'-0"	2'-5"	2'-1"	1'-9"	1'-6"	1'-0"	1'-0"
10"	3'-4"	3'-3"	4'-0"	3'-10"	3'-0"	2'-9"	2'-2"	1'-11"	1'-6"	1'-0"
12"	4'-0"	3'-10"	4'-8"	4'-8"	3'-8"	3'-3"	2'-7"	2'-3"	2'-0"	1'-0"
14"	5'-5"	3'-10"	6'-6"	4'-11"	4'-9"	3'-5"	3'-5"	2'-5"	2'-0"	1'-6"
20"	5'-0"	5'-0"	6'-0"	6'-0"	5'-0"	4'-0"	3'-6"	3'-0"	3'-0"	2'-0"
24"	6'-0"	6'-0"	7'-0"	7'-0"	5'-0"	5'-0"	4'-6"	3'-0"	3'-0"	3'-0"
30"	7'-6"	7'-6"	8'-0"	8'-0"	6'-3"	6'-3"	4'-9"	4'-6"	3'-3"	3'-3"

- NOTES:**
- FITTINGS TO BE SEPARATED FROM BLOCKS WITH AN APPROVED BOND BREAKER, SUCH AS POLY WRAP.
 - ALL BLOCKS TO BEAR AGAINST UNDISTURBED MATERIAL.
 - DESIGN IS BASED ON 150 PSI MAIN PRESSURE AND 2000 PSF SOIL BEARING CAPACITY.

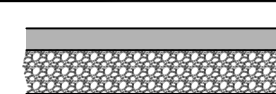
F MINIMUM THRUST BLOCK DIMENSIONS
NOT TO SCALE



*WHERE METER PIT IS NOT CONNECTED TO EX. SERVICE, INSTALL 3/4" FIP BRASS CAP

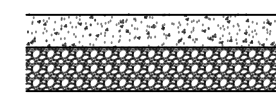
SUPPORT ON MINIMUM OF TWO CONCRETE PATIO-BLOCKS 2-1/4" x 8" x 16" NOMINAL SIZE (TYP.)

D WATER SERVICE METER PIT
NOT TO SCALE



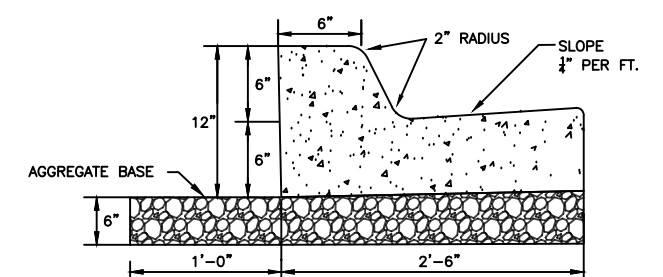
- NOTES:**
- STREET CUTS AND PAY LIMIT SHALL NOT EXCEED 8 FOOT WIDTH EXCEPT AS DIRECTED/APPROVED BY ENGINEER.
 - ASPHALT DAMAGED BY CONTRACTORS ACTIVITIES SHALL NOT BE CONSIDERED FOR PAYMENT.
 - ASPHALT PATCHING SHALL BE FINISHED 1/4" ABOVE ALL SURROUNDING ASPHALT OR CONCRETE.

G ASPHALT PAVING
NOT TO SCALE



- NOTES:**
- CONCRETE DAMAGED BY CONTRACTORS ACTIVITIES SHALL NOT BE CONSIDERED FOR PAYMENT.
 - CONCRETE SHALL BE CLASS 4000 WITH FIBER REINFORCEMENT AND #4 REBAR @ 12 O.C. EACH WAY.
 - CONCRETE PAVING SHALL BE FLUSH WITH ALL SURROUNDING EX. CONCRETE & EX. ASPHALT

H CONCRETE SIDEWALK
NOT TO SCALE



- NOTES:**
- SUBGRADE COMPACTION AND BASE COURSE PAYMENT SHALL CONFORM TO SECTION 02528.
 - BASE COURSE SHALL BE PLACED IN ACCORDANCE WITH SECTION 02231.
 - 1/2" EXPANSION JOINT MATERIAL SHALL BE PLACED AT P.C., P.T., AND CURB TURNS.
 - * CONTRACTION JOINTS SHALL COMPLY WITH SECTION 02528.
 - NO CURB AND GUTTER SHALL BE PLACED WITHOUT A FINAL FORM INSPECTION BY THE ENGINEER.
 - CLASS 4000 CONCRETE SHALL BE USED, SECTION 03304, PART 2.07.
 - MATCH EXISTING FLOWLINES ON EXISTING CURB AND GUTTER

*CONTRACTION JOINTS SHALL BE CONSTRUCTED BY SAWING OR SCORING. WHEN SCORING, A TOOL SHALL BE USED WHICH WILL LEAVE CORNERS ROUNDED AND DESTROY AGGREGATE INTERLOCK FOR SPECIFIED MINIMUM DEPTH.

