NOTE: Highlighted drawings have been revised or created. These drawings are included in this PDF. The non-highlighted drawings have not changed from the 2021 version and are not included.

ALL RED TEXT IS HYPER LINKED TO THE PDF

ALL BLUE TEXT IS HYPER LINKED TO THE AUTOCAD DRAWING FILE

DRAFT

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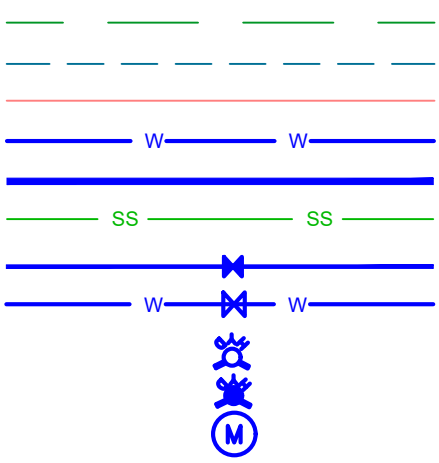
NOTE: ALL DETAIL DRAWINGS NOT TO SCALE (NTS) UNLESS OTHERWISE NOTED.

LEGEND



EASEMENT LINE
EXISTING ROW/PROPERTY LINE
EXISTING CURB LINE
EXISTING WATER
PROPOSED WATER
PROPOSED WASTEWATER
VALVE (PROPOSED)
VALVE (EXISTING)
EXISTING FIRE HYDRANT
PROPOSED FIRE HYDRANT
EXISTING/PROPOSED METER PIT

DRAFT

NOTES FOR APPLYING STREET CROSS SECTION TEMPLATES

DETAIL DRAWINGS C1-2 THROUGH C1-10 ARE INTENDED TO GIVE THE DEVELOPMENT COMMUNITY ADDITIONAL DESIGN OPTIONS TO ASSIST IN CONSTRUCTING MAINTAINABLE STREETS AND UTILITIES. THESE DRAWINGS ARE MEANT TO BE USED IN CONJUNCTION WITH THE LATEST VERSION OF THE CITY OF COLORADO SPRINGS TRAFFIC DESIGN MANUAL AND REPRESENT LAYOUTS THAT CAN BE APPROVED IF DESIGNED AS SHOWN ON THESE DRAWINGS. VARIATIONS FROM THESE SECTIONS FOR UTILITY MAIN SIZE OR HORIZONTAL AND/OR VERTICAL LOCATION WILL BE REVIEWED AND APPROVED BY COLORADO SPRINGS UTILITIES ON A CASE BY CASE BASIS. THE FOLLOWING ABBREVIATIONS APPLY TO ALL DRAWINGS: W=WATER WW= WASTEWATER.

PHILOSOPHIES IN INTERPRETING THE DRAWINGS:

1. THE DEPTH OF THE WW LINE WILL VARY AND WILL NOT BE INSTALLED EXACTLY AT THE DEPTH SHOWN IN THE DRAWINGS.
2. FOR A TYPICAL REPAIR, SHORING SHOWN ON THE DRAWINGS IS ASSUMED TO BE 8 FEET IN WIDTH AND LOCATED 4 FEET FROM THE TOP OF THE PAVEMENT TO ALLOW CROSSING OF GAS AND ELECTRIC SERVICES AND MAINS. A 6 INCH OVER DIG IS ASSUMED ON EITHER SIDE OF THE SHORING.
3. STORM SEWER MATERIALS SHALL CONFORM TO THE CITY OF COLORADO SPRINGS STANDARDS AND SPECIFICATIONS.
4. STORM SEWER SIZES OVER 48 INCHES WILL NEED TO BE REVIEWED BY COLORADO SPRINGS UTILITIES SO THE IMPACT ON THE DESIGN OF ELECTRIC CROSSINGS CAN BE PROPERLY COORDINATED WITH COLORADO SPRINGS UTILITIES FIELD ENGINEERING.
5. SHORING TO BE DESIGNED BY A LICENSED PROFESSIONAL ENGINEER AND INSPECTED BY A COMPETENT PERSON IN ACCORDANCE WITH OSHA REQUIREMENTS.

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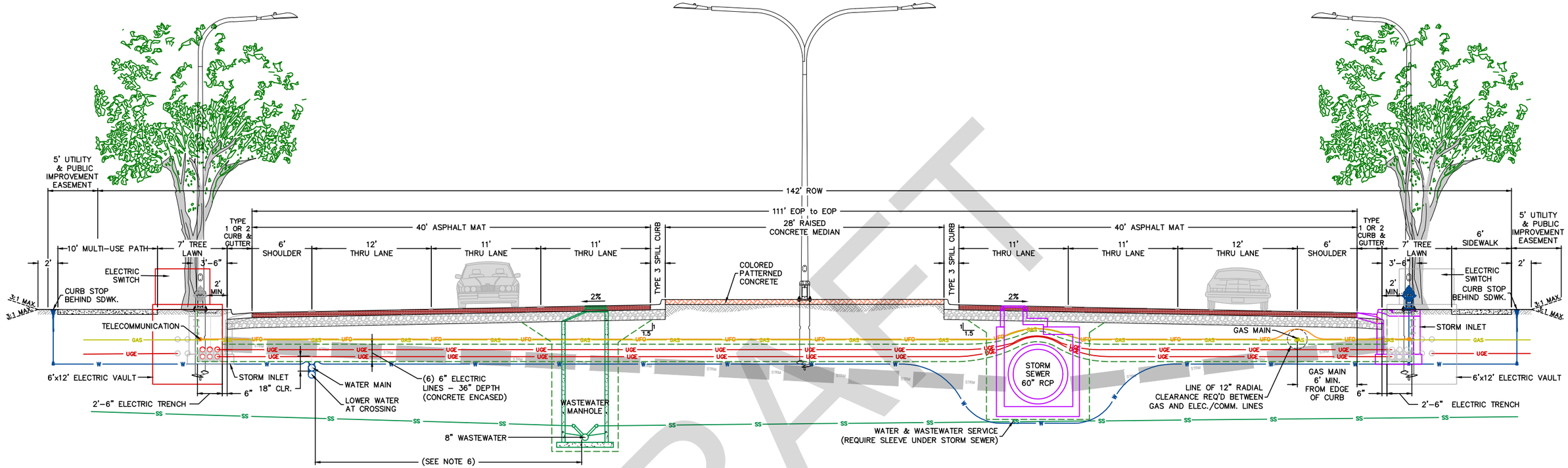
THE CROSS SECTIONS SHOW ACCEPTABLE DESIGNS FOR UTILITY LOCATIONS IN THE STREETS. THESE STREET CROSS SECTIONS DO NOT MEET EVERY REQUIREMENT OF THE APPLICABLE COLORADO SPRINGS UTILITIES LESS, BUT WILL BE ACCEPTABLE IF CONSTRUCTED IN THE CORRIDORS SHOWN IN THE ATTACHED DRAWINGS. IN USING THE DRAWINGS, THE FOLLOWING LOGIC SHOULD BE APPLIED WHEN USING THE CROSS SECTION TEMPLATES:

A. CARE MUST BE TAKEN TO ENSURE THE HYDRANT VALVE BOX IS INSTALLED OUTSIDE THE CONCRETE CURB AND GUTTER PAN AND MAY REQUIRE THE USE OF AN ANCHOR TEE TO ELIMINATE THE 30 INCH SPACER PIPE.
B. THE WW LINE SHALL NOT BE INSTALLED DEEPER THAN 20 FEET, UNLESS SPECIAL CIRCUMSTANCES EXIST. THOSE DESIGNS WILL REQUIRE A MORE DETAILED REVIEW AND SPECIFIC APPROVAL BY COLORADO SPRINGS UTILITIES.
C. THE PREFERRED LOCATION OF THE STORM SEWER MAIN IS SHOWN ON THE DRAWINGS BUT THE LOCATION MAY VARY DEPENDING ON MULTIPLE DESIGN FACTORS. THE FINAL LOCATION OF THE STORM SEWER MAIN WILL BE APPROVED BY CITY ENGINEERING.
D. SPACE IS ALLOWED ON EITHER SIDE OF THE ROAD FOR GAS AND ELECTRIC LINES AS SHOWN ON THE CROSS SECTIONS. THE TELECOMMUNICATIONS LINES CAN BE INSTALLED BETWEEN THE SIDEWALK AND THE GAS AND ELECTRIC LINES.

C1-2 once Street Sections finalized



LINE LEGEND		
UTILITY	SYMBOL	DEPTH TO TOP OF PIPE
TELECOMMUNICATIONS	UFO	MIN. 30"
GAS	GAS	MIN. 30"
UNDERGROUND ELECTRIC/ CONCRETE ENCASED	UGE	MIN. 44" MIN. 36"
WATER	W	MIN. 60"
WASTEWATER	SS	MIN. 60"
STORM SEWER/STRUCTURES	STRM	PER DCM

NOTES:

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7. A VARIANCE FROM STORMWATER ENTERPRISE AND COLORADO SPRINGS UTILITIES WILL BE REQUIRED IF THERE IS LESS THAN 10-FEET OF SEPARATION BETWEEN STORM SEWER AND WASTEWATER.
8. MANHOLE LIDS SHALL BE CENTERED IN THE LANE, WHEN IN A TRAVEL LANE.
9. ALL VALVES AND MANHOLES SHALL BE WITHIN A 1/4-INCH OF THE FINISHED ASPHALT SURFACE.
10. A 10-FOOT MULTI-USE PATH IS REQUIRED ON ONE SIDE OF THE ROADWAY AS DIRECTED BY CITY ENGINEERING. A 10-FOOT MULTI-USE PATH SHALL BE ON BOTH SIDES OF THE ROADWAY WHEN THE ROADWAY IS INCLUDED IN THE BIKE MASTER PLAN.
11. SIDEWALKS AND MULTI-USE TRAIL SHALL HAVE A MAXIMUM CROSS SLOPE OF 2% (TOWARDS STREET) AND SHALL BE A MINIMUM OF 4-INCHES THICK. MULTI-USE PATHS GREATER THAN 6-FEET WIDE SHALL BE 6-INCH THICK CONCRETE.
12. SIDEWALKS AND MULTI-USE TRAILS SHALL BE FREE OF OBSTRUCTIONS (E.G. VAULTS, RISERS), AND SHALL MEANDER AROUND OBSTACLES.
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14. A MINIMUM SETBACK OF 15-FEET IS REQUIRED TO MEET CSU's SEPARATION REQUIREMENT BETWEEN STRUCTURES AND UTILITIES. IS A SETBACK OF LESS THAN 15-FEET IS DESIRED, PLEASE REFER TO THE CONSTRUCTION PLAN REVIEW PAGE ON CSU.ORG WEBSITE AT https://www.csu.org/Pages/ConstructionPlanReview.aspx.

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PRINCIPAL ARTERIAL TYPE 2 (6 LANES) CROSS SECTION

COLORADO SPRINGS

APPROVED:

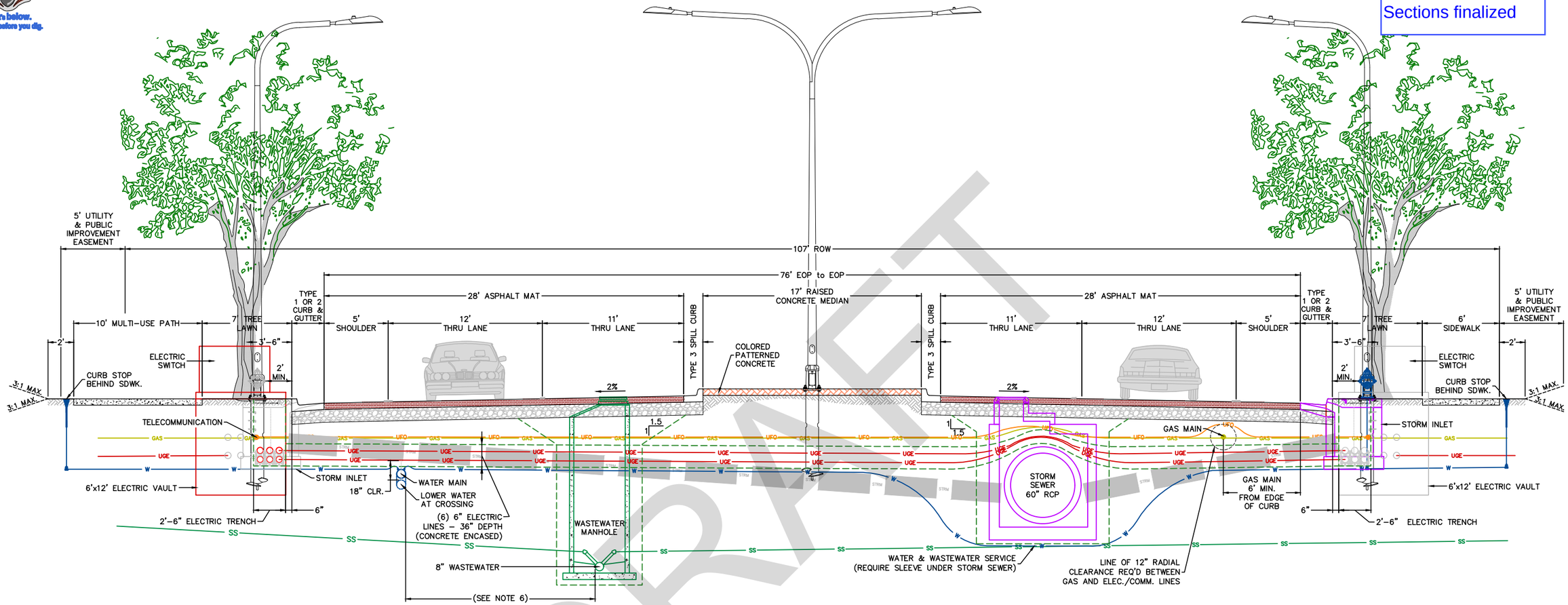
CITY ENGINEER

ISSUED:	REVISED:	DRAWING NO.
6/6/22		1A

DRAFT

User: KOTTMAN Jun 06, 2022 - 11:25am
Drawing: P:_CIP GROUP DOCUMENTS\CADD RESOURCES\STANDARD DETAILS\CURRENT CITY STANDARD DETAILS\KWO\STREET SECTIONS.DWG - Layout: 1A

C1-3 once Street Sections finalized



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PRINCIPAL ARTERIAL
TYPE 1 (4 LANES)
CROSS SECTION

COLORADO SPRINGS

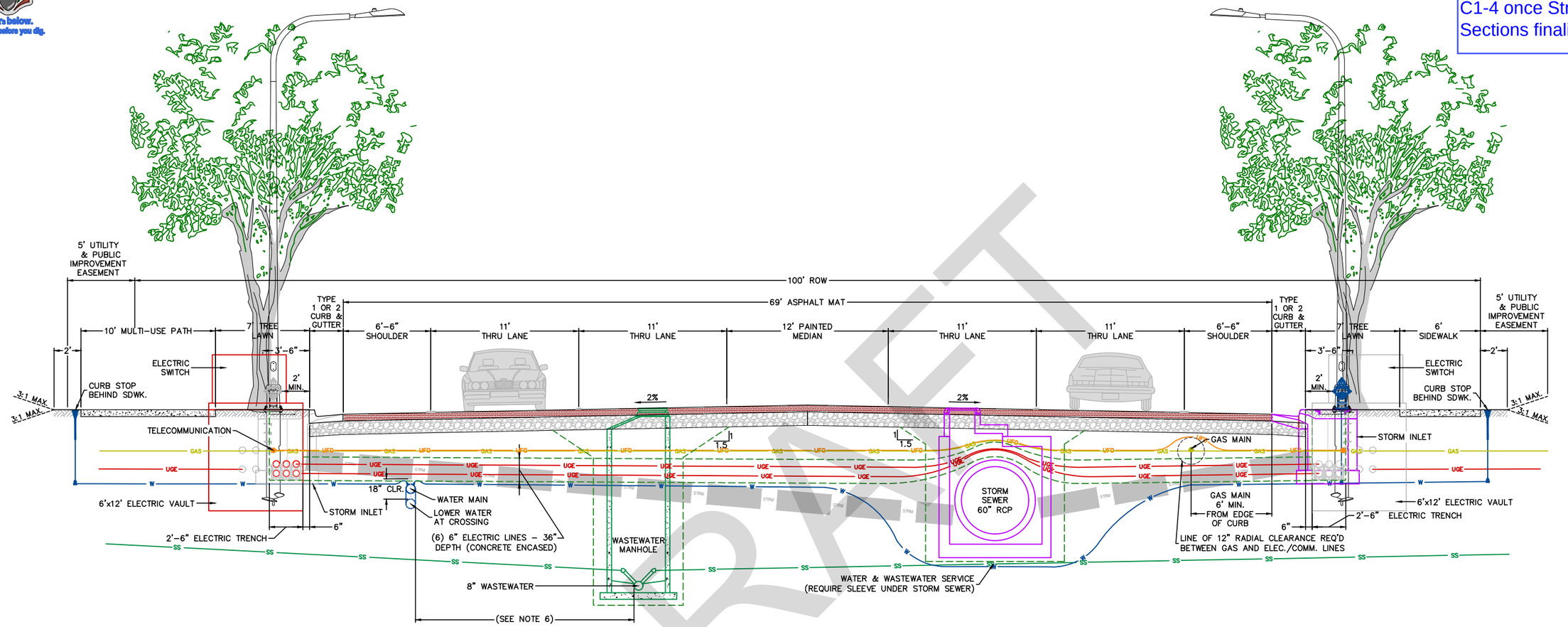
APPROVED:

CITY ENGINEER

ISSUED:	REVISED:	DRAWING NO.
6/6/22		1B

User: KDITTMAN Jun 06, 2022 - 11:22am
Drawing: P:_CIP GROUP DOCUMENTS\CADD RESOURCES\STANDARD DETAILS\CURRENT CITY STANDARD DETAILS\VKMD\STREET SECTIONS.DWG - Layout: 1B

C1-4 once Street Sections finalized



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MINOR ARTERIAL CROSS SECTION

COLORADO SPRINGS

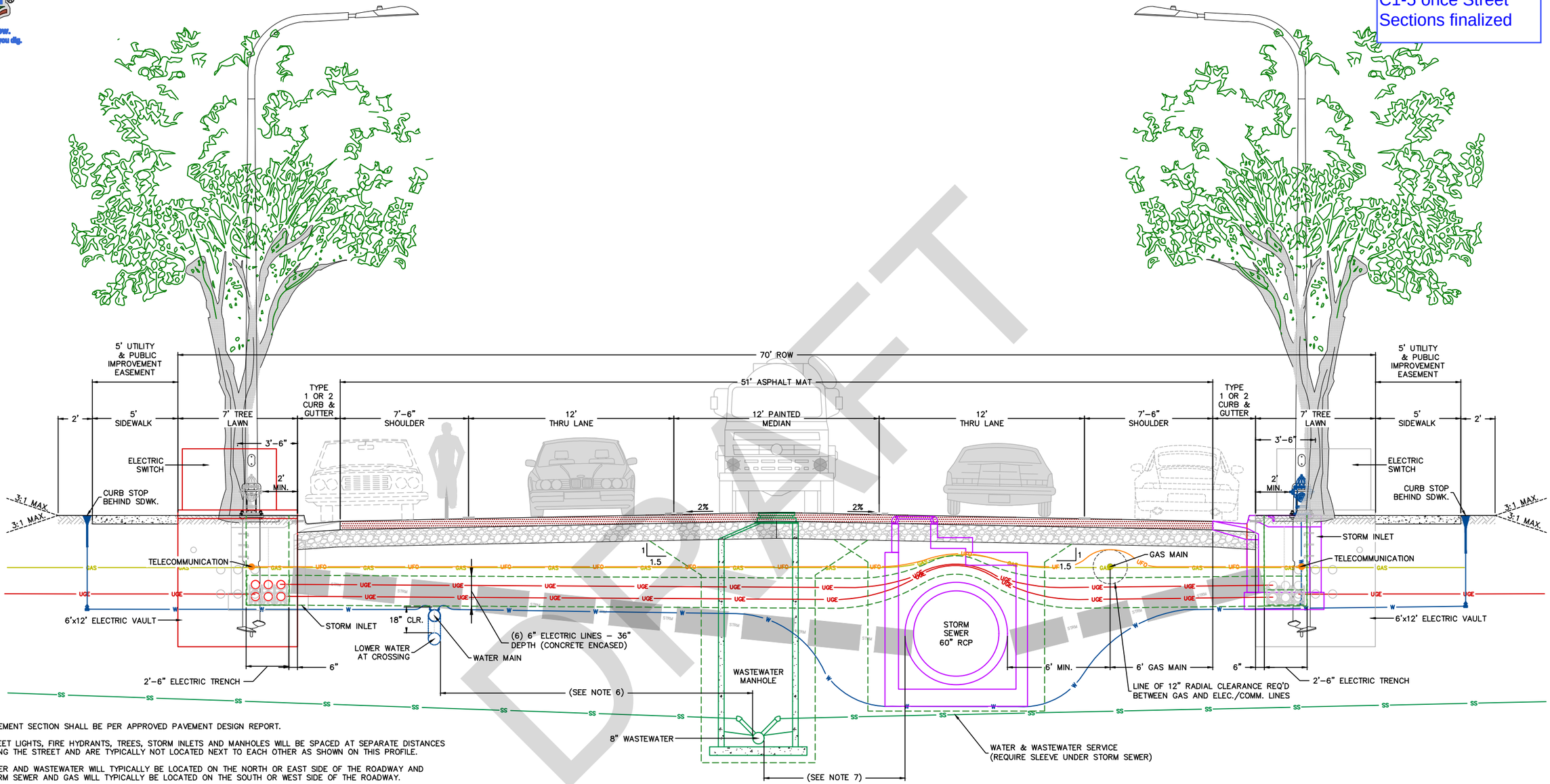
APPROVED:

CITY ENGINEER

ISSUED:	REVISED:	DRAWING NO.
6/6/22		1C

User: KDITTMAN Jun 06, 2022 - 11:23am
Drawing: P:_CIP GROUP DOCUMENTS\CADD RESOURCES\STANDARD DETAILS\CURRENT CITY STANDARD DETAILS\KWD\STREET SECTIONS.DWG - Layout: 1C

C1-5 once Street Sections finalized



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Colorado Springs Utilities
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INDUSTRIAL/
MAJOR COLLECTOR
CROSS SECTION

COLORADO SPRINGS

APPROVED:

CITY ENGINEER

ISSUED:	REVISED:	DRAWING NO.
6/6/22		1D

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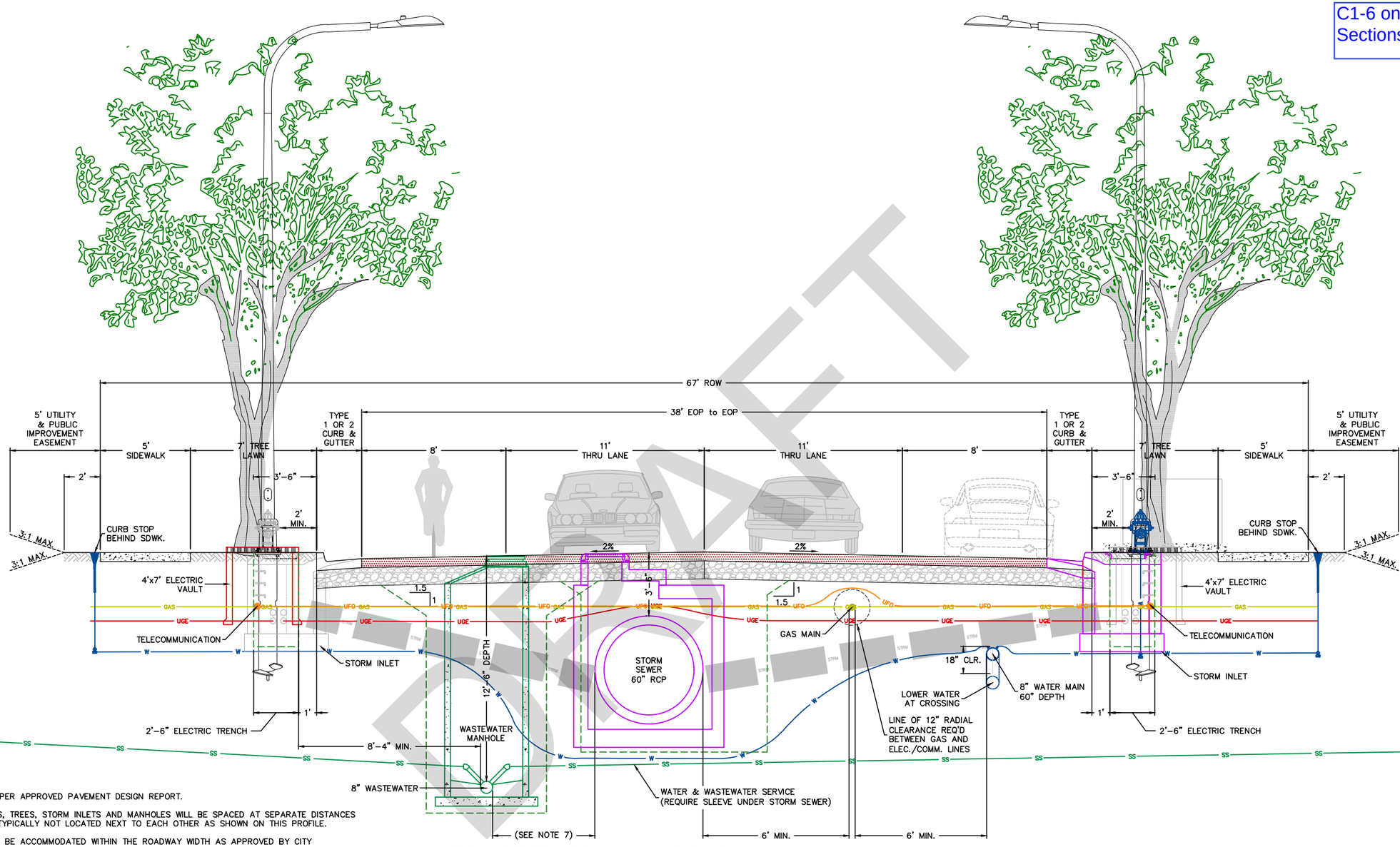
Know what's below. Call before you dig.

User: KDITMAN Jun 06, 2022 – 11:27am
Drawing: P:_CIP GROUP DOCUMENTS\CADD RESOURCES\STANDARD DETAILS\CURRENT CITY STANDARD DETAILS\KWD\STREET SECTIONS.DWG – Layout: 1D

C1-6 once Street Sections finalized



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STORM SEWER/STRUCTURES	STRM	PER DCM

Colorado Springs Utilities
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COLLECTOR
(w/ GAS IN STREET)
CROSS SECTION

COLORADO SPRINGS

APPROVED:

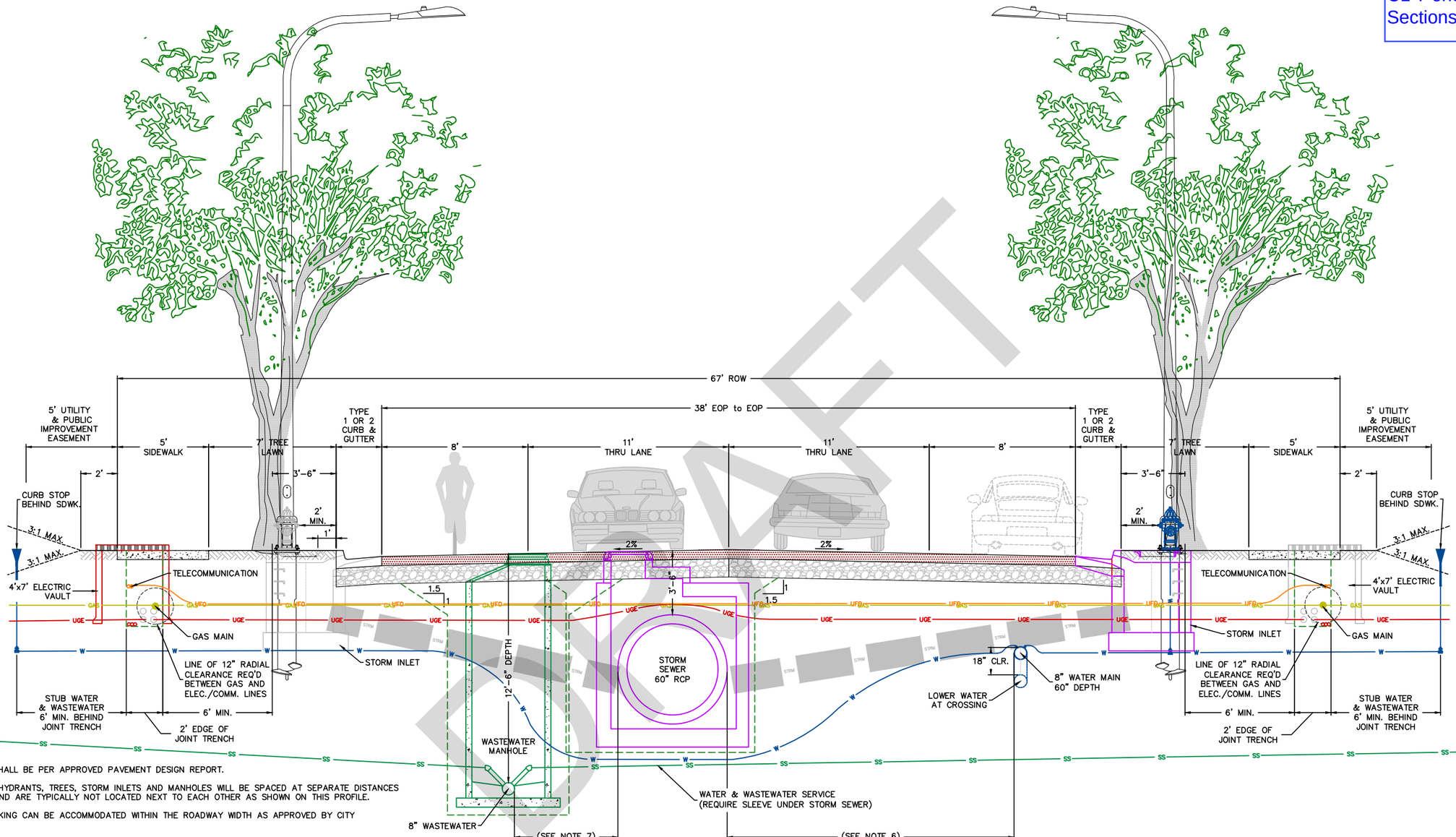
CITY ENGINEER

ISSUED:	REVISED:	DRAWING NO.
6/6/22		1E

DRAFT

User: KDITMAN Jun 06, 2022 - 11:29am
Drawing: P:_CoP GROUP DOCUMENTS\CADD RESOURCES\STANDARD DETAILS\CURRENT CITY STANDARD DETAILS\KWD\STREET SECTIONS.DWG - Layout: 1E

C1-7 once Street Sections finalized



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14. ELECTRIC AND GAS JOINT TRENCH IS TO BE EITHER UNDER THE SIDEWALK (AS SHOWN) OR GAS IN THE STREET. IN SOME AREAS IT IS NOT POSSIBLE TO HAVE THE JOINT TRENCH UNDER THE SIDEWALK, WHICH WILL REQUIRE NO TREES PER NOTE 10.
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GAS	GAS	MIN. 30"
UNDERGROUND ELECTRIC	UGE	MIN. 44"
WATER	W	MIN. 60"
WASTEWATER	SS	MIN. 60"
STORM SEWER/STRUCTURES	STRM	PER DCM

Colorado Springs Utilities
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COLLECTOR w/ JOINT TRENCH UNDER SIDEWALK CROSS SECTION

COLORADO SPRINGS

APPROVED:

CITY ENGINEER

ISSUED:	REVISED:	DRAWING NO.
6/6/22		1F

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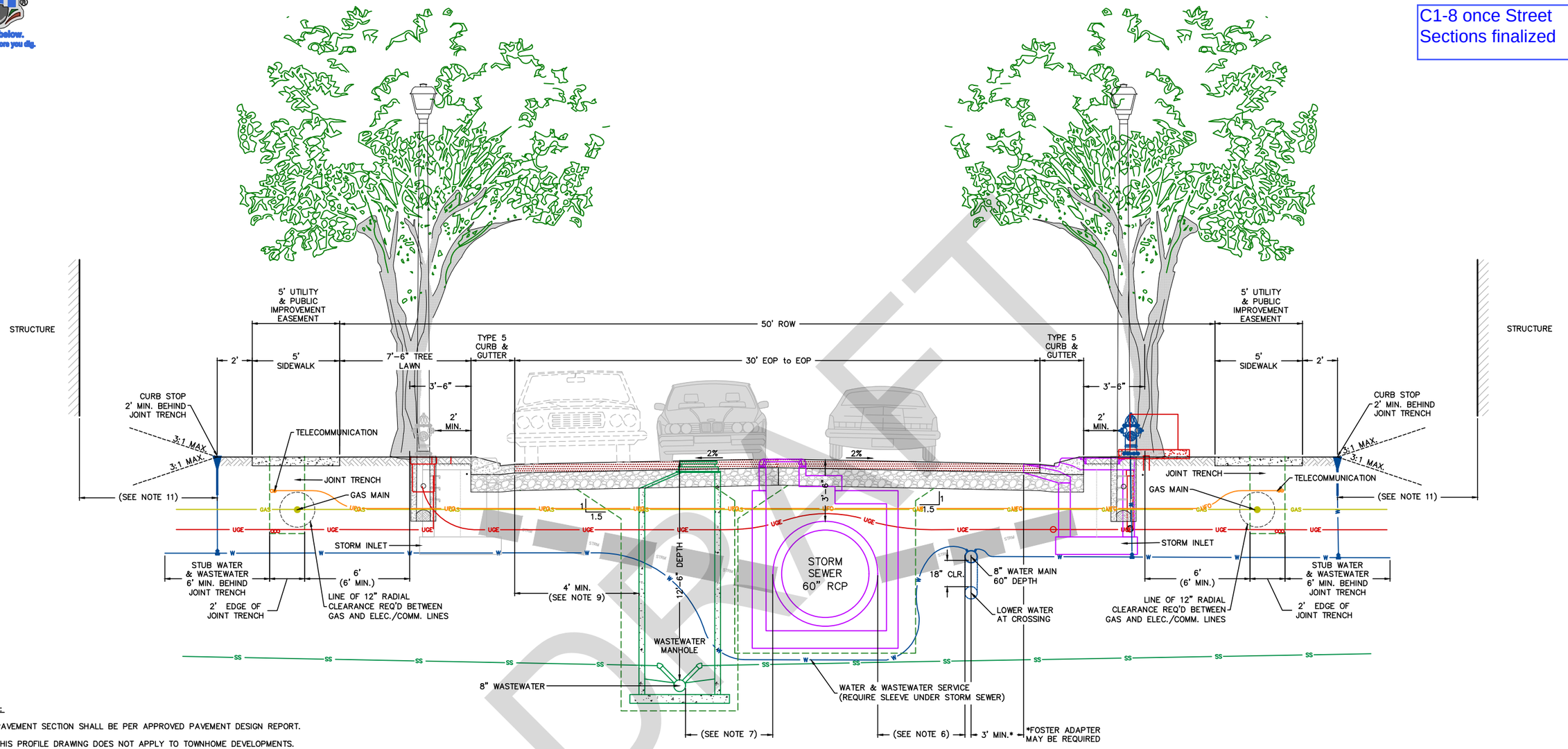
C1-8 once Street Sections finalized



NOTES:

1. PAVEMENT SECTION SHALL BE PER APPROVED PAVEMENT DESIGN REPORT.
2. THIS PROFILE DRAWING DOES NOT APPLY TO TOWNHOME DEVELOPMENTS.
3. STREET LIGHTS, FIRE HYDRANTS, TREES, STORM INLETS AND MANHOLES WILL BE SPACED AT SEPARATE DISTANCES ALONG THE STREET AND ARE TYPICALLY NOT LOCATED NEXT TO EACH OTHER AS SHOWN ON THIS PROFILE.
4. SEE TYPICAL PARALLEL (SEPARATE TRENCHES) AND CROSSING CLEARANCE MATRIX FOR COLORADO SPRINGS UNDERGROUND UTILITIES.
5. ALL DEPTH DIMENSIONS ARE FROM GRADE TO TOP OF PIPE.
6. HDPE PIPE SHALL BE USED FOR WATER MAIN IF SEPARATION FROM THE STORM SEWER/WASTEWATER IS BETWEEN 5-FEET TO 10-FEET. IN NO CASE SHALL THERE BE NO LESS THAN 5-FEET OF SEPARATION BETWEEN THE WATER MAIN AND OTHER WET UTILITIES
7. A VARIANCE FROM STORMWATER ENTERPRISE AND COLORADO SPRINGS UTILITIES WILL BE REQUIRED IF THERE IS LESS THAN 10-FEET OF SEPARATION BETWEEN STORM SEWER AND WASTEWATER.
8. A MINIMUM SEPARATION DISTANCE OF a) 6-FEET IS REQUIRED FROM CENTER OF WASTEWATER MANHOLE TO EDGE OF CURB AND GUTTER; AND b) 5-FEET FROM CENTER OF WASTEWATER MANHOLE TO OUTSIDE EDGE OF STORM SEWER.
9. MANHOLE LIDS SHALL BE CENTERED IN THE LANE, WHEN IN A TRAVEL LANE.
10. ALL VALVES AND MANHOLES SHALL BE WITHIN A 1/4-INCH OF THE FINISHED ASPHALT SURFACE.
11. CURB STOP MUST HAVE A MINIMUM OF 9-FEET HORIZONTAL SEPARATION FROM STRUCTURE RECEIVING SERVICE. IF THE 9-FOOT SEPARATION CAN NOT BE MET, A 6-FOOT MINIMUM IS ALLOWED IF THE STRUCTURE HAS A MINIMUM 3-FOOT BELOW FINISHED GRADE FOUNDATION WALL..
12. TREES MAY NOT BE PLANTED WITHIN 6-FEET OF A NATURAL GAS PIPE (MAIN OR SERVICE).
13. SIDEWALKS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2% (TOWARDS STREET) AND SHALL BE A MINIMUM OF 4-INCHES THICK.
14. SIDEWALKS SHALL BE FREE OF OBSTRUCTIONS (E.G. VAULTS, RISERS), AND SHALL MEANDER AROUND OBSTACLES.
15. A 2-FOOT WIDE FLAT BUFFER AREA IS REQUIRED ADJACENT TO THE SIDEWALK.
16. ELECTRIC AND GAS JOINT TRENCH IS TO BE EITHER UNDER THE SIDEWALK (AS SHOWN) OR GAS IN THE STREET. IN SOME AREAS IT IS NOT POSSIBLE TO HAVE THE JOINT TRENCH UNDER THE SIDEWALK, WHICH WILL REQUIRE NO TREES PER NOTE 12.
17. A MINIMUM SETBACK OF 15-FEET IS REQUIRED TO MEET CSU's SEPARATION REQUIREMENT BETWEEN STRUCTURES AND UTILITIES. IS A SETBACK OF LESS THAN 15-FEET IS DESIRED, PLEASE REFER TO THE CONSTRUCTION PLAN REVIEW PAGE ON CSU.ORG WEBSITE AT https://www.csu.org/Pages/ConstructionPlanReview.aspx.

LINE LEGEND

UTILITY	SYMBOL	DEPTH TO TOP OF PIPE
TELECOMMUNICATIONS	UFO	MIN. 30"
GAS	GAS	MIN. 30"
UNDERGROUND ELECTRIC	UGE	MIN. 44"
WATER	W	MIN. 60"
WASTEWATER	SS	MIN. 60"
STORM SEWER/STRUCTURES	STRM	PER DCM

Colorado Springs Utilities
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RESIDENTIAL (LOCAL) (>20 LOTS) DETACHED SIDEWALK CROSS SECTION

COLORADO SPRINGS

APPROVED:

CITY ENGINEER

ISSUED:	REVISED:	DRAWING NO.
6/6/22		1G

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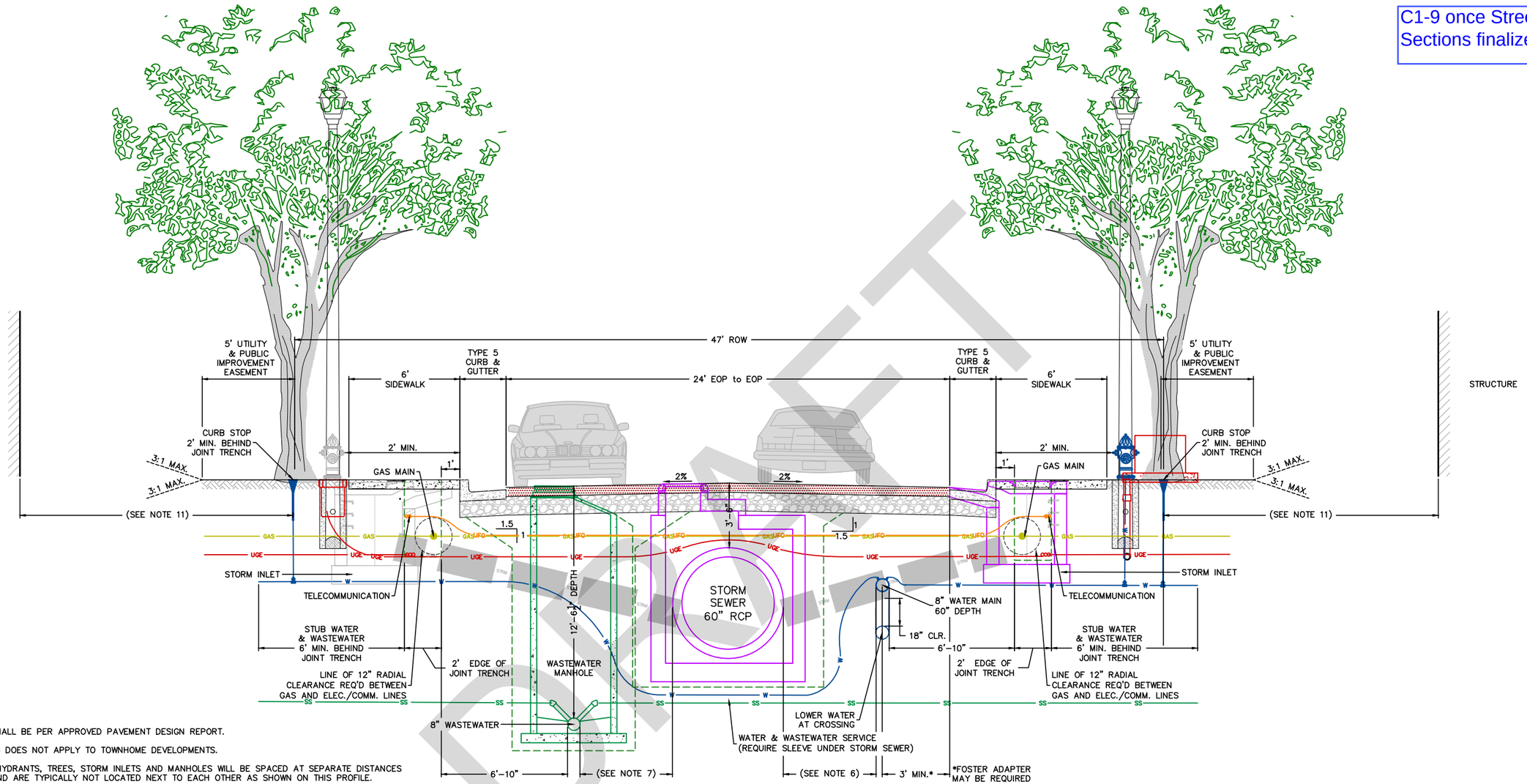
C1-9 once Street Sections finalized



NOTES:

1. PAVEMENT SECTION SHALL BE PER APPROVED PAVEMENT DESIGN REPORT.
2. THIS PROFILE DRAWING DOES NOT APPLY TO TOWNHOME DEVELOPMENTS.
3. STREET LIGHTS, FIRE HYDRANTS, TREES, STORM INLETS AND MANHOLES WILL BE SPACED AT SEPARATE DISTANCES ALONG THE STREET AND ARE TYPICALLY NOT LOCATED NEXT TO EACH OTHER AS SHOWN ON THIS PROFILE.
4. SEE TYPICAL PARALLEL (SEPARATE TRENCHES) AND CROSSING CLEARANCE MATRIX FOR COLORADO SPRINGS UNDERGROUND UTILITIES.
5. ALL DEPTH DIMENSIONS ARE FROM GRADE TO TOP OF PIPE.
6. HDPE PIPE SHALL BE USED FOR WATER MAIN IF SEPARATION FROM THE STORM SEWER/WASTEWATER IS BETWEEN 5–FEET TO 10–FEET. IN NO CASE SHALL THERE BE NO LESS THAN 5–FEET OF SEPARATION BETWEEN THE WATER MAIN AND OTHER WET UTILITIES
7. A VARIANCE FROM STORMWATER ENTERPRISE AND COLORADO SPRINGS UTILITIES WILL BE REQUIRED IF THERE IS LESS THAN 10–FEET OF SEPARATION BETWEEN STORM SEWER AND WASTEWATER.
8. A MINIMUM SEPARATION DISTANCE OF a) 6–FEET IS REQUIRED FROM CENTER OF WASTEWATER MANHOLE TO EDGE OF CURB AND GUTTER; AND b) 5–FEET FROM CENTER OF WASTEWATER MANHOLE TO OUTSIDE EDGE OF STORM SEWER.
9. MANHOLE LIDS SHALL BE CENTERED IN THE LANE, WHEN IN A TRAVEL LANE.
10. ALL VALVES AND MANHOLES SHALL BE WITHIN A 1/4–INCH OF THE FINISHED ASPHALT SURFACE.
11. CURB STOP MUST HAVE A MINIMUM OF 9–FEET HORIZONTAL SEPARATION FROM STRUCTURE RECEIVING SERVICE. IF THE 9–FOOT SEPARATION CAN NOT BE MET, A 6–FOOT MINIMUM IS ALLOWED IF THE STRUCTURE HAS A MINIMUM 3–FOOT BELOW FINISHED GRADE FOUNDATION WALL..
12. TREES MAY NOT BE PLANTED WITHIN 6–FEET OF A NATURAL GAS PIPE (MAIN OR SERVICE).
13. SETBACK STRUCTURES A MINIMUM OF 20–FEET FROM THE BACK OF THE SIDEWALK.
14. SIDEWALKS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2% (TOWARDS STREET) AND SHALL BE A MINIMUM OF 4–INCHES THICK.
15. SIDEWALKS SHALL BE FREE OF OBSTRUCTIONS (E.G. VAULTS, RISERS), AND SHALL MEANDER AROUND OBSTACLES.
16. A 2–FOOT WIDE FLAT BUFFER AREA IS REQUIRED ADJACENT TO THE SIDEWALK.
17. ELECTRIC AND GAS JOINT TRENCH IS TO BE EITHER UNDER THE SIDEWALK (AS SHOWN) OR GAS IN THE STREET. IN SOME AREAS IT IS NOT POSSIBLE TO HAVE THE JOINT TRENCH UNDER THE SIDEWALK, WHICH WILL REQUIRE NO TREES PER NOTE 12.
18. A MINIMUM SETBACK OF 15–FEET IS REQUIRED TO MEET CSU's SEPARATION REQUIREMENT BETWEEN STRUCTURES AND UTILITIES. IS A SETBACK OF LESS THAN 15–FEET IS DESIRED, PLEASE REFER TO THE CONSTRUCTION PLAN REVIEW PAGE ON CSU.ORG WEBSITE AT https://www.csu.org/Pages/ConstructionPlanReview.aspx.

LINE LEGEND

UTILITY	SYMBOL	DEPTH TO TOP OF PIPE
TELECOMMUNICATIONS	UFO	MIN. 30"
GAS	GAS	MIN. 30"
UNDERGROUND ELECTRIC	UGE	MIN. 44"
WATER	W	MIN. 60"
WASTEWATER	SS	MIN. 60"
STORM SEWER/STRUCTURES	STRM	PER DCM

Colorado Springs Utilities
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MINOR RESIDENTIAL (LOCAL) (<21 LOTS) ATTACHED SIDEWALKS CROSS SECTION

COLORADO SPRINGS

APPROVED:

CITY ENGINEER

ISSUED:	REVISED:	DRAWING NO.
6/6/22		1H

DRAFT

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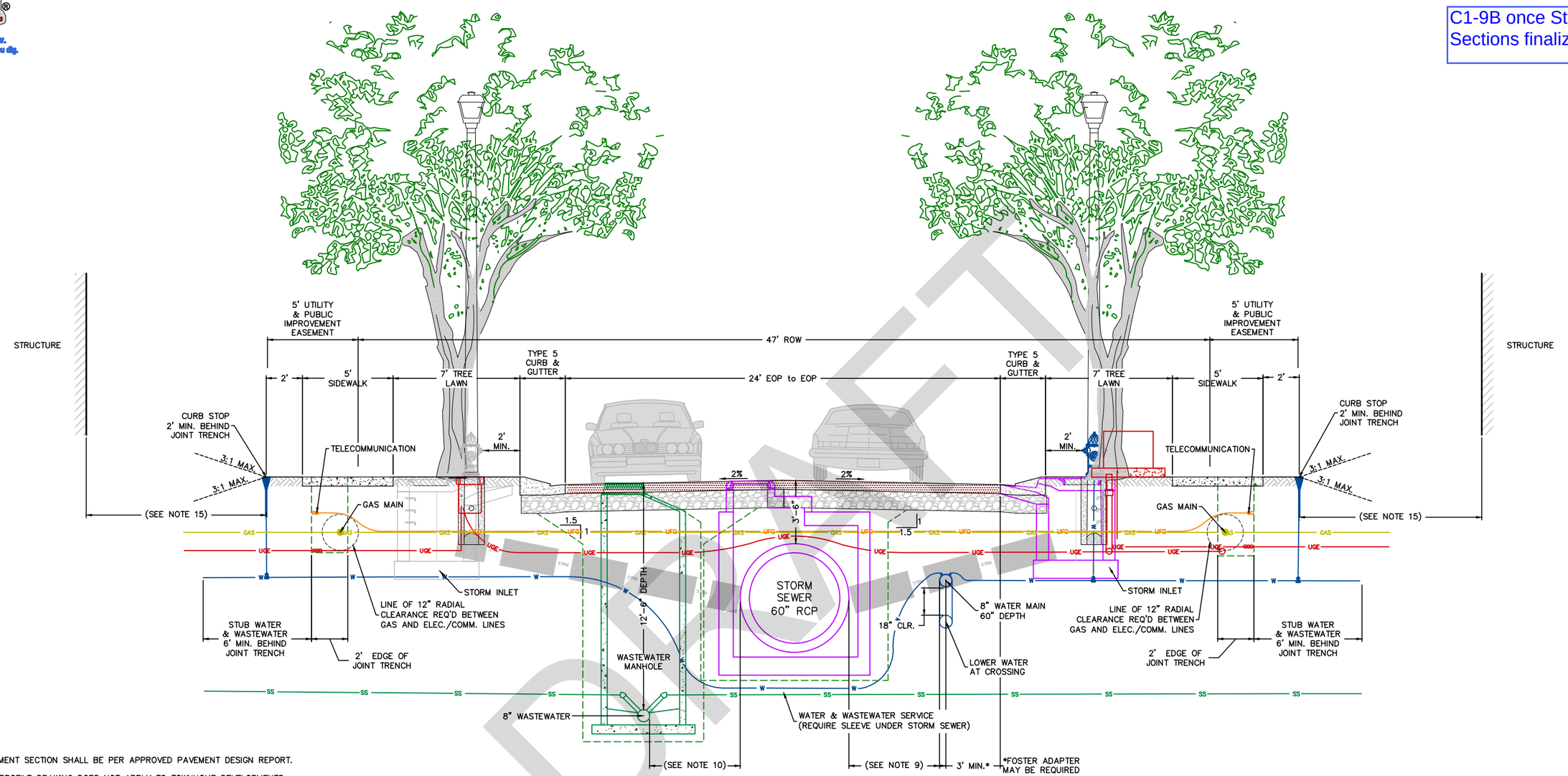
C1-9B once Street Sections finalized



NOTES:

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2. THIS PROFILE DRAWING DOES NOT APPLY TO TOWNHOME DEVELOPMENTS.
3. STREET LIGHTS, FIRE HYDRANTS, TREES, STORM INLETS AND MANHOLES WILL BE SPACED AT SEPARATE DISTANCES ALONG THE STREET AND ARE TYPICALLY NOT LOCATED NEXT TO EACH OTHER AS SHOWN ON THIS PROFILE.
4. SEE TYPICAL PARALLEL (SEPARATE TRENCHES) AND CROSSING CLEARANCE MATRIX FOR COLORADO SPRINGS UNDERGROUND UTILITIES.
5. ELECTRIC AND GAS JOINT TRENCH IS TO BE EITHER UNDER THE SIDEWALK (AS SHOWN) OR GAS IN THE STREET. IN SOME AREAS IT IS NOT POSSIBLE TO HAVE THE JOINT TRENCH UNDER THE SIDEWALK, WHICH WILL REQUIRE NO TREES PER NOTE 16.
6. ALL DEPTH DIMENSIONS ARE FROM GRADE TO TOP OF PIPE.
7. A MINIMUM SETBACK OF 15-FEET SHALL BE FROM THE RIGHT-OF-WAY TO STRUCTURE.
8. FIRE HYDRANTS REQUIRE A 5-FOOT MINIMUM RADIAL CLEARANCE FROM ANY STRUCTURE.
9. HDPE PIPE SHALL BE USED FOR WATER MAIN IF SEPARATION FROM THE STORM SEWER/WASTEWATER IS BETWEEN 5-FEET TO 10-FEET. IN NO CASE SHALL THERE BE NO LESS THAN 5-FEET OF SEPARATION BETWEEN THE WATER MAIN AND OTHER WET UTILITIES
10. A VARIANCE FROM STORMWATER ENTERPRISE AND COLORADO SPRINGS UTILITIES WILL BE REQUIRED IF THERE IS LESS THAN 10-FEET OF SEPARATION BETWEEN STORM SEWER AND WASTEWATER.
11. A MINIMUM SEPARATION DISTANCE OF a) 6-FEET IS REQUIRED FROM CENTER OF WASTEWATER MANHOLE TO EDGE OF CURB AND GUTTER; AND b) 5-FEET FROM CENTER OF WASTEWATER MANHOLE TO OUTSIDE EDGE OF STORM SEWER.
12. MANHOLE LIDS SHALL BE CENTERED IN THE LANE, WHEN IN A TRAVEL LANE.
13. ALL VALVES AND MANHOLES SHALL BE WITHIN A 1/4-INCH OF THE FINISHED ASPHALT SURFACE.
14. CURB STOP MUST HAVE A MINIMUM OF 9-FEET HORIZONTAL SEPARATION FROM STRUCTURE RECEIVING SERVICE. IF THE 9-FOOT SEPARATION CAN NOT BE MET, A 6-FOOT MINIMUM IS ALLOWED IF THE STRUCTURE HAS A MINIMUM 3-FOOT BELOW FINISHED GRADE FOUNDATION WALL..
15. TREES MAY NOT BE PLANTED WITHIN 6-FEET OF A NATURAL GAS PIPE (MAIN OR SERVICE).
16. SIDEWALKS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2% (TOWARDS STREET) AND SHALL BE A MINIMUM OF 4-INCHES THICK.
17. SIDEWALKS SHALL BE FREE OF OBSTRUCTIONS (E.G. VAULTS, RISERS), AND SHALL MEANDER AROUND OBSTACLES.
18. A 2-FOOT WIDE FLAT BUFFER AREA IS REQUIRED ADJACENT TO THE SIDEWALK.
19. A MINIMUM SETBACK OF 15-FEET IS REQUIRED TO MEET CSU's SEPARATION REQUIREMENT BETWEEN STRUCTURES AND UTILITIES. IS A SETBACK OF LESS THAN 15-FEET IS DESIRED, PLEASE REFER TO THE CONSTRUCTION PLAN REVIEW PAGE ON CSU.ORG WEBSITE AT https://www.csu.org/Pages/ConstructionPlanReview.aspx.

LINE LEGEND

UTILITY	SYMBOL	DEPTH TO TOP OF PIPE
TELECOMMUNICATIONS	UFO	MIN. 30"
GAS	GAS	MIN. 30"
UNDERGROUND ELECTRIC	UGE	MIN. 44"
WATER	W	MIN. 60"
WASTEWATER	SS	MIN. 60"
STORM SEWER/STRUCTURES	STRM	PER DCM

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MINOR RESIDENTIAL (LOCAL) (<21 LOTS) DETACHED SIDEWALKS CROSS SECTION

COLORADO SPRINGS

APPROVED:

CITY ENGINEER

ISSUED:	REVISED:	DRAWING NO.
6/6/22		11

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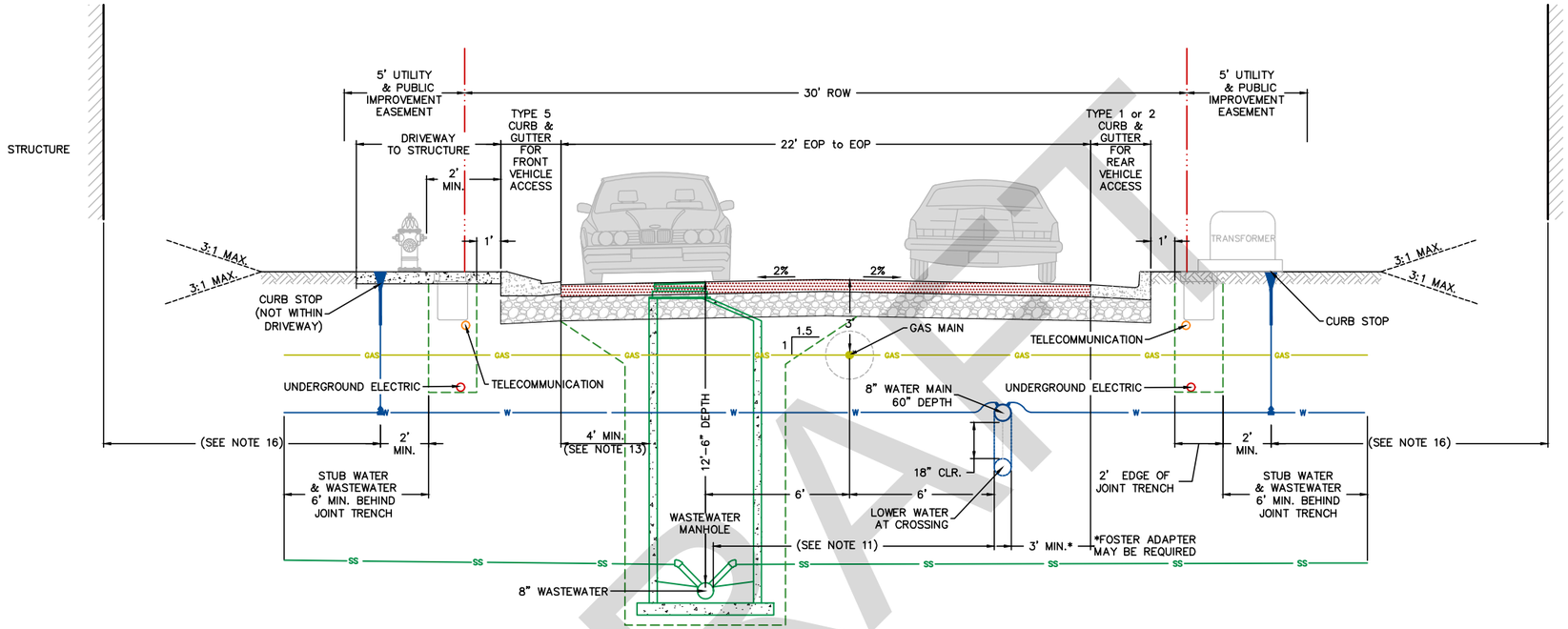
C1-10 once Street Sections finalized

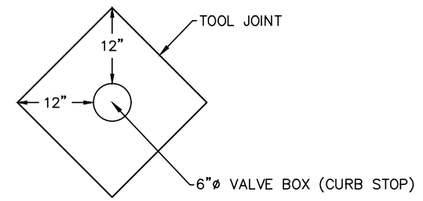


SIDEWALK NOT PERMITTED; AN ALTERNATE PEDESTRIAN ACCESS ROUTE (P.A.R.) SHALL BE PROVIDED, AND VARIANCE APPROVED BY CITY ENGINEERING.