I CURB & GUTTER
NOT TO SCALE

P:\2023\Saratoga 23400.00 - 23499.00\23420.00 - SCCUPB - S. River St. Waterline Replacement\AutoCAD\24-01-30 S. RIVER ST. WATER.DWG DETAILS-1 1/31/24 CRAG

DATE	DRAWING LOG	BY	CHECKED	APPROVED
1/31/24	ISSUED FOR BID	ARS	CK	CK
10/10/23	PROGRESS PLAN SET	HNM	CK	CK
08/23/23	ORIGINAL DRAWING	HNM	CK	CK

DRAWN BY: ARS
JOB NO. 23420.00
FIELD BOOK NO. OFFICE



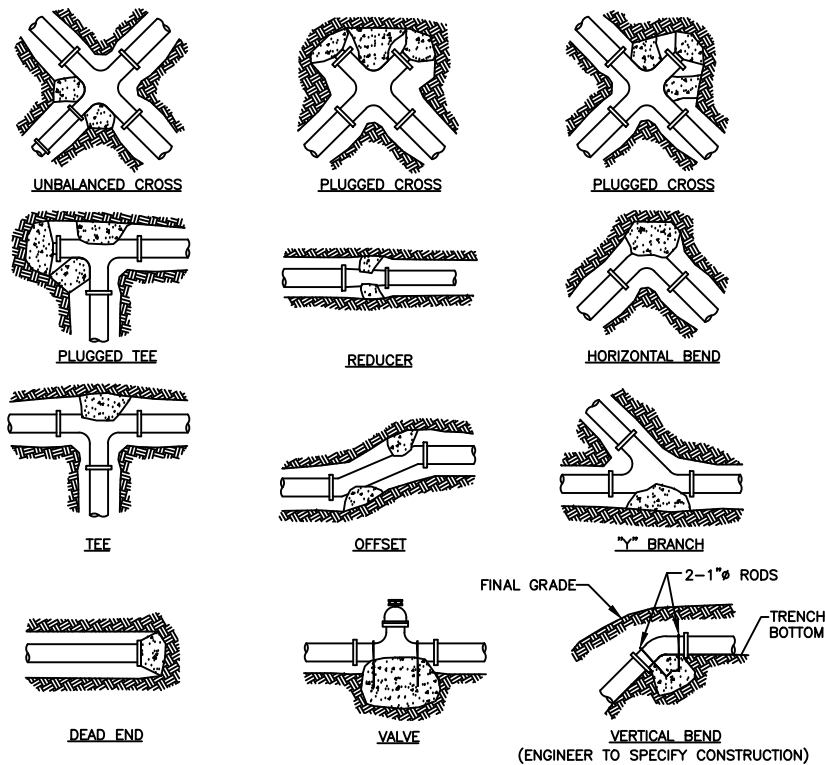
ENGINEERING ASSOCIATES
CONSULTING ENGINEERS & SURVEYORS

OWNER: TOWN OF SARATOGA

PROJECT: S. RIVER ST. WATERLINE REPLACEMENT

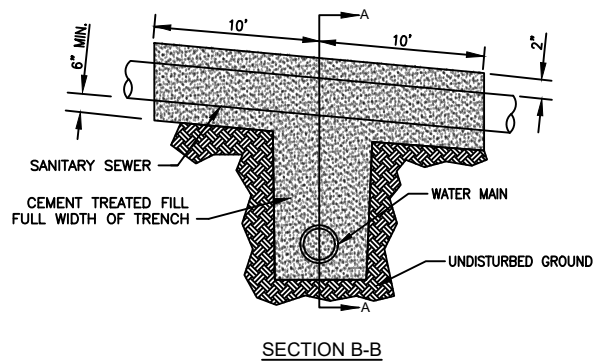
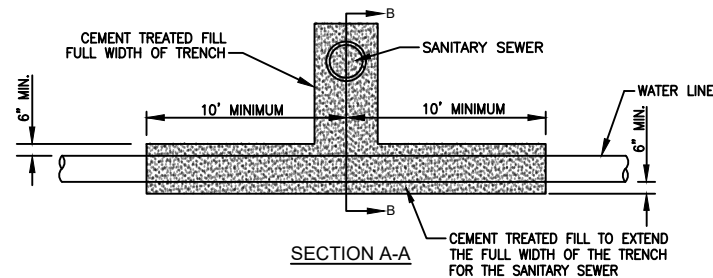
TITLE: DETAILS 1