NOTES:

THIS CROSS SECTION MAY ONLY BE USED IF THE FOLLOWING REQUIREMENTS ARE MET:

1. PAVEMENT SECTION SHALL BE PER APPROVED PAVEMENT DESIGN REPORT.
2. COLORADO SPRINGS FIRE DEPARTMENT MUST APPROVE TURN–AROUND PROVIDED (E.G. TURN AROUND, TURNING RADII AND CUL–DE–SAC).
3. FIRE HYDRANTS AND MANHOLES WILL BE SPACED AT SEPARATE DISTANCES ALONG THE STREET AND ARE TYPICALLY NOT LOCATED NEXT TO EACH OTHER AS SHOWN ON THIS PROFILE.
4. ON–STREET PARKING IS NOT PERMITTED. ACCOMMODATIONS MUST BE PROVIDED FOR VISITOR PARKING.
5. STREET LIGHTS ARE NOT PERMITTED.
6. SEE TYPICAL PARALLEL (SEPARATE TRENCHES) AND CROSSING CLEARANCE MATRIX FOR COLORADO SPRINGS UNDERGROUND UTILITIES.
7. ALL DEPTH DIMENSIONS ARE FROM GRADE TO TOP OF PIPE.
8. FIRE HYDRANTS REQUIRE A 5–FOOT MINIMUM RADIAL CLEARANCE FROM ANY STRUCTURE.
9. HDPE PIPE SHALL BE USED FOR WATER MAIN IF SEPARATION FROM THE STORM SEWER/WASTEWATER IS BETWEEN 5 TO 10–FEET. IN NO CASE SHALL THERE BE NO LESS THAN 5–FEET OF SEPARATION BETWEEN THE WATER MAIN AND OTHER WET UTILITIES.
10. STORMWATER INFRASTRUCTURE IS NOT PERMITTED IN THE RIGHT–OF–WAY. FINAL DRAINAGE REPORT IS REQUIRED WHEN STREET SECTIONS ARE DETERMINED.
11. A MINIMUM SEPARATION DISTANCE OF 6–FEET IS REQUIRED FROM CENTER OF WASTEWATER MANHOLE TO EDGE OF CURB AND GUTTER.
12. MANHOLE LIDS SHALL BE CENTERED IN THE LANE, WHEN IN A TRAVEL LANE.
13. ALL VALVES AND MANHOLES SHALL BE WITHIN A 1/4–INCH OF THE FINISHED ASPHALT SURFACE.
14. CURB STOP MUST HAVE A MINIMUM OF 9–FEET HORIZONTAL SEPARATION FROM STRUCTURE RECEIVING SERVICE. IF THE 9–FOOT SEPARATION CAN NOT BE MET, A 6–FOOT MINIMUM IS ALLOWED IF THE STRUCTURE HAS A MINIMUM 3–FOOT BELOW FINISHED GRADE FOUNDATION WALL..
15. CURB STOP LOCATED WITHIN THE DRIVEWAY SHALL BE APPROVED BY CSU; VALVE COVER SHALL BE TRAFFIC RATED AND INSTALLED PER DETAIL (SEE RIGHT).
16. TREES ARE NOT PERMITTED IN STREET SECTION. AN ALTERNATE LOCATION SHALL BE PROVIDED PER THE LANDSCAPE MANUAL AND PLANNING APPROVAL.
17. A MINIMUM SETBACK OF 15–FEET IS REQUIRED TO MEET CSU's SEPARATION REQUIREMENT BETWEEN STRUCTURES AND UTILITIES. IS A SETBACK OF LESS THAN 15–FEET IS DESIRED, PLEASE REFER TO THE CONSTRUCTION PLAN REVIEW PAGE ON CSU.ORG WEBSITE AT https://www.csu.org/Pages/ConstructionPlanReview.aspx.



CURB STOP IN DRIVEWAY DETAIL

LINE LEGEND		
UTILITY	SYMBOL	DEPTH TO TOP OF PIPE
TELECOMMUNICATIONS	UFO	MIN. 30"
GAS	GAS	MIN. 30"
UNDERGROUND ELECTRIC	UGE	MIN. 44"
WATER	W	MIN. 60"
WASTEWATER	SS	MIN. 60"

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SMALL LOT RESIDENTIAL CROSS SECTION

COLORADO SPRINGS

APPROVED:

CITY ENGINEER

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6/6/22		1J

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DESIGN GUIDELINES FOR PRIVATE STREET WITH PUBLIC UTILITIES

MANDATORY DESIGN REQUIREMENTS:

1. ALL DRIVE AISLES AND UTILITY INSTALLATIONS SHALL BE IN ACCORDANCE WITH CITY SPECIFICATIONS AND THE COLORADO SPRINGS UTILITIES' LINE EXTENSION & SERVICE STANDARDS.
2. THE GAS MAIN MAY BE CENTERED IN THE DRIVE AISLE AS DIRECTED BY COLORADO SPRINGS UTILITIES FIELD ENGINEERS.
3. ELECTRIC CONDUIT IS REQUIRED FOR ALL SECONDARY SERVICE CONDUCTORS. THE DEVELOPER/CONTRACTOR SHALL PROVIDE AND INSTALL THE SECONDARY SERVICES WITH THE APPROVAL AND INSPECTION BY COLORADO SPRINGS UTILITIES FIELD ENGINEERS.
4. ADEQUATE SPACE FOR TRANSFORMERS SHALL BE PROVIDED OUTSIDE THE DRIVE AISLE AND THE LOCATION OF THE TRANSFORMER MUST BE APPROVED BY COLORADO SPRINGS UTILITIES FIELD ENGINEERS. BOLLARDS MAY BE REQUIRED FOR THE PROTECTION OF ELECTRICAL EQUIPMENT AND/OR TRANSFORMERS. REFERENCE THE ELECTRIC LINE EXTENSION & SERVICE STANDARDS APPENDIX F STANDARD 15-2 AND 18-302.
5. BOLLARDS ARE REQUIRED FOR THE PROTECTION OF GAS METERS. REFERENCE THE GAS LINE EXTENSION & SERVICE STANDARDS FIGURE 10.

WASTEWATER:

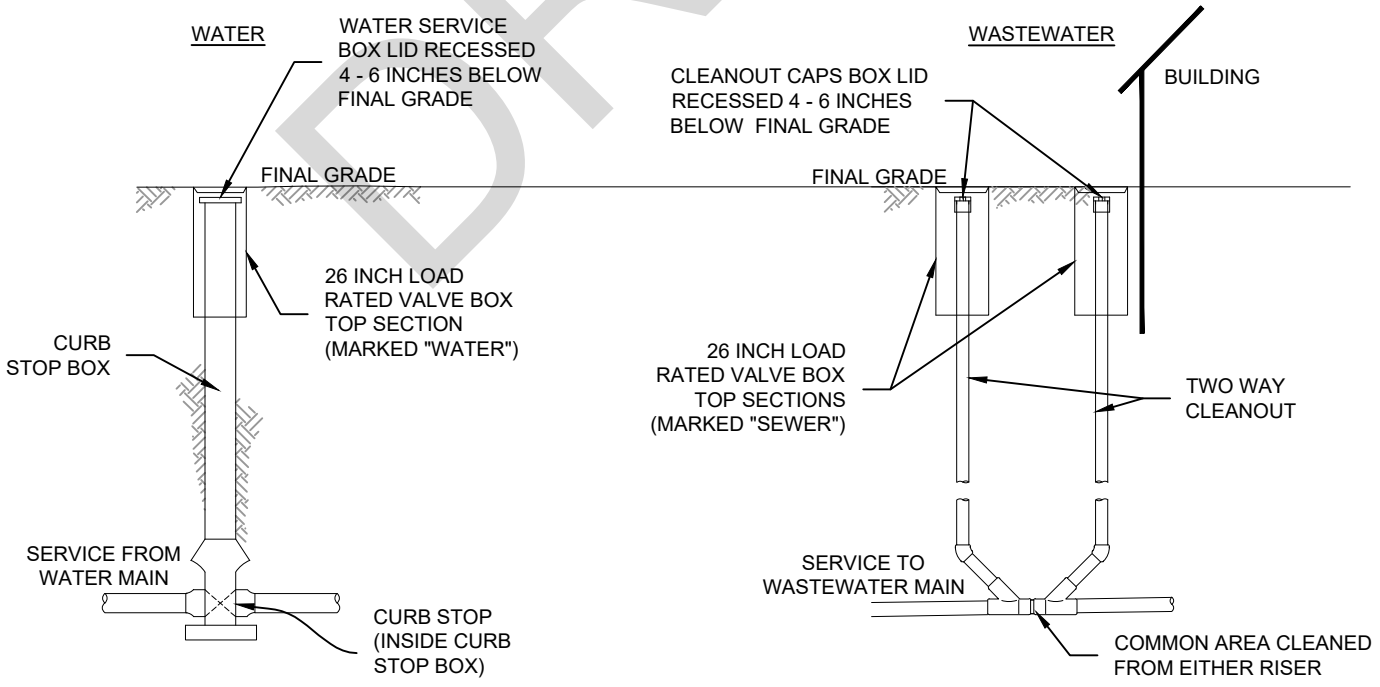
1. THE DIAMETER OF THE WASTEWATER MAIN SHALL NOT BE GREATER THAN 8 INCHES.
2. THE MAXIMUM DEPTH OF THE WASTEWATER MAIN SHALL NOT BE GREATER THAN 14 FEET MEASURED FROM FINAL GRADE (PAVEMENT) TO THE WASTEWATER PIPE INVERT.
3. COLORADO SPRINGS UTILITIES-APPROVED, LOAD-RATED, SLIP TYPE VALVE BOX TOP SECTIONS ARE REQUIRED OVER STANDARD WASTEWATER SERVICE LINE CLEANOUTS. VALVE BOX TOPS TO BE MARKED WITH "SEWER". CLEANOUT LIDS SHALL BE RECESSED 4 TO 6 INCHES BELOW FINAL GRADE. SEE DETAIL BELOW.

WATER:

1. THE DIAMETER OF THE WATER MAIN SHALL NOT BE GREATER THAN 8 INCHES.
2. COLORAOD SPRINGS UTILITIES-APPROVED, LOAD-RATED, SLIP TYPE VALVE BOX TOP SECTION ARE REQUIRED OVER STANDARD WATER STOP BOXES. CURB STOP LID SHALL BE RECESSED 3-4 INCHES BELOW FINAL GRADE. VALVE BOX TOPS TO BE MARKED WITH "WATER". SEE DETAIL BELOW.

NOTE:

1. THE UTILITY SERVICE PLAN FOR THE PROPOSED DEVELOPMENT SHALL SHOW THE PROJECT-SPECIFIC LOCATION OF ALL UTILITIES AND APPURTENANCES SHOWN ON DETAIL DRAWINGS C1-12 AND C1-13. APPROVAL SHALL BE ON A CASE BY CASE BASIS.



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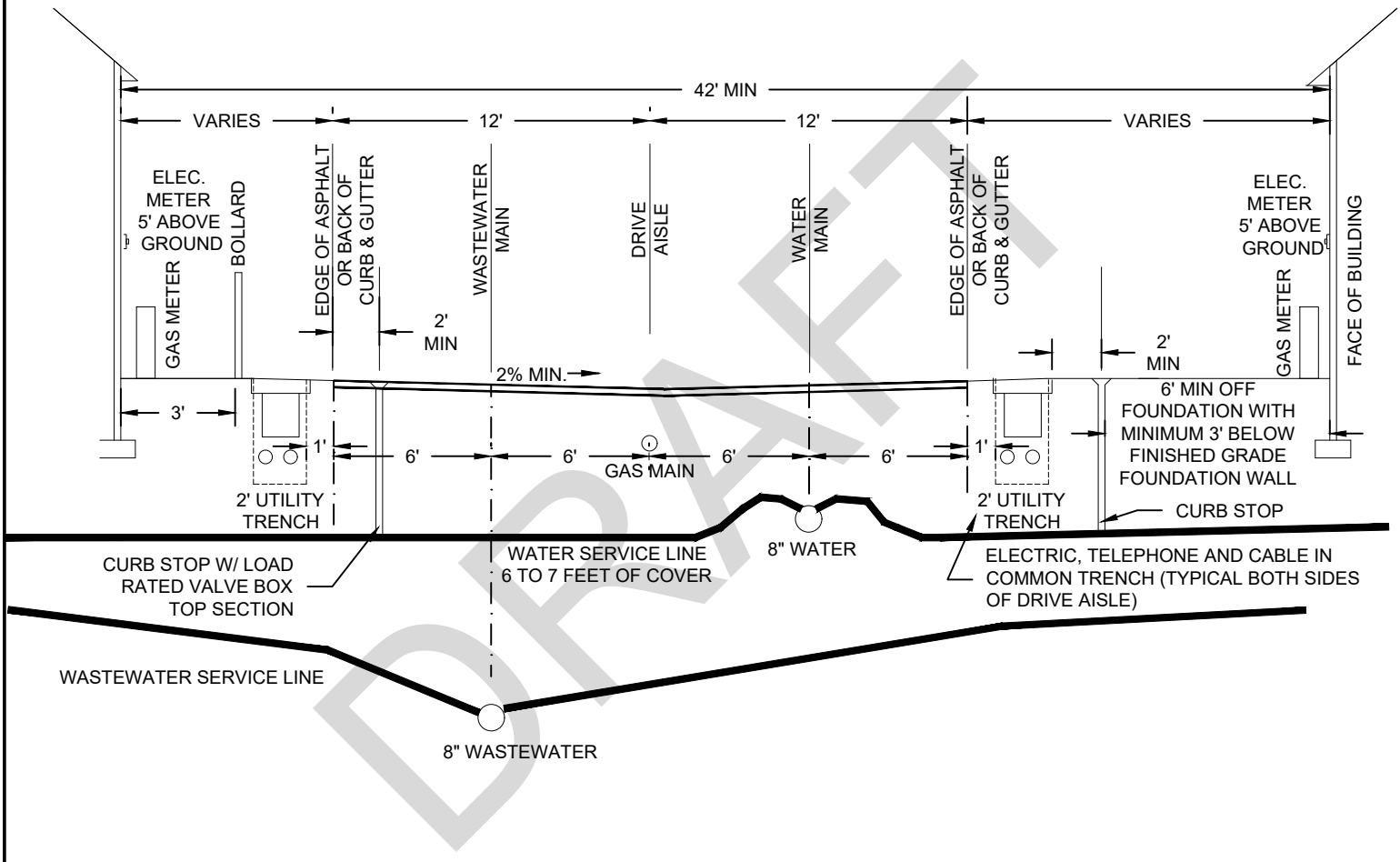
DESIGN GUIDELINES FOR UTILITY CROSS SECTION FOR PRIVATE STREET WITH PUBLIC UTILITIES



DRAFT

NOTES:

THE DRIVE AISLE RESTRICTIONS:

1. NO STORM DRAIN FACILITIES
2. NO SIDEWALKS
3. NO STREET LIGHTS
4. NO TRANSFORMERS
5. NO PARKING
6. NO EDIFICE (BUILDING) PROJECTIONS IN THE UTILITY EASEMENT, (i.e. DECKS) WITH THE EXCEPTION FOR THE ROOF SOFFITT.
7. THE CURB STOP MAY BE LOCATED BEHIND THE CURB AND GUTTER OR EDGE OF ASPHALT WHERE THERE IS A MINIMUM OF 6 FEET FROM THE FURTHERMOST BUILDING FOUNDATION WALL WITH A MINIMUM 3 FOOT CUTOFF WALL AND A MINIMUM OF 2 FEET FROM THE BACK OF CURB, EDGE OF ASPHALT AND CLOSEST EDGE OF THE JOINT TRENCH.
8. WHERE THE CONDITIONS IN NOTE 7 CANNOT BE MET, THE CURB STOP MAY BE LOCATED IN THE DRIVE AISLE, A MINIMUM OF 2 FEET FROM THE EDGE OF ASPHALT OR THE BACK OF CURB AND GUTTER.

TO BE READ IN CONJUNCTION WITH NOTES ON SHEET C1-11 AND C1-13

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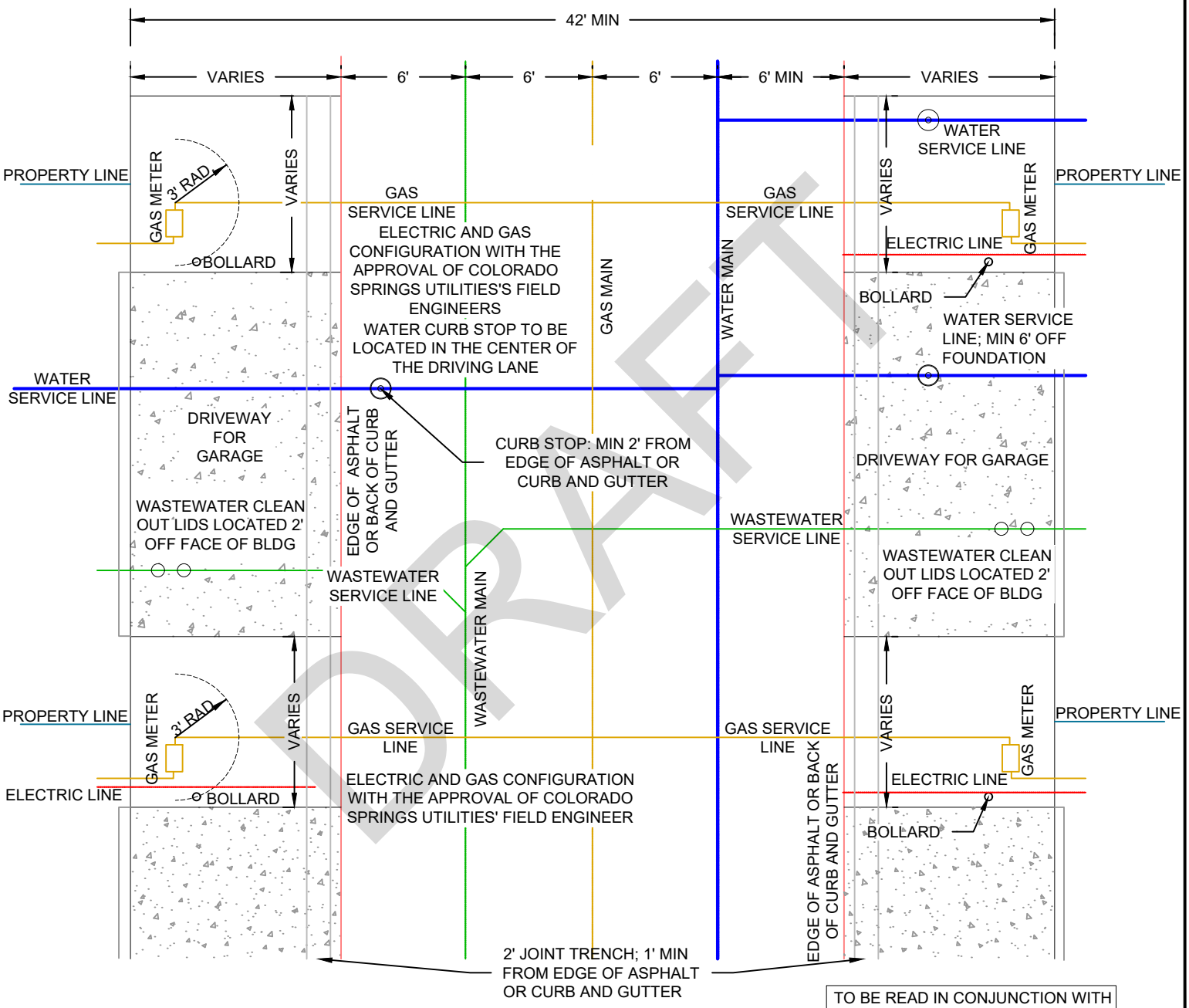
PRIVATE STREET WITH PUBLIC UTILITIES
UTILITIES CROSS SECTION
CURB STOP LOCATIONS A AND B

C1-12

DATED 07/2022

TYPICAL DESIGN FOR SERVICES FOR PRIVATE STREET WITH PUBLIC UTILITIES



DRAFT

TO BE READ IN CONJUNCTION WITH NOTES ON SHEET A3-12 TO A3-14

NOTES:

1. THE MINIMUM HORIZONTAL CLEARANCE BETWEEN THE WATER SERVICE AND GAS OR ELECTRIC SERVICE LINE MUST BE 3 FEET.
2. THE CURB STOP MAY BE LOCATED BEHIND THE CURB AND GUTTER OR EDGE OF ASPHALT WHERE THERE IS A MINIMUM OF 6 FEET FROM THE FURTHERMOST BUILDING FOUNDATION WALL WITH A MINIMUM 3 FOOT CUTOFF WALL AND A MINIMUM OF 2 FEET FROM THE BACK OF CURB, EDGE OF ASPHALT AND CLOSEST EDGE OF THE JOINT TRENCH.
3. WHERE THE CONDITIONS IN NOTE 3 CANNOT BE MET, THE CURB STOP MAY BE LOCATED IN THE DRIVE AISLE, A MINIMUM OF 2 FEET FROM THE EDGE OF ASPHALT OR THE BACK OF CURB AND GUTTER.