D1



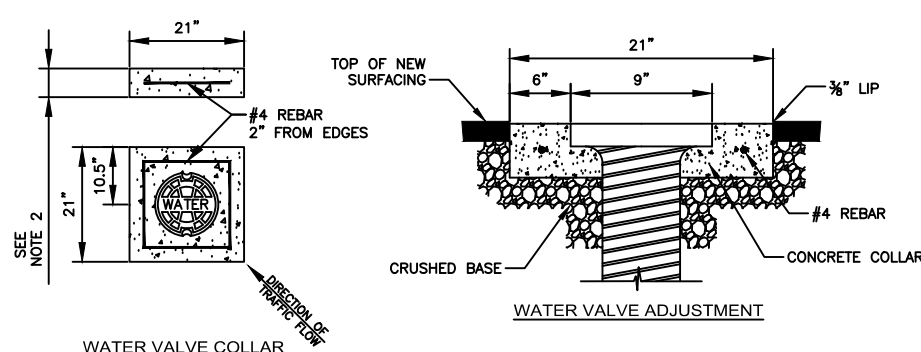
- NOTES:**
1. SIZE OF BLOCK SHALL BE A MINIMUM OF 6" THICK.
 2. ALL BLOCKING SHALL BEAR AGAINST UNDISTURBED MATERIAL.
 3. FITTINGS TO BE SEPARATED FROM THRUST BLOCK WITH AN APPROVED BOND BREAKER.
 4. BOLTS OF FITTINGS TO BE FREE OF ANY CONCRETE SUCH THAT THEY REMAIN OPERABLE.

J THRUST BLOCKS FOR WATER MAIN FITTINGS
NOT TO SCALE



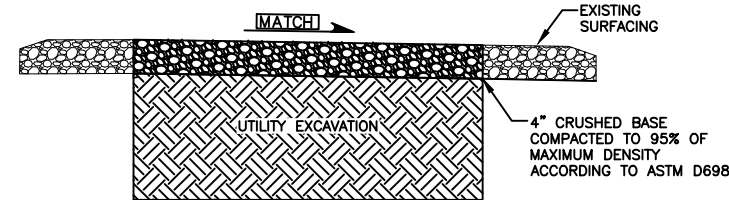
- NOTE:**
1. ALL WATER & SEWER CROSSINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THIS DETAIL UNLESS OTHERWISE SPECIFIED.

O WATER/SEWER CROSSINGS
NOT TO SCALE



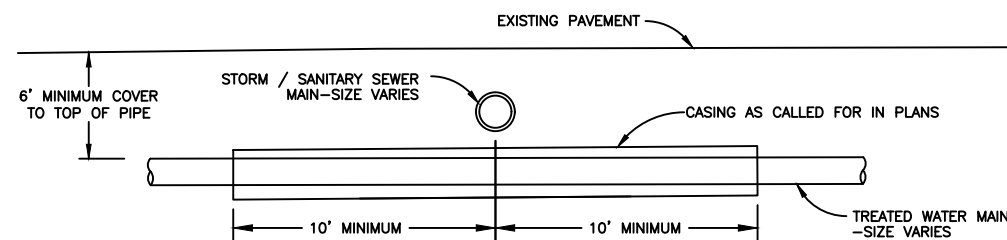
- NOTES:**
1. ADJUST WATER VALVES UPWARD OR DOWNWARD AS REQUIRED. FINAL ADJUSTMENT SHALL BE MADE AFTER PAVING AND BEFORE SEAL COATING. NO PAYMENT SHALL BE MADE FOR ADJUSTMENT OF NEW VALVES TO FINAL GRADE.
 2. * WHEN CONCRETE COLLAR IS POURED ABUTTING CONCRETE AND PAVEMENT, DEPTH SHOULD EQUAL THAT OF PAVEMENT SECTION OR A MINIMUM OF 8".
 3. IN AREAS OF GRAVEL OR LANDSCAPING WATER VALVE COLLARS ARE REQUIRED TO BE 1/2" BELOW FINISHED GRADE.