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PRIVATE STREET WITH PUBLIC UTILITIES
WATER SERVICE LINE
CURB STOP LOCATION A AND B

C1-13

DATED 07/2022

C1-14 once Street Sections finalized

Know what's below. Call before you dig.

DRIVEWAY
3' MIN.
WV
WATER STOP
6' MIN.
5' EASEMENT (TYPICAL)
PROPERTY LINE
2' MIN. FLAT AREA
DRIVEWAY
3' MIN.
WV
6' MIN.
5' PUBLIC UTILITY & IMPROVEMENT EASEMENT
2' JOINT TRENCH
FIRE HYDRANT
5' SIDEWALK
7'-6" TREE/LAWN
STREET LIGHT
TRANSFORMER
2'-6" TYPE 5 CURB & GUTTER
18" MIN
STORMWATER MANHOLE
30' EOP TO EOP
50' R.O.W.
COMMON TRENCH (SEE NOTE 3)
WASTEWATER MANHOLE
10' TRANSITION TO TYPE 1 C&G TOWARDS INLET
10' TRANSITION TO TYPE 1 C&G TOWARDS INLET
5' MIN.
2'-6" TYPE 5 CURB & GUTTER
STORMWATER INLET
J-BOX
7'-6" TREE/LAWN
3'-6"
FIRE HYDRANT
5' SIDEWALK
5' PUBLIC UTILITY & IMPROVEMENT EASEMENT
2' JOINT TRENCH
6' MIN.
2' MIN. FLAT AREA
6' MIN.
WV
WATER STOP
3' MIN.
PROPERTY LINE
DRIVEWAY
3' MIN.
5' EASEMENT (TYPICAL)

DRAFT

NOTES:

1. STUB WATER WITH CURB STOP AND WASTEWATER 6-FEET MINIMUM BEHIND EDGE OF JOINT TRENCH; 15-FEET MINIMUM FROM PROPERTY LINE AND NOT UNDER DRIVEWAY. KEEP 3-FEET SEPARATION FROM WATER AND WASTEWATER TO GAS SERVICE.
2. GAS AND ELECTRIC SERVICES SHALL GENERALLY BE ON THE TOPOGRAPHIC HIGH SIDE OF THE LOT; WATER AND WASTEWATER SHALL GENERALLY BE ON THE TOPOGRAPHIC LOW SIDE OF THE LOT.
3. WATER AND WASTEWATER SERVICE LINES CAN BE PLACED IN A COMMON TRENCH WITH 1-FOOT VERTICAL AND HORIZONTAL SEPARATION.
4. MAINTAIN A 15-FOOT CLEARANCE BETWEEN THE TRANSFORMER AND ANY GAS METERS OR GAS REGULATORS, PER THE 'ELECTRIC SERVICE STANDARDS, APPENDIX F, DRAWING 18-227, PAGE 2, NOTE 2'.
5. A MINIMUM SETBACK OF 15-FEET IS REQUIRED TO MEET CSU's SEPARATION REQUIREMENT BETWEEN STRUCTURES AND UTILITIES. IS A SETBACK OF LESS THAN 15-FEET IS DESIRED, PLEASE REFER TO THE CONSTRUCTION PLAN REVIEW PAGE ON CSU.ORG WEBSITE AT https: //www.csu.org/Pages/ConstructionPlanReview.aspx.

LINE LEGEND		
UTILITY	SYMBOL	DEPTH TO TOP OF PIPE
TELECOMMUNICATIONS	UFO	MIN. 30"
GAS	GAS	MIN. 30"
UNDERGROUND ELECTRIC/ ELECTRIC SERVICE	UGE / ES	MIN. 44"
WATER	W	MIN. 60"
WASTEWATER	SS	MIN. 60"
STORM SEWER/STRUCTURES	STRM	PER DCM

THIS PLAN DESIGN IS TO BE USED IN CONJUNCTION WITH THE CROSS SECTIONS

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RESIDENTIAL, LOCAL
DETACHED SIDEWALK
PLAN VIEW

COLORADO SPRINGS

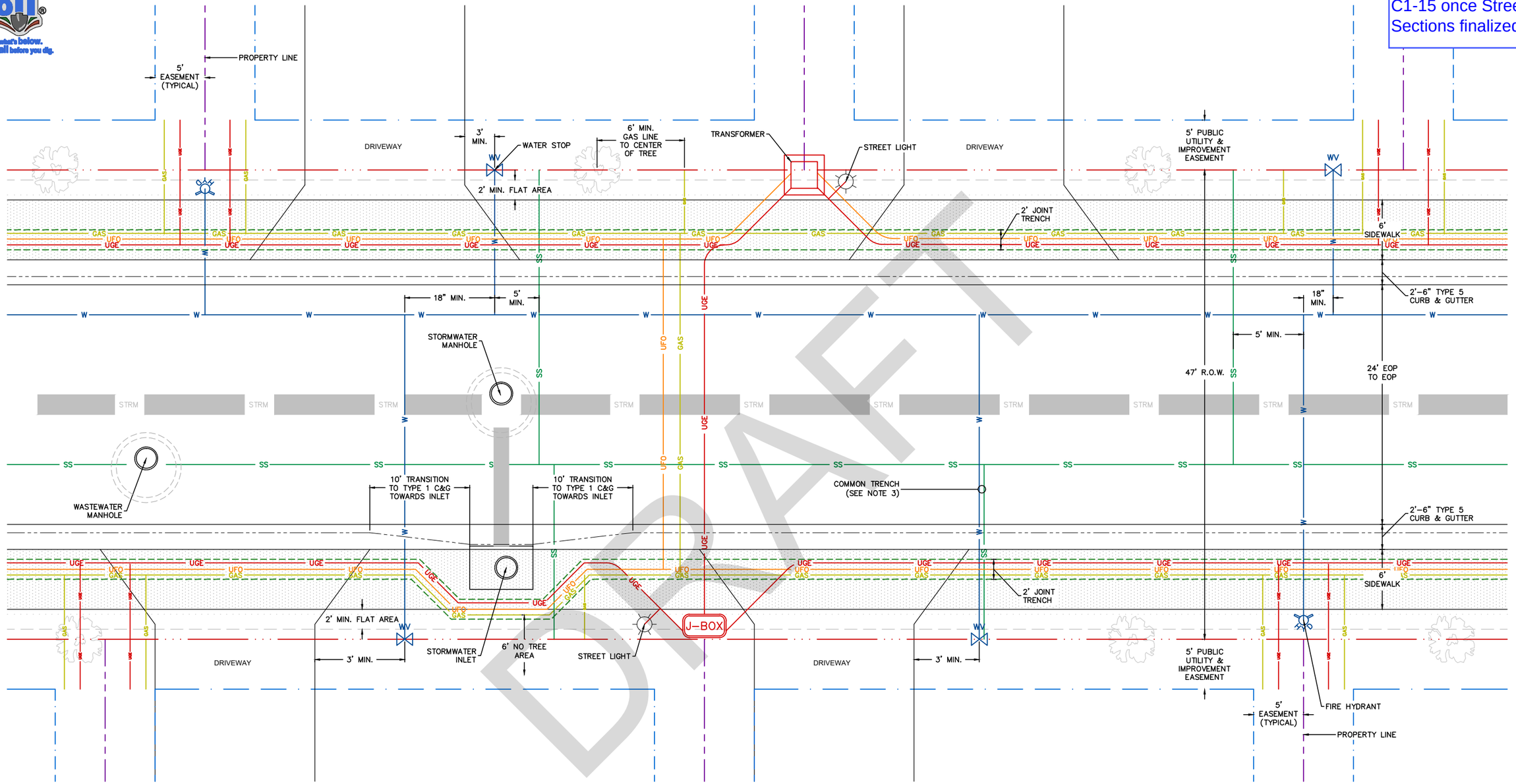
APPROVED:

CITY ENGINEER

ISSUED:	REVISED:	DRAWING NO.
6/6/22		2A

User: KDITMAN Jun 06, 2022 - 1:35pm
Drawing: P:_CIP GROUP DOCUMENTS\CADD RESOURCES\STANDARD DETAILS\CURRENT CITY STANDARD DETAILS\WD\STREET SECTIONS.DWG - Layout: 2A

C1-15 once Street Sections finalized



DRAFT

THIS PLAN DESIGN IS TO BE USED IN CONJUNCTION WITH THE CROSS SECTIONS

NOTES:

1. STUB WATER WITH CURB STOP AND WASTEWATER 6-FEET MINIMUM BEHIND EDGE OF JOINT TRENCH; 15-FEET MINIMUM FROM PROPERTY LINE AND NOT UNDER DRIVEWAY. KEEP 3-FEET SEPARATION FROM WATER AND WASTEWATER TO GAS SERVICE.
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LINE LEGEND		
UTILITY	SYMBOL	DEPTH TO TOP OF PIPE
TELECOMMUNICATIONS	UFO	MIN. 30"
GAS	GAS	MIN. 30"
UNDERGROUND ELECTRIC/ ELECTRIC SERVICE	UGE / ES	MIN. 44"
WATER	W	MIN. 60"
WASTEWATER	SS	MIN. 60"
STORM SEWER/STRUCTURES	STRM	PER DCM

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MINOR RESIDENTIAL (LOCAL) (<21 LOTS) ATTACHED SIDEWALKS PLAN VIEW

COLORADO SPRINGS

APPROVED:

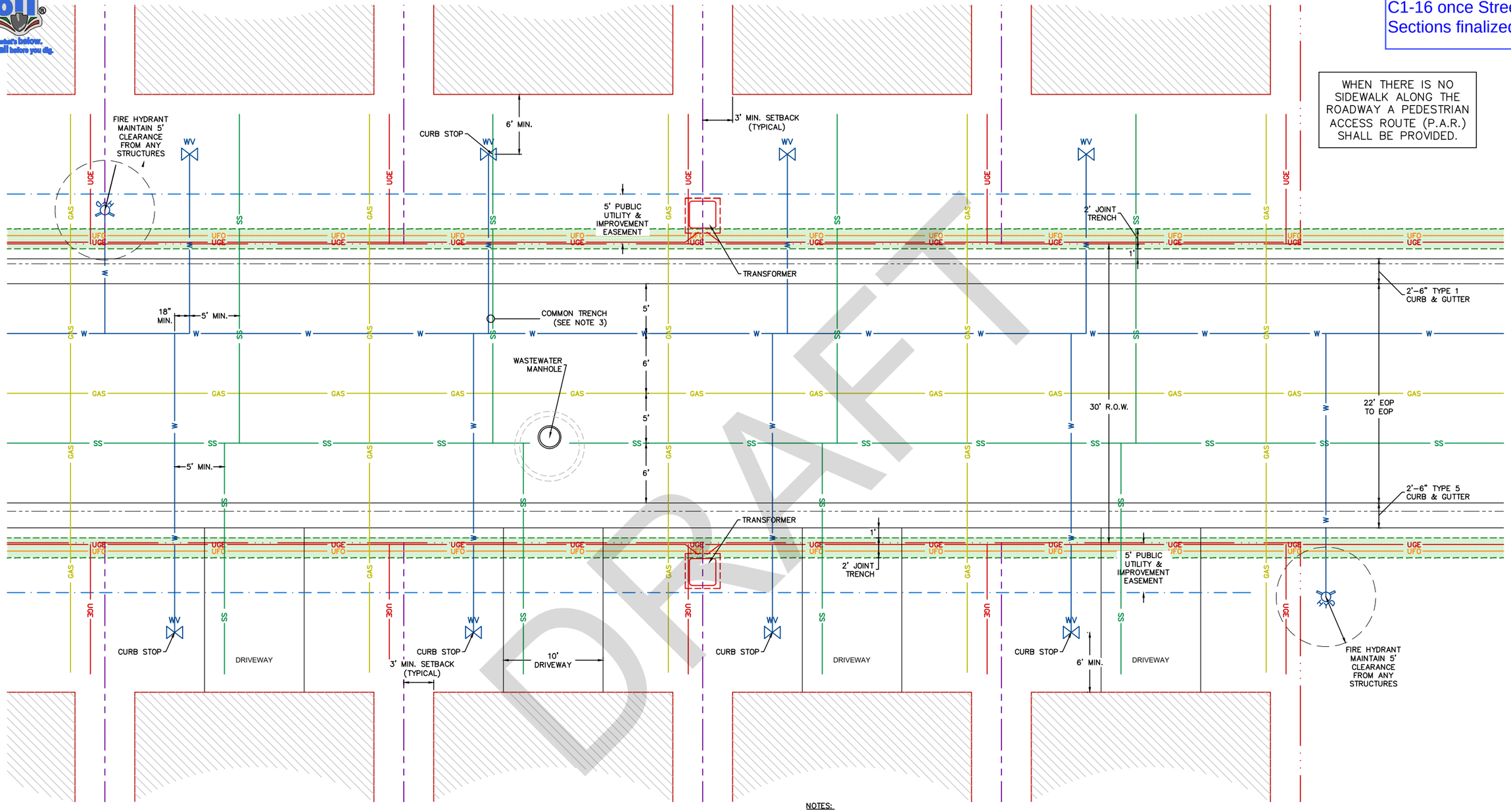
CITY ENGINEER

ISSUED:	REVISED:	DRAWING NO.
6/6/22		2B

User: KDITMAN Jun 06, 2022 - 1:37pm
Drawing: P:_CIP GROUP DOCUMENTS\CADD RESOURCES\STANDARD DETAILS\CURRENT CITY STANDARD DETAILS\KWD\STREET SECTIONS.DWG - Layout: 2B

C1-16 once Street Sections finalized

WHEN THERE IS NO SIDEWALK ALONG THE ROADWAY A PEDESTRIAN ACCESS ROUTE (P.A.R.) SHALL BE PROVIDED.



NOTES:

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2. GAS AND ELECTRIC SERVICES SHALL GENERALLY BE ON THE TOPOGRAPHIC HIGH SIDE OF THE LOT; WATER AND WASTEWATER SHALL GENERALLY BE ON THE TOPOGRAPHIC LOW SIDE OF THE LOT.
3. WATER AND WASTEWATER SERVICE LINES CAN BE PLACED IN A COMMON TRENCH WITH 1-FOOT VERTICAL AND HORIZONTAL SEPARATION.
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LINE LEGEND		
UTILITY	SYMBOL	DEPTH TO TOP OF PIPE
TELECOMMUNICATIONS	UFO	MIN. 30"
GAS	GAS	MIN. 30"
UNDERGROUND ELECTRIC/ ELECTRIC SERVICE	UGE	MIN. 44"
WATER	W	MIN. 60"
WASTEWATER	SS	MIN. 60"

THIS PLAN DESIGN IS TO BE USED IN CONJUNCTION WITH THE CROSS SECTIONS

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SMALL LOTS RESIDENTIAL PLAN VIEW

COLORADO SPRINGS

APPROVED:

CITY ENGINEER

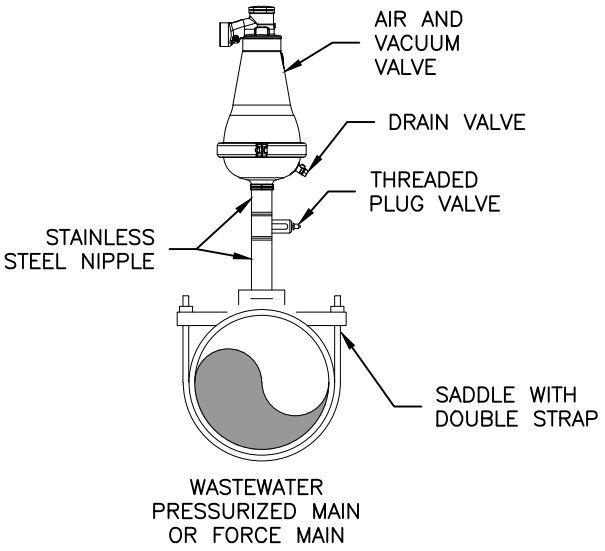
ISSUED:	REVISED:	DRAWING NO.
6/6/22		2C

DRAFT

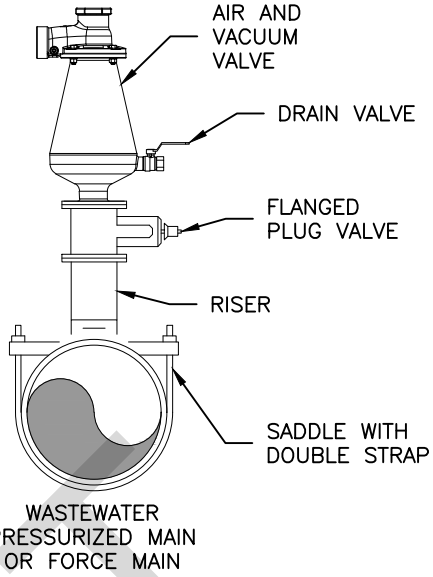
Know what's below. Call before you dig.