K CONCRETE VALVE BOX COLLAR
NOT TO SCALE

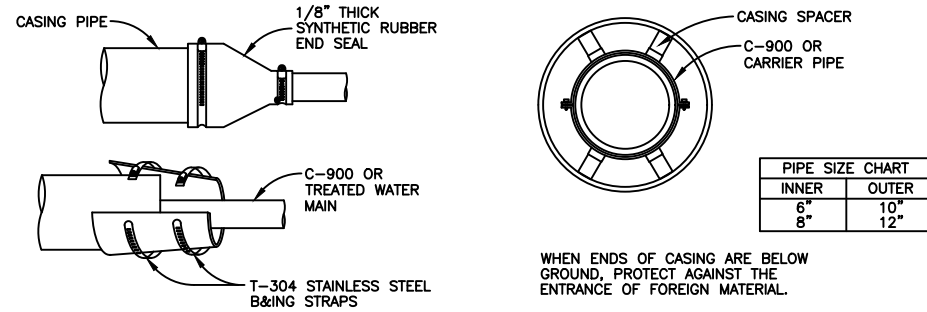


- NOTES:**
1. TRENCH EXCAVATED AND COMPACTED PER STANDARDS AND SPECIFICATIONS.
 2. 4" CRUSHED BASE LOCATIONS SHOWN IN DRAWINGS. WIDTH VARIES. PAY LIMIT 16 FT WIDTH, UNLESS OTHERWISE APPROVED BY ENGINEER.

M ROADBASE SURFACING DETAIL
NOT TO SCALE

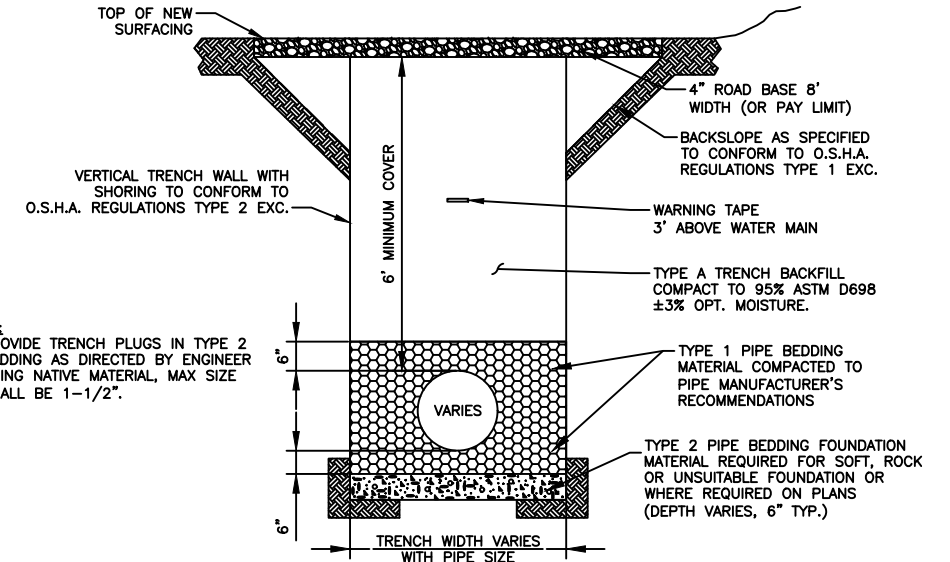


- NOTES:**
1. PROVIDE CATHODIC PROTECTION ANODE AND TEST STATION PER DETAILS IF REQUIRED
 2. 6" MAX. BETWEEN SPACERS OR AS RECOMMENDED BY PIPE MANUFACTURER.
 3. CEMENT TREATED FILL MAY BE USED. MAINTAINING DIMENSIONS SHOWN FOR WATER/SEWER CROSSINGS.
 4. WHEN ONLY CASING IS INSTALLED, WOOD BLOCKING OR OTHER ENGINEER APPROVED METHODS MAY BE USED AS TEMPORARY END SEALS TO PREVENT MATERIAL MIGRATION INTO CASING.



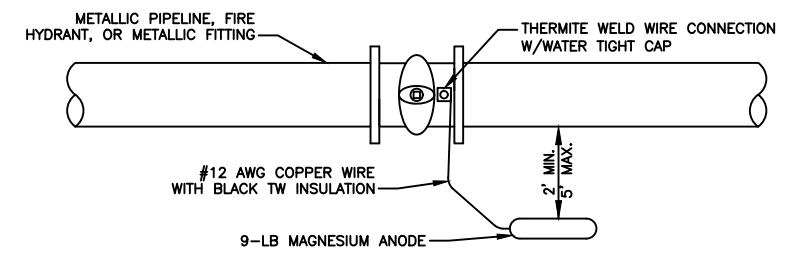
WHEN ENDS OF CASING ARE BELOW GROUND, PROTECT AGAINST THE ENTRANCE OF FOREIGN MATERIAL.

P PIPE CASINGS
NOT TO SCALE



- NOTE:**
1. PROVIDE TRENCH PLUGS IN TYPE 2 BEDDING AS DIRECTED BY ENGINEER USING NATIVE MATERIAL, MAX SIZE SHALL BE 1-1/2".

L TYPICAL TRENCH
NOT TO SCALE



N CATHODIC PROTECTION
NOT TO SCALE

MATERIALS LIST	
WATER MAIN (4" AND LARGER)	C900 PRESSURE CLASS 235, DR18 PVC
TRACER WIRE	MIN. #10 GA (AWA) SINGLE STRAND, INSULATED COPPER WIRE. CROSS-LINKED POLYETHYLENE (XLPE) SUITABLE FOR DIRECT BURY.
CAST IRON AND DUCTILE IRON FITTINGS	AWWA C110 Class 250 or AWWA C153 Class 350, MECH. JOINT, EPOXY COATED OR OTHERWISE NOTED
COUPLINGS	DRESSER STYLE 38 STEEL WITH AL-CLAD COATING AND CORROSION RESISTANT BOLTS
TRANSITION COUPLINGS	DRESSER STYLE 162 STEEL WITH AL-CLAD COATING AND CORROSION RESISTANT BOLTS
GATE VALVES	CC OPENING, EPOXY COATED, SS FASTENERS, LEFT HAND, MxMJ. MUELLER A-2361 RESILIENT WEDGE OR AMERICAN FLOW SERIES 3500**
FIRE HYDRANT	5 1/2" MAIN VALVE, 3-WAY (2 HOSE/1 PUMPER), YELLOW, 6.5 FT BURY, 1 1/2" PENTAGON OPERATION NUT, OPEN LEFT, 250 PSIG WORKING/500 PSIG STATIC. MUELLER SUPER CENTURION 250, A423 OR WATEROUS PACER**
VALVE BOXES	CAST IRON, 5 1/4" DIAMETER SCREW TYPE. LID STAMPED "WATER"
WATER SERVICE PIPE	3/4" OR 1" CTS DR9
CORPORATION STOPS	AWWA TAPER INLET THREAD, CLOCKWISE SCREW, FORD QUICK JOINT COMPRESSION**
TAPPING SADDLES	FORD 202B (CC THREAD) OR MUELLER BR2B**
CURB STOPS	FORD QUICK JOINTxFIP CONNECTION, MINNEAPOLIS STYLE**
CURB BOXES AND RODS	MINNEAPOLIS STYLE FORD**
METER PITS	FORD 18" DIAMETER X 72" COIL TANDEM METER PIT. HS20 LOAD CAPACITY LID AND FRAME. 4" INSULATION PAD. SHALL INCLUDE 3/4" FULL PORT BALL VALVE AND 3/4" DUAL CHECK VALVE**
WATER METERS	NEPTUNE MACH10(R900I)
SEE PROJECT MANUAL SPECIAL PROVISIONS FOR MORE INFORMATION	
ALL WATER MAIN CONNECTIONS SHALL BE MJ, "MEGALUG" WITH "COR-BLUE" OR 304 STAINLESS STEEL T-BOLTS**	
ALL BURIED METALLIC PIPE & APPURTENANCES SHALL BE WRAPPED WITH 8 MIL POLYETHYLENE.	
PROVIDE REQUIRED THRUST BLOCKS AS NOTED	
PROVIDE CATHODIC PROTECTION ON ALL FIRE HYDRANTS, VALVES AND CAST OR DUCTILE IRON FITTINGS WITH A NINE POUND (9#) ULTRA-MAG HIGH POTENTIAL MAGNESIUM ANODE. #10 CONDUCTOR WIRE WITH (SUITABLE FOR DIRECT BURY, HMWPE BETWEEN TWO FITTINGS <10 FT APART. WELD METAL XF19 AND COVER WITH HANDY CAP**	
** OR APPROVED EQUAL	