User: KOTTMAN Jun 06, 2022 - 1:38pm
Drawing: P:_CIP GROUP DOCUMENTS\CADD RESOURCES\STANDARD DETAILS\CURRENT CITY STANDARD DETAILS\(KW)\STREET SECTIONS.DWG - Layout: 2C

THREADED

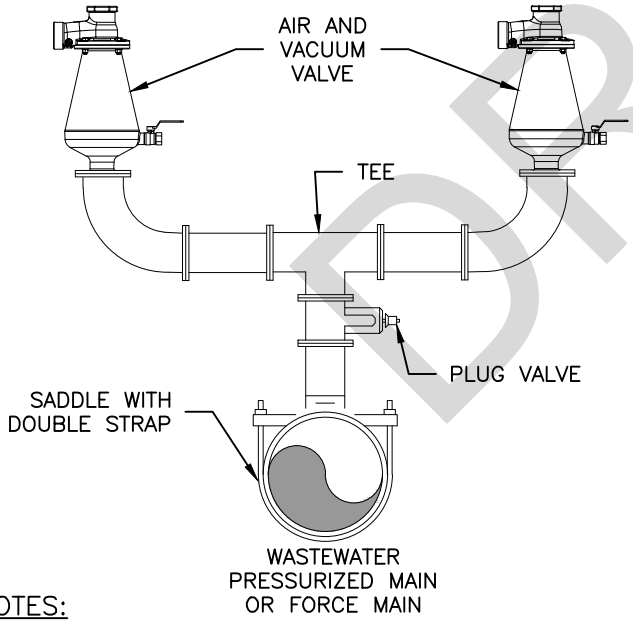


FLANGED

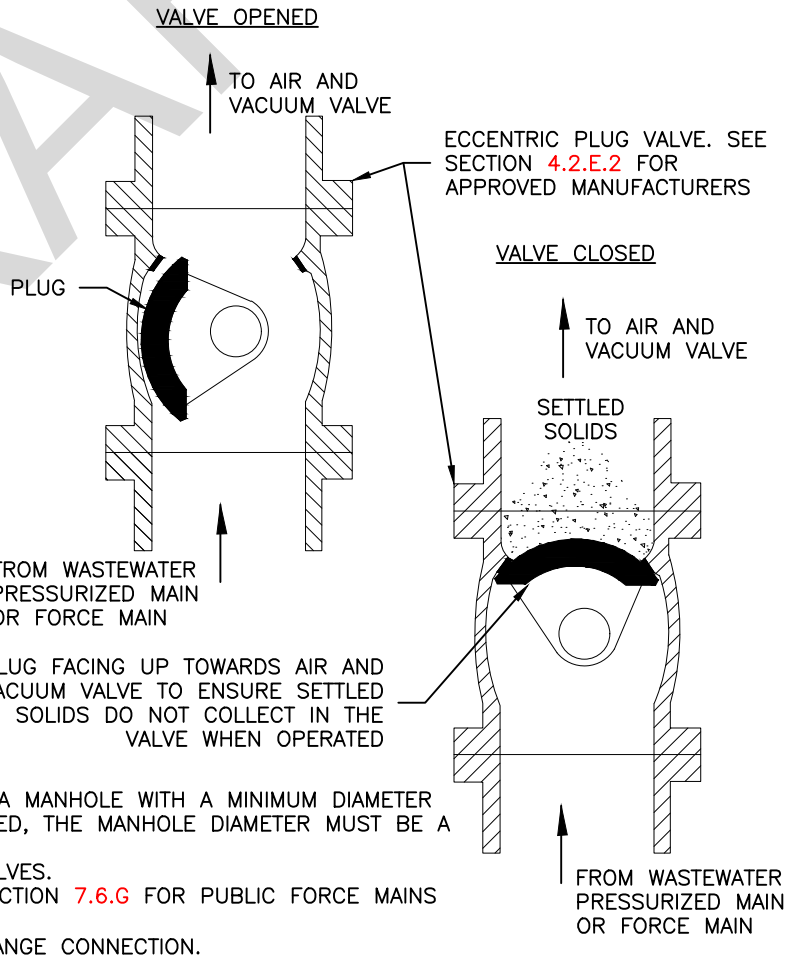


TWO ARVS ON ONE LINE

TWO AIR AND VACUUM VALVES MAY BE REQUIRED. PIPING AND CONNECTIONS MUST BE THREADED OR FLANGED (SHOWN).



PLUG VALVE CROSS SECTION



NOTES:

1. A SINGLE AIR AND VACUUM VALVE SHALL BE LOCATED IN A MANHOLE WITH A MINIMUM DIAMETER OF 4 FEET. IF TWO AIR AND VACUUM VALVES ARE REQUIRED, THE MANHOLE DIAMETER MUST BE A MINIMUM OF 6 FEET.
2. SEE SECTION 4.2.E.3 FOR APPROVED AIR AND VACUUM VALVES.
3. REFER TO AIR AND VACUUM VALVE DESIGN CRITERIA IN SECTION 7.6.G FOR PUBLIC FORCE MAINS AND 7.9.C FOR PRESSURIZED WASTEWATER MAINS.
4. FOR 3" AND LARGER AIR AND VACUUM VALVES, USE A FLANGE CONNECTION.

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TYPICAL AIR AND VACUUM VALVE

C2–16

DATED 7/2022

FIELD INSTALLATION OF POLYETHYLENE TUBING FOR DIP PIPE AND FITTINGS

STEP 1:

PLACE TUBE OF POLYETHYLENE MATERIAL ON PIPE PRIOR TO LOWERING IT INTO TRENCH.

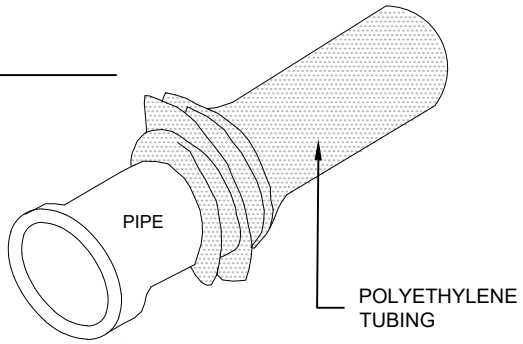
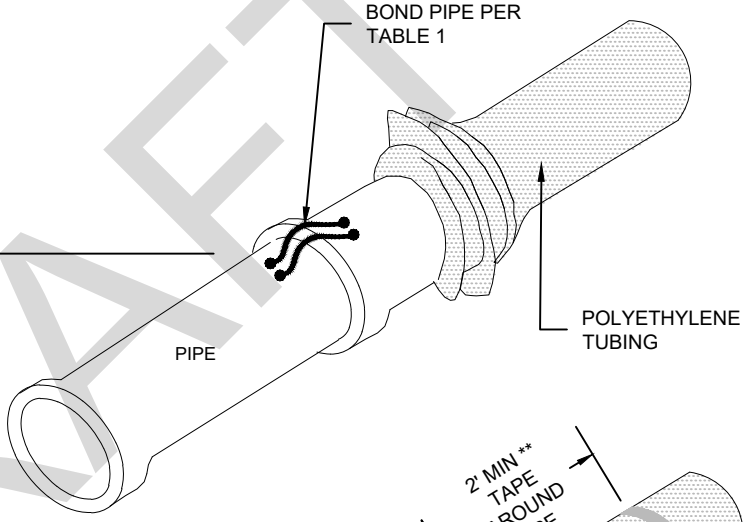


TABLE 1		
SUITABLE CONDUCTOR SIZES FOR JOINT BONDING OF DUCTILE IRON PIPE		
PIPE SIZE (IN)	QUANTITY - SIZE OF BOND	SIZE OF CHARGE (G)
3 TO 14	1 - #8 STRANDED OR SOLID	25
16 to 36	2 - #8 STRANDED OR SOLID	25
	1 - BONDING STRAP	15
42 TO 64	2 - #4 STRANDED OR SOLID	32
	4 - #8 STRANDED OR SOLID	25

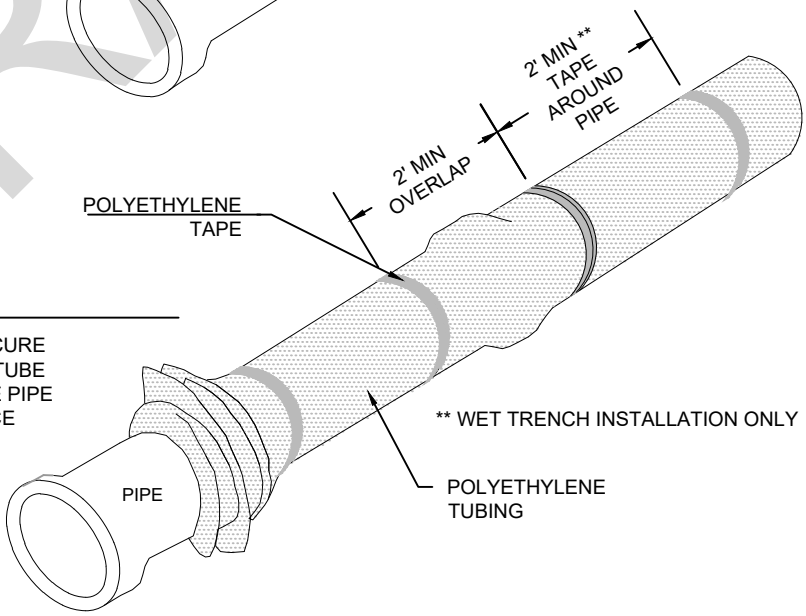
STEP 2:

INSTALL BONDING STRAP OR WIRE AT EVERY JOINT OF PIPE PRIOR TO WRAPPING. PULL TUBE OVER THE LENGTH OF THE PIPE. TAPE TUBE TO END AT JOINT. FOLD MATERIAL AROUND THE ADJACENT SPIGOT END AND WRAP WITH TAPE TO HOLD THE PLASTIC TUBE IN PLACE.



STEP 3:

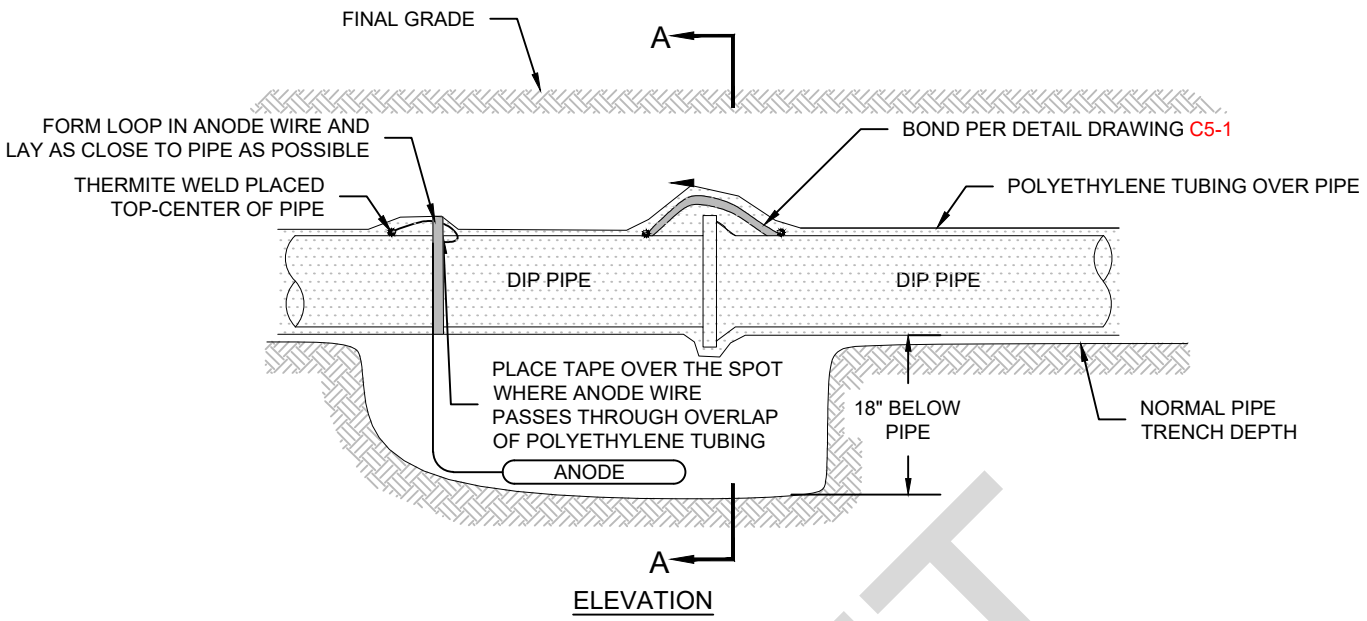
OVERLAP FIRST TUBE WITH ADJACENT TUBE AND SECURE WITH PLASTIC ADHESIVE TAPE. THE POLYETHYLENE TUBE MATERIAL SHALL BE NEATLY DRAWN UP AROUND THE PIPE BARREL FOLDED ON TOP OF PIPE AND TAPED IN PLACE



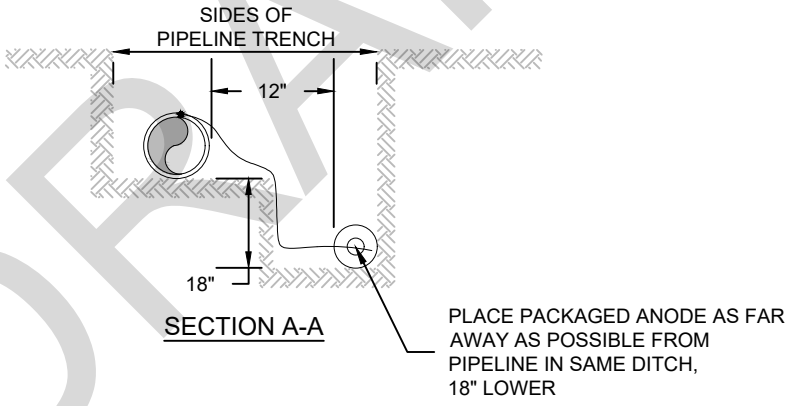
DRAFT

NOTES:

1. ANY TEARS OR HOLES SHALL BE REPAIRED WITH POLYETHYLENE TUBING AND TAPE.
2. WHEN WORKING AROUND EXISTING POLY WRAPPED PIPE, ANY TEARS AS A RESULT OF CONSTRUCTION SHALL BE REPAIRED.
3. WHEN WORKING AROUND EXISTING BONDED PIPE, ANY BROKEN BONDS AS A RESULT OF CONSTRUCTION, SHALL BE REPAIRED.



ELEVATION

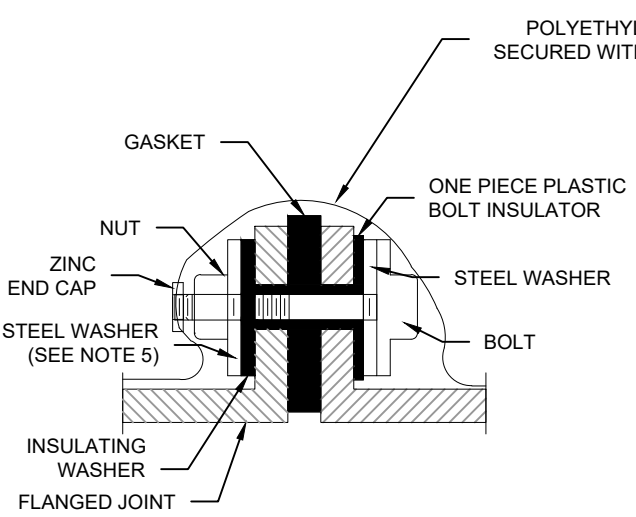


SECTION A-A

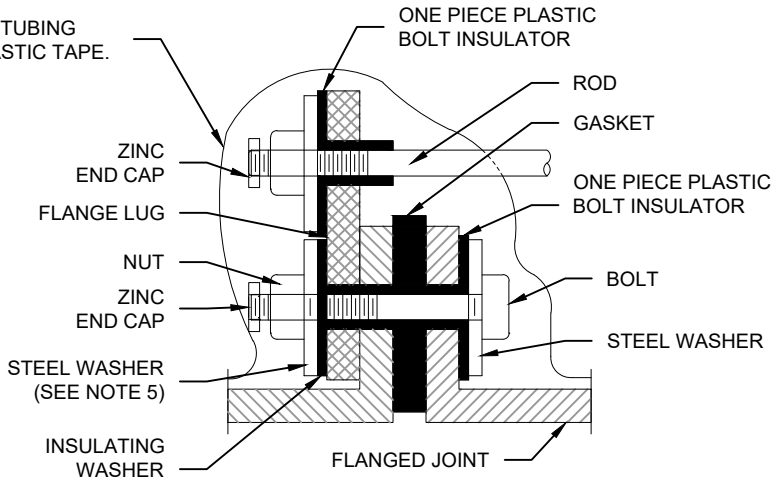
DRAFT

NOTES:

1. THERMITE WELD ANODE TO PIPE WITH A 15 GRAM CHARGE. INSTALL A COPPER SLEEVE WHEN WIRE IS #10 AWG OR SMALLER.
2. THERMITE WELD CONNECTIONS AND ANY BARE METAL SHALL BE COVERED WITH PRIMERLESS HANDICAP OR CORROSION TAPE.
3. PACKED ANODE SHOULD BE COVERED WITH FINE SOIL CONTAINING NO ROCKS OR DIRT CLUMPS AND SHALL BE HAND TAMPED TO THE BOTTOM OF THE PIPE FOR COMPACTION.
4. ANODE WITH BROKEN BAGS SHALL NOT BE USED.
5. ANODES SHALL BE REMOVED FROM PLASTIC PACKAGING.
6. IT IS NOT NECESSARY TO WET THE ANODES.
7. DIP PIPE SHALL BE ENCASED IN POLYETHYLENE TUBING PER DETAIL DRAWING C5-1.

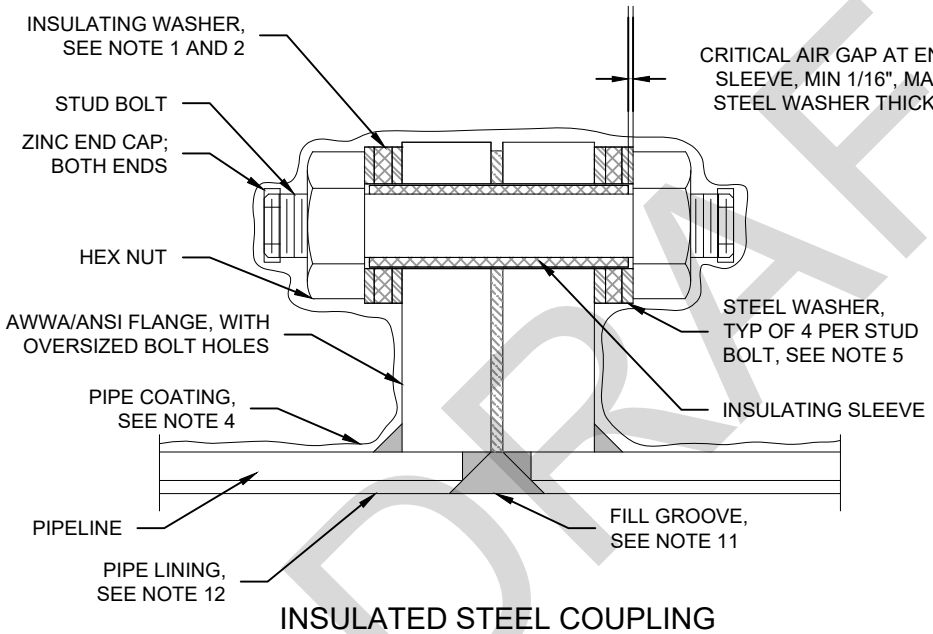


INSULATED FLANGE JOINT



INSULATED TIE BACK ROD

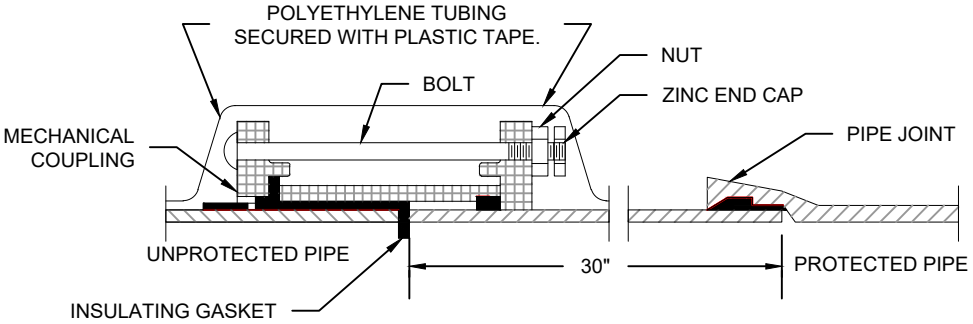
(WITH APPROVAL OF COLORADO SPRINGS UTILITIES)



INSULATED STEEL COUPLING

NOTES:

1. PROVIDE INSULATING KIT FOR APPLICABLE FLANGE TYPE AND PRESSURE RATING.
2. INSTALL DOUBLE INSULATING WASHER SET FOR VAULT OR EXPOSED FLANGES.
3. INSTALL SINGLE INSULATING WASHER SET FOR BURIED OR SUBMERGED FLANGES WITH INSULATORS OR WRAP ON UNPROTECTED SIDE OF FLANGE.
4. COAT BURIED OR IMMERSED INSULATING FLANGES FOR 12-INCHES MINIMUM ON EACH SIDE OF FLANGE.
5. FOR PIPE LESS THAN 36-INCHES DIAMETER, DO NOT INSTALL INNER STEEL WASHERS.
6. TEST COMPLETED JOINT FOR ELECTRICAL ISOLATION AND REPAIR AS REQUIRED.
7. CARE SHOULD BE TAKEN TO INSURE THAT THE TIE-BACK BOLTS DO NOT, ALONG THEIR LENGTH, CONTACT ANY PART OF THE PIPE APPURTENANCES.
8. INSULATION KITS SHALL BE INSTALLED PER MANUFACTURER RECOMMENDATIONS.
9. CONTINUITY TESTING SHALL BE ACCOMPLISHED PRIOR TO FINAL ACCEPTANCE.
10. TEST STATIONS SHALL BE INSTALLED AT INSULATING COUPLINGS PER DETAIL DRAWING C5-4.
11. FILL INTERIOR GAP BETWEEN FLANGES WITH DIELECTRIC FILLER OF SEALANT COMPATIBLE WITH SPECIFIED PIPE LINING.
12. EXTEND SPECIFIED PIPE LINING TO FACE OF FLANGE AND COAT INTERIOR OF MORTAR LINED PIPE FOR TWO PIPE DIAMETERS WITH NSF APPROVED EPOXY AT 20 MILS DFT.



INSULATED MECHANICAL COUPLING

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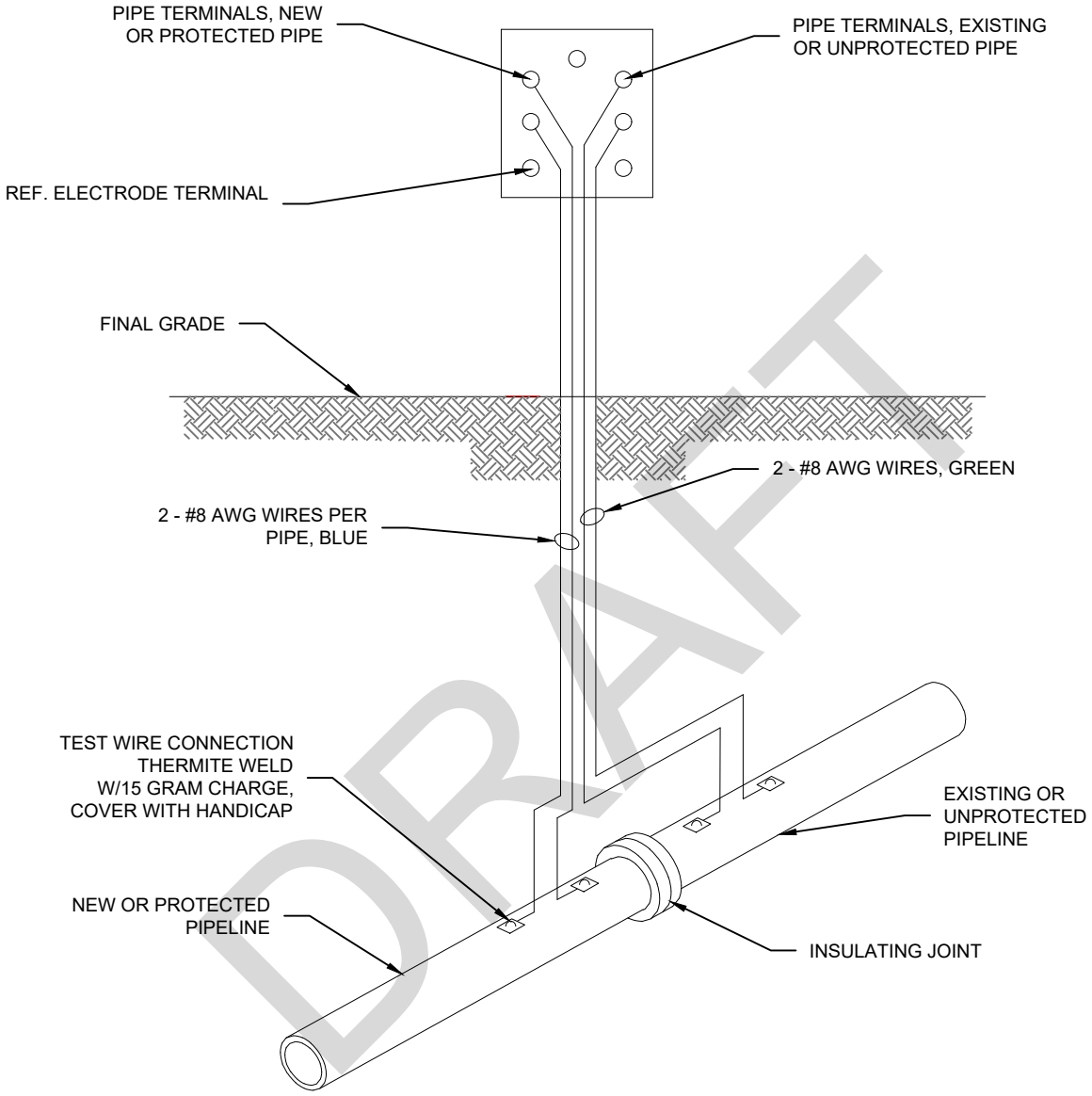
INSULATOR INSTALLATION

C5-3

DATED 5/2015

TERMINAL BOARD WIRING DIAGRAM



DRAFT

NOTES:

1. THE CONTRACTOR SHALL COORDINATE WITH COLORADO SPRINGS UTILITIES TO WIRE THE TERMINAL BOARD.
2. THERMITE WELD WIRES TO PIPE WITH A 15 GRAM CHARGE. INSTALL A COPPER SLEEVE WHEN WIRE IS #10 AWG OR SMALLER.
3. THERMITE WELD CONNECTIONS AND ANY BARE METAL SHALL BE COVERED WITH PRIMERLESS HANDICAP OR CORROSION TAPE.
4. THE CONTRACTOR SHALL VERIFY CONTINUITY OF ALL WIRES TO TERMINAL BOARD PRIOR TO FINAL ACCEPTANCE.

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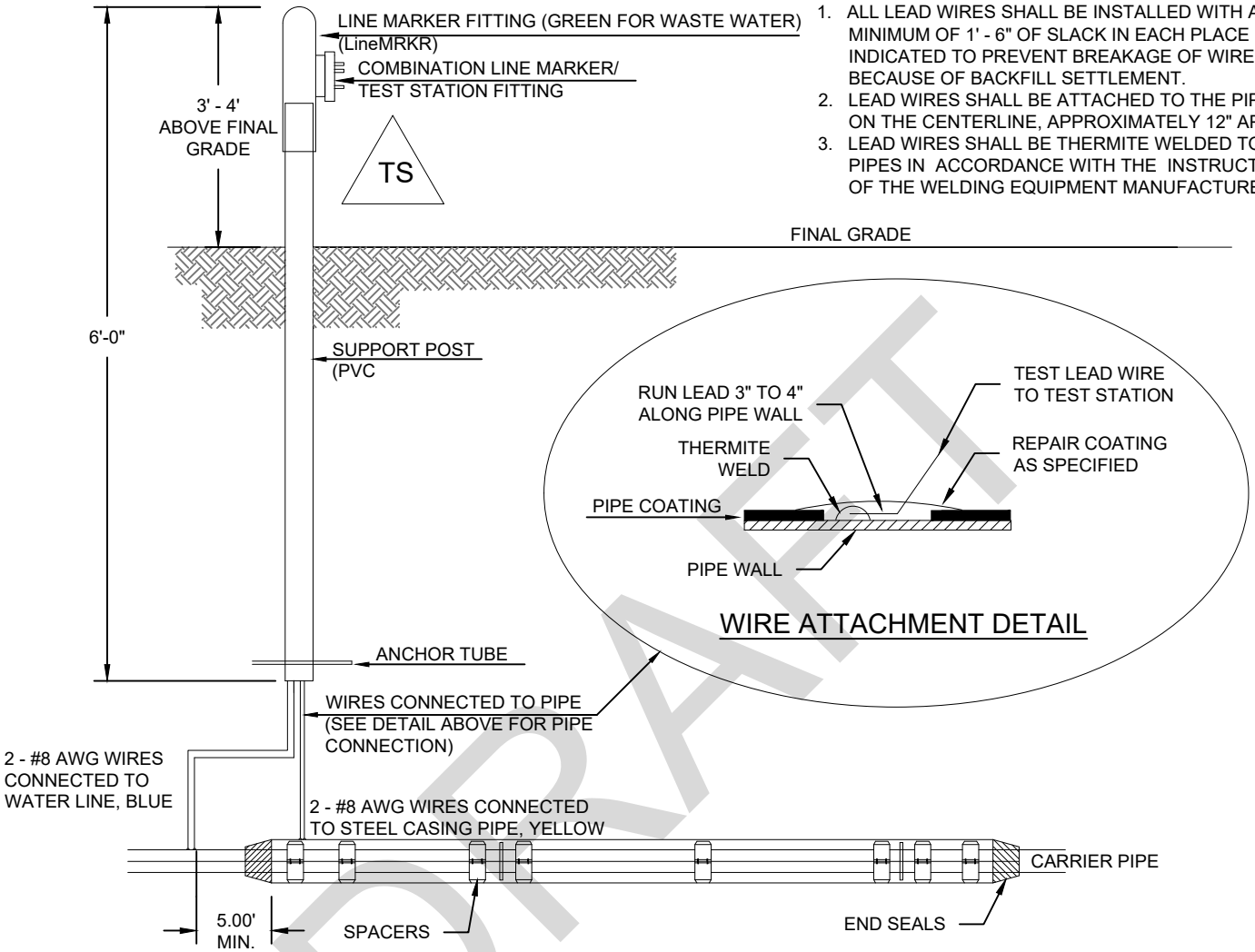
INSTALLATION OF CATHODIC PROTECTION TEST STATION AT AN INSULATING JOINT

C5-4

DATED 07/2022

NOTES:

1. ALL LEAD WIRES SHALL BE INSTALLED WITH A MINIMUM OF 1' - 6" OF SLACK IN EACH PLACE INDICATED TO PREVENT BREAKAGE OF WIRE BECAUSE OF BACKFILL SETTLEMENT.
2. LEAD WIRES SHALL BE ATTACHED TO THE PIPE ON THE CENTERLINE, APPROXIMATELY 12" APART.
3. LEAD WIRES SHALL BE THERMITE WELDED TO PIPES IN ACCORDANCE WITH THE INSTRUCTIONS OF THE WELDING EQUIPMENT MANUFACTURER.



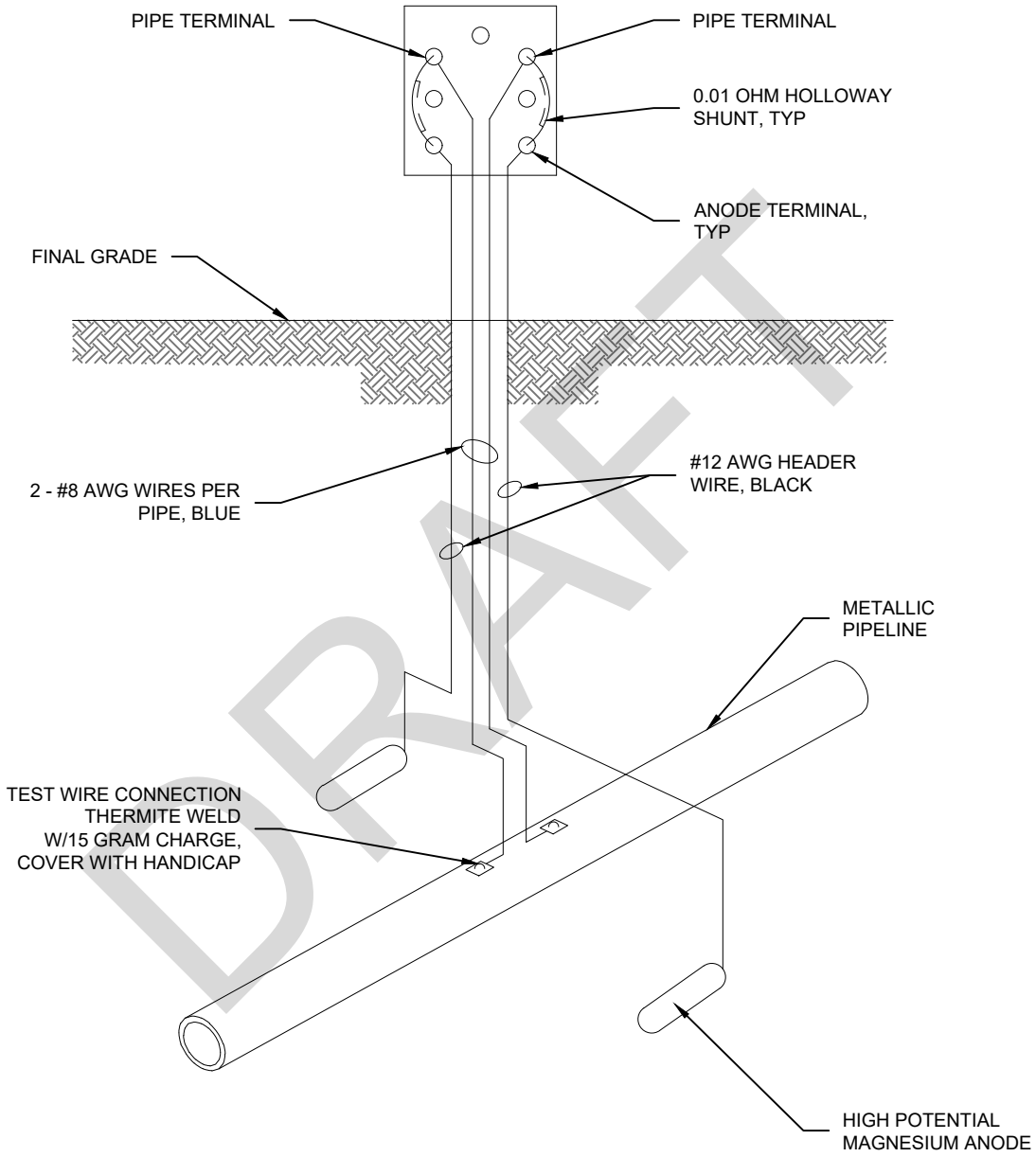
DRAFT

TYPICAL DETAIL FOR TEST STATION WITH STEEL SLEEVE INSTALLATION

NOTES:

1. THE CASING SHALL BE CATHODICALLY PROTECTED UNDER THE DIRECTION OF THE COLORADO SPRINGS UTILITIES INSPECTOR. SEE SECTION 2.5.G.
2. EXAMPLE CAN VARY DUE TO SITE CONDITIONS AND COLORADO SPRINGS UTILITIES INSPECTORS' DIRECTION.
3. SEE STANDARD DETAIL DRAWING C2-4 - STEEL CASING INSTALLATION.
4. CONTRACTOR TO COORDINATE W/ COLORADO SPRINGS UTILITIES TO WIRE TERMINAL BOARD.
5. THERMITE WELD WIRES TO PIPE W/ 15 GRAM CHARGE. INSTALL COPPER SLEEVE WHEN WIRE IS #10 AWG OR SMALLER.
6. THERMITE WELD CONNECTIONS AND ANY BARE METAL SHALL BE COVERED WITH PRIMERLESS HANDICAP OR CORROSION TAPE.
7. CONTRACTOR TO VERIFY CONTINUITY OF ALL WIRES TO TERMINAL BOARD PRIOR TO FINAL ACCEPTANCE.

TERMINAL BOARD WIRING DIAGRAM



DRAFT

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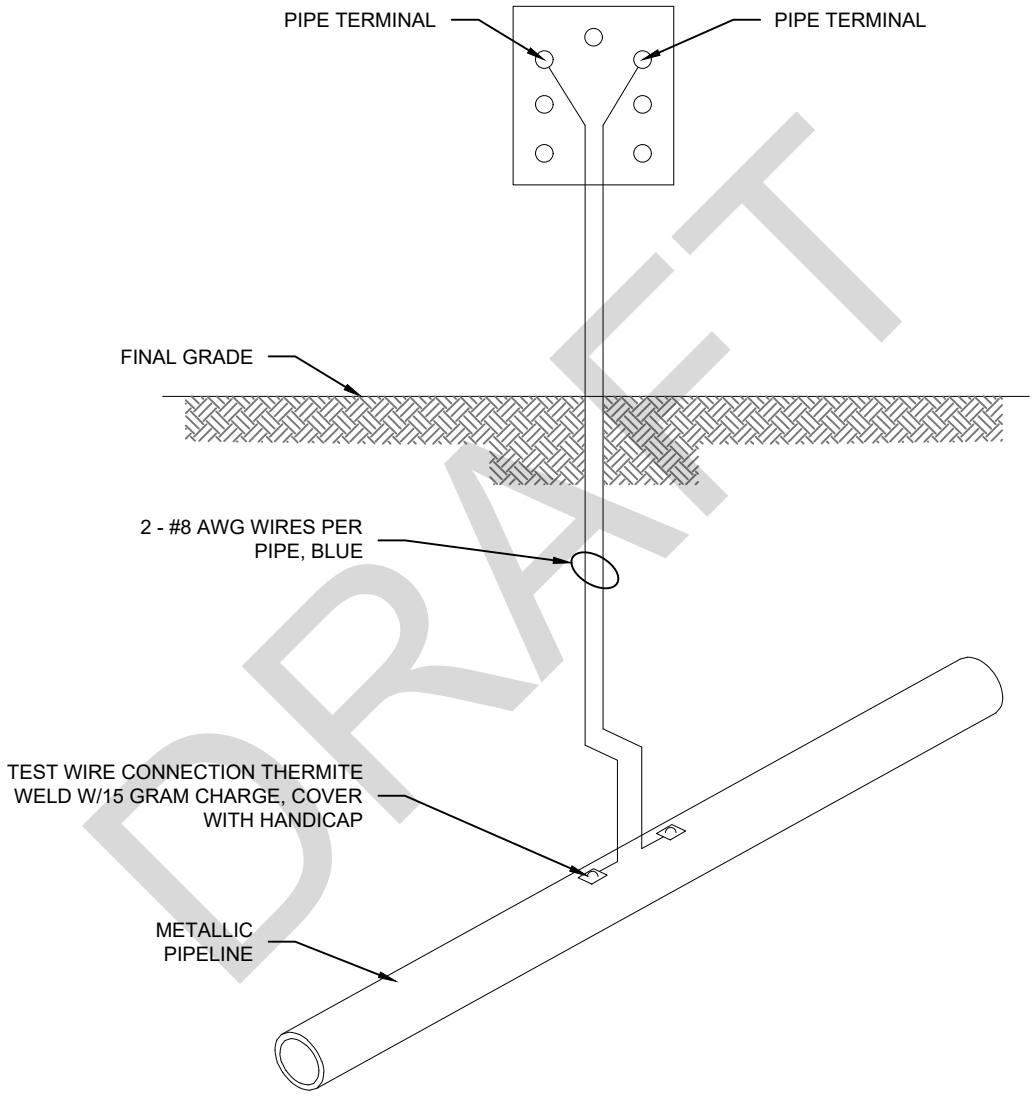
4. CONTRACTOR TO VERIFY CONTINUITY OF ALL WIRES TO TERMINAL BOARD PRIOR TO FINAL ACCEPTANCE.