P:\2023\Saratoga 23400.00 - 23499.00\23420.00 - SCUPFB - S. River St. Waterline Replacement\AutoCAD\24-0130 - S. RIVER ST. WATERLINE REPLACEMENT-2 1/31/24 CRAG

DATE	DRAWING LOG	BY	CHECKED	APPROVED	DRAWN BY:
1/31/24	ISSUED FOR BID	ARS	CK	CK	ARS
10/10/23	PROGRESS PLAN SET	HNM	CK	CK	
08/23/23	ORIGINAL DRAWING	HNM	CK	CK	

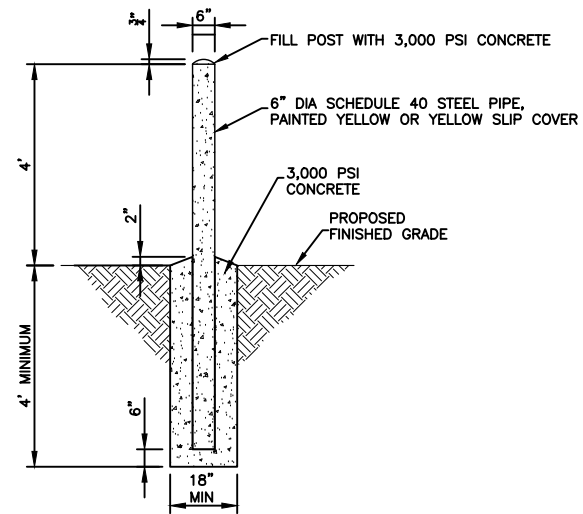
JOB NO. 23420.00
FIELD BOOK NO. OFFICE



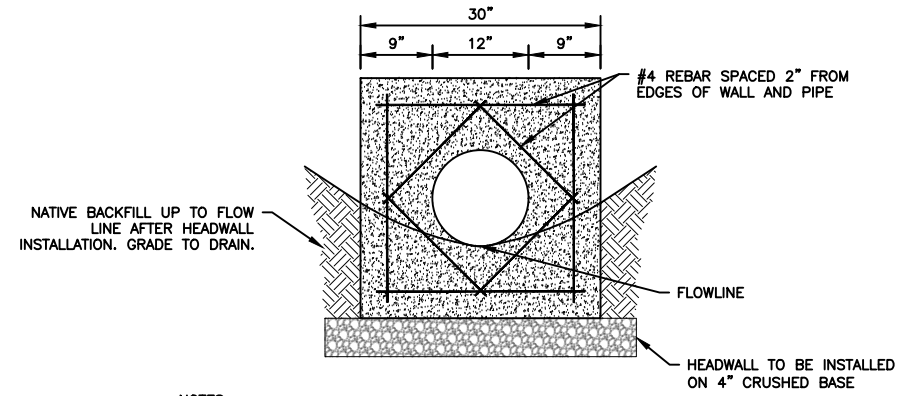
ENGINEERING ASSOCIATES
CONSULTING ENGINEERS & SURVEYORS

OWNER: TOWN OF SARATOGA

PROJECT: S. RIVER ST. WATERLINE REPLACEMENT
TITLE: DETAILS 2

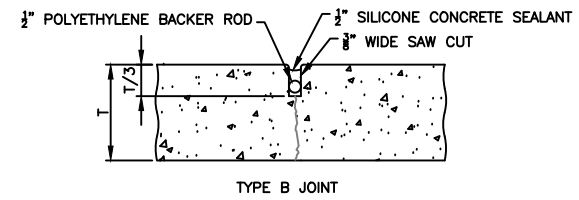
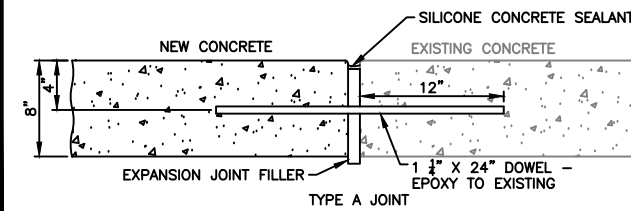
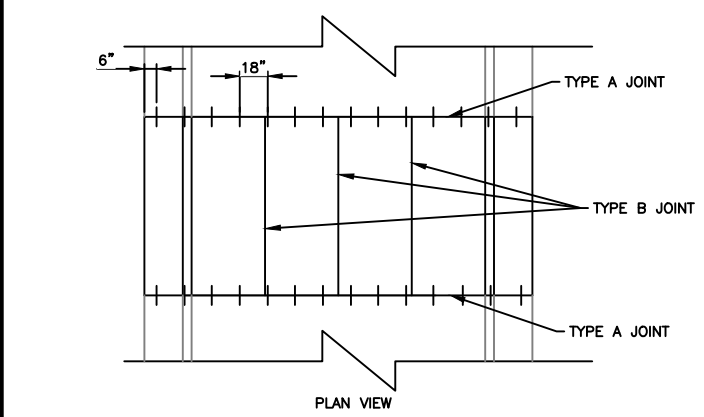


Q BOLLARD DETAIL
NOT TO SCALE



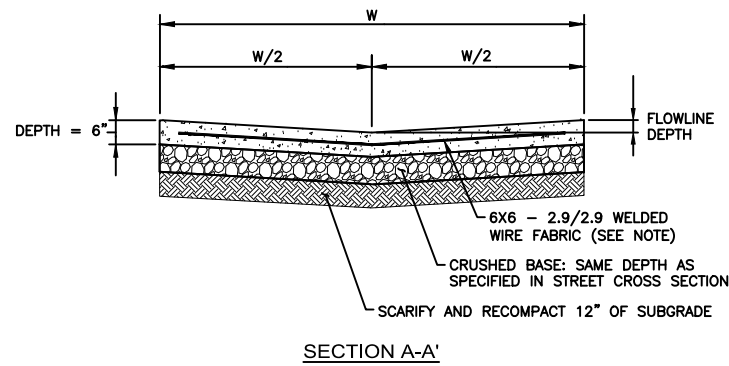
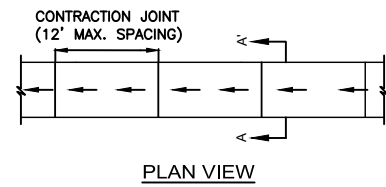
- NOTES:
1. CONCRETE WALL SHALL BE 6" THICK WITH STORM SEWER PIPE FLUSH TO WALL.
 2. CONCRETE SHALL BE MINIMUM CLASS 4000, SLUMP 3-5", AND AIR CONTENT 4-7%.
 3. HEADWALL TO BE BACKFILLED UP TO FLOW LINE AFTER INSTALL. GRADE AREA TO ENSURE DRAINAGE.
 4. 12" COVER REQUIRED ON ALL STORM CULVERTS OR AS APPROVED BY THE ENGINEER

R CONCRETE HEADWALL
NOT TO SCALE



- NOTES:
1. BEGIN PLACING DOWELS 6" FROM EDGE OF CONCRETE AND 18" ON CENTER ALONG JOINT.
 2. SEE SPECIFICATION 03100 FOR EXPANSION JOINT FILLER MATERIAL.

S CONCRETE PATCH JOINT
NOT TO SCALE



- NOTES:
1. FIBER REINFORCEMENT AND WELDED WIRE FABRIC ARE REQUIRED IN ALL CONCRETE VALLEY GUTTERS.
 2. MATCH EXISTING VALLEY GUTTER WIDTHS OR AS NOTED ON THE PLANS.
 3. REPLACEMENT OF EXISTING VALLEY GUTTER SHALL INCLUDE DOWELING NEW CONCRETE TO EXISTING.

T CONCRETE VALLEY GUTTER
NOT TO SCALE

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DATE	DRAWING LOG	BY	CHECKED	APPROVED
1/31/24	ISSUED FOR BID	ARS	CK	CK
10/10/23	PROGRESS PLAN SET	HNM	CK	CK
08/23/23	ORIGINAL DRAWING	HNM	CK	CK

DRAWN BY: ARS
JOB NO. 23420.00
FIELD BOOK NO. OFFICE



ENGINEERING ASSOCIATES
CONSULTING ENGINEERS & SURVEYORS

OWNER:
TOWN OF SARATOGA

PROJECT: S. RIVER ST. WATERLINE REPLACEMENT
TITLE: DETAILS 3

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