TERMINAL BOARD
WIRING DIAGRAM



DRAFT

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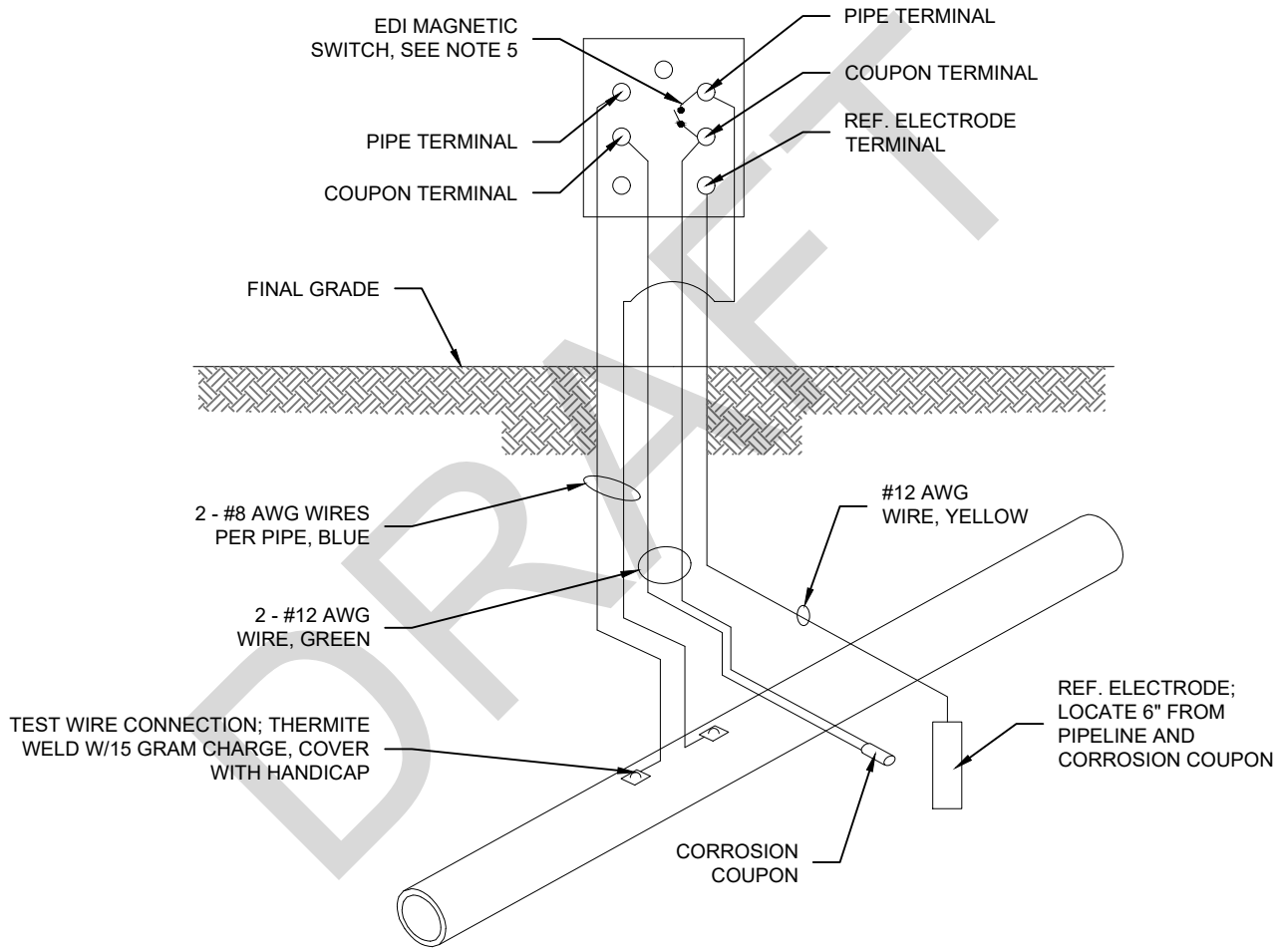
TERMINAL BOARD WIRING DIAGRAM



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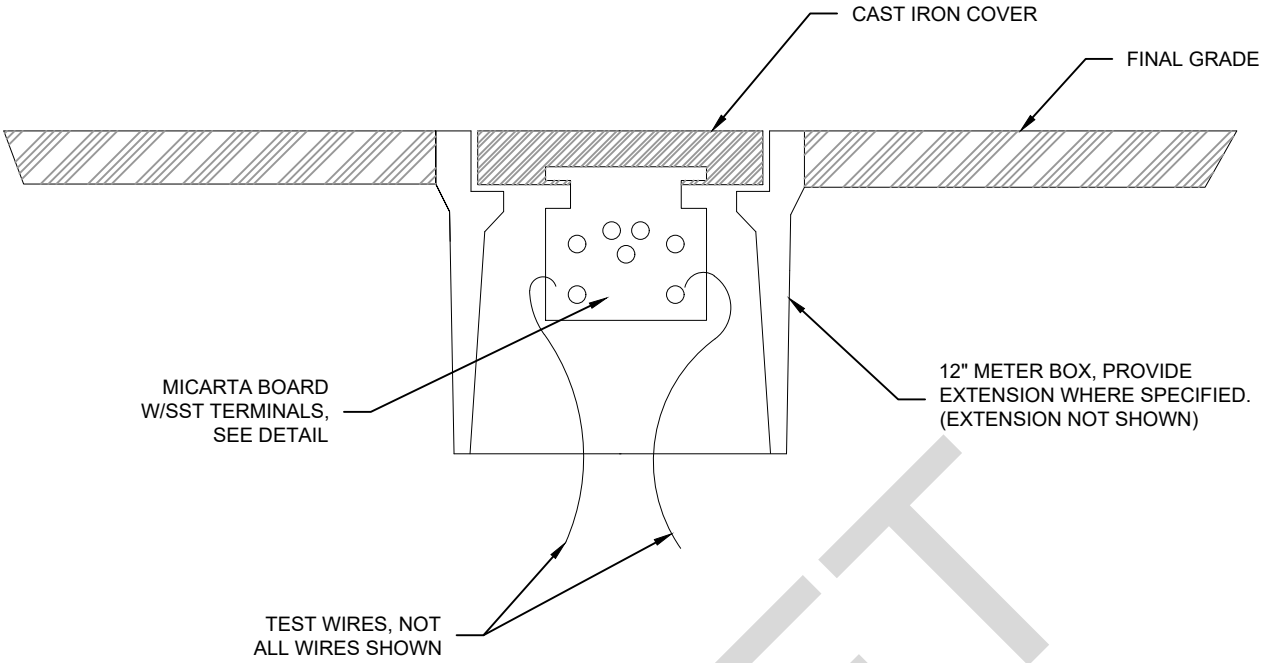
4. THE CONTRACTOR SHALL VERIFY CONTINUITY OF ALL WIRES TO TERMINAL BOARD PRIOR TO FINAL ACCEPTANCE.
5. REMOVE MAGNETIC SWITCH FOR A REMOTE TERMINAL UNIT (RTU).



DRAFT

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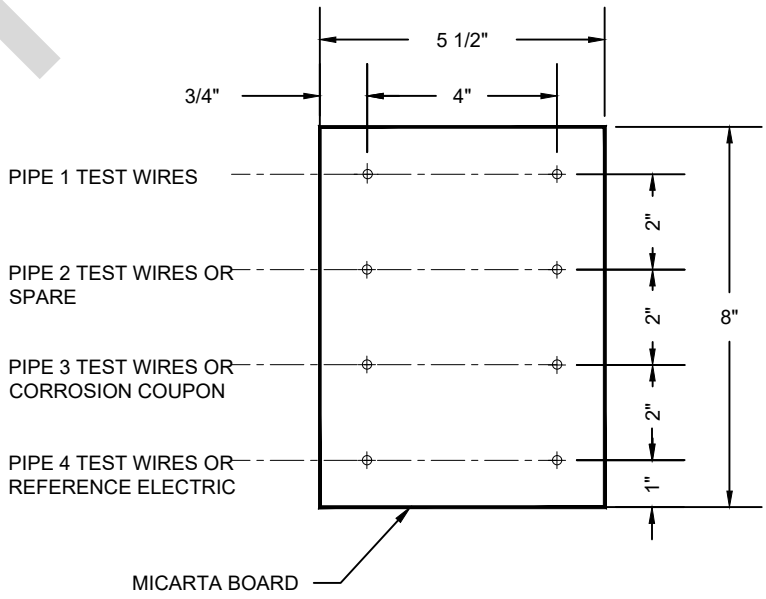
4. THE CONTRACTOR SHALL VERIFY CONTINUITY OF ALL WIRES TO TERMINAL BOARD PRIOR TO FINAL ACCEPTANCE.
5. COLOR CODE WIRE INSULATION AS SHOWN IN APPLICABLE TEST STATION DETAILS. CONNECT EACH TEST WIRE TO SEPARATE TERMINAL.
6. WIRE CONFIGURATION FOR FLUSH MOUNT STYLE TEST STATIONS SIMILAR TO POST MOUNT STYLE TEST STATIONS.
7. PROVIDE 18 INCHES SLACK IN TEST WIRES, MINIMUM.

NOTES:

1. TERMINALS SHALL BE 1/4" STAINLESS STEEL W/LOCKING WASHER, TWO FLAT WASHERS, AND DOUBLE NUTS.
2. ALL WIRE CONNECTIONS TO BE W/RING TONGUE COMPRESSION TERMINALS.
3. WIRES ON TEST STATIONS TO BE PERMANENTLY LABELED WITH PIPE IDENTIFICATION (i.e. 12" DIP) USING NYLON WIRE MARKER TAGS.



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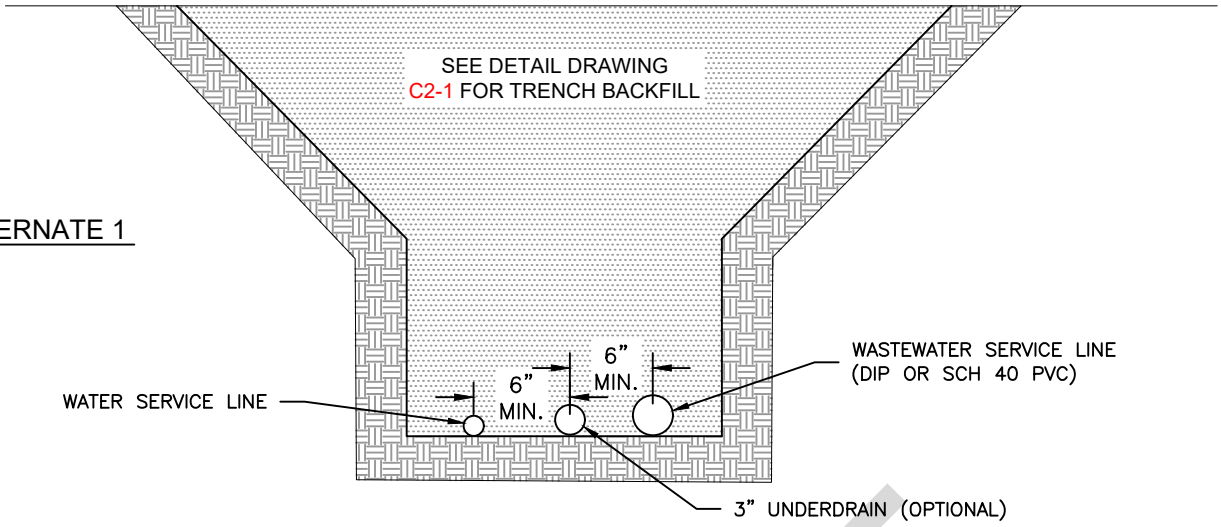
TEST STATION
FLUSH MOUNT

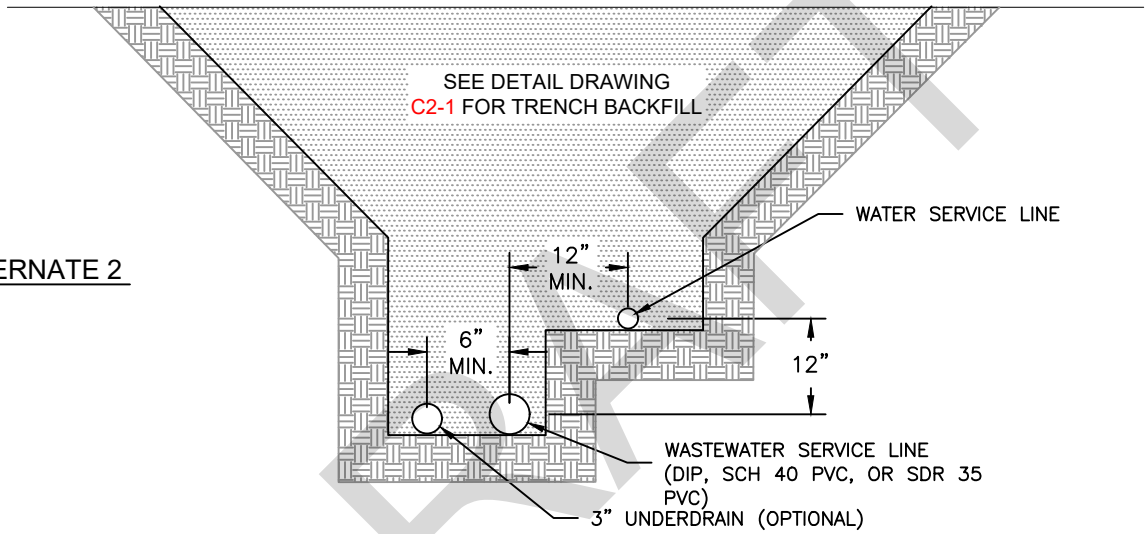
C5-9

DATED 5/2015

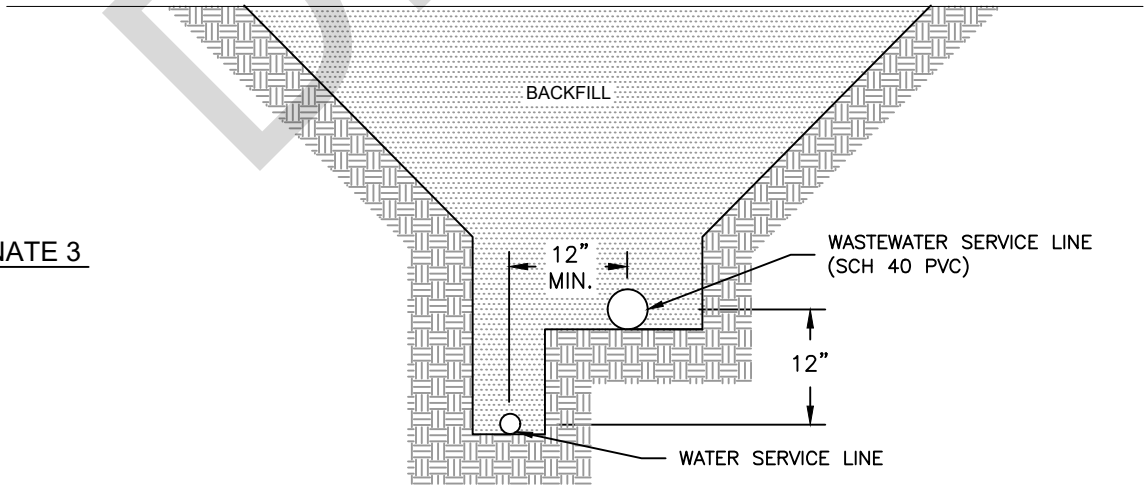
ALTERNATE 1



ALTERNATE 2



ALTERNATE 3



DRAFT

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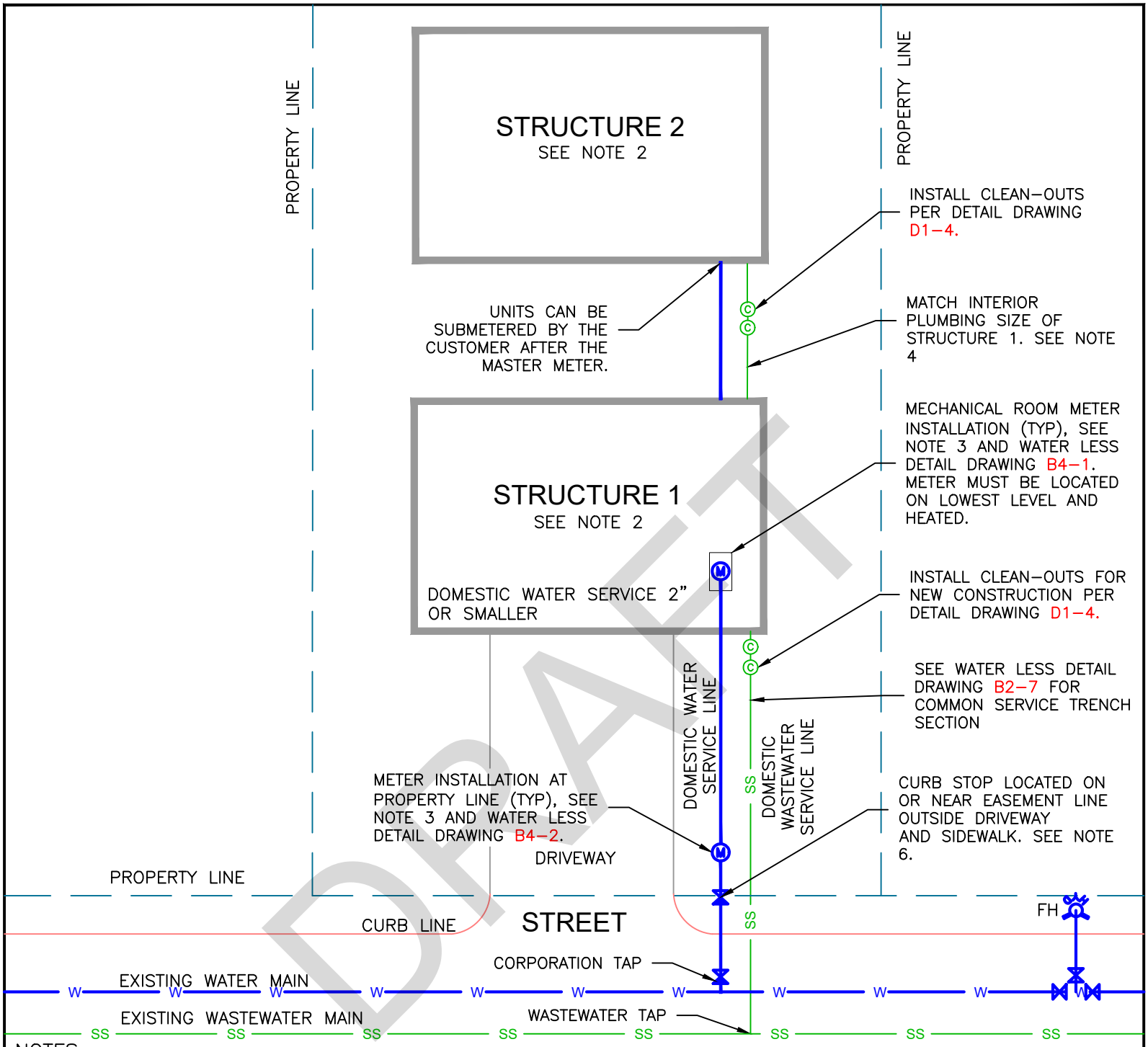
TYPICAL COMMON SERVICE TRENCH SECTION

D1–5

DATED 07/2022



DRAFT

NOTES:

1. THIS DETAIL DRAWING APPLIES TO A SINGLE PLATTED LOT WITH A PRIMARY RESIDENCE AND AN ACCESSORY DWELLING UNIT (ADU) WITH ONE WATER SERVICE LINE CONNECTION TO THE WATER MAIN. IF THE LOT IS SUBDIVIDED, INDIVIDUAL SERVICE LINES SHALL BE PROVIDED BY THE OWNER/DEVELOPER FOR EACH INDIVIDUALLY PLATTED LOT.
2. STRUCTURE 1 IS THE FIRST BUILDING RECEIVING SERVICE AND IS THE CLOSEST BUILDING TO THE WATER AND WASTEWATER MAIN. STRUCTURE 2 IS THE SECOND BUILDING TO RECEIVE SERVICE. ONE STRUCTURE SHALL BE THE PRIMARY RESIDENCE AND THE OTHER SHALL BE THE ADU.
3. A METER ROOM INSTALLATION IS PREFERRED IF STRUCTURE 1 IS THE PRIMARY RESIDENCE. IF STRUCTURE 1 IS THE ADU, THEN AN OUTSIDE METER PIT IS THE PREFERRED INSTALLATION METHOD.
4. 3" SCHEDULE 40 PVC SHALL BE APPROVED WHEN BUILDING SEWER BRANCHES FROM EXISTING BUILDING DRAIN, SEE SECTION 4.3.B.2 AND 4.3.B.3.
5. SEWER CLEANOUT(S) REQUIRED BETWEEN PRIMARY RESIDENCE AND ADU.
6. CURB STOP MUST HAVE A MINIMUM OF 9–FEET HORIZONTAL SEPARATION FROM STRUCTURE. IF THE 9–FOOT SEPARATION CAN NOT BE MET, A 6–FOOT MINIMUM IS ALLOWED IF STRUCTURE 1 HAS A MINIMUM 3–FOOT BELOW FINISHED GRADE FOUNDATION WALL.
7. ALL SERVICE LINES UNDER STRUCTURE SLAB OR FOUNDATION SHALL BE CONSTRUCTED OUT OF SCHEDULE 40 PVC AND BE MAINTAINABLE IN THE FUTURE.

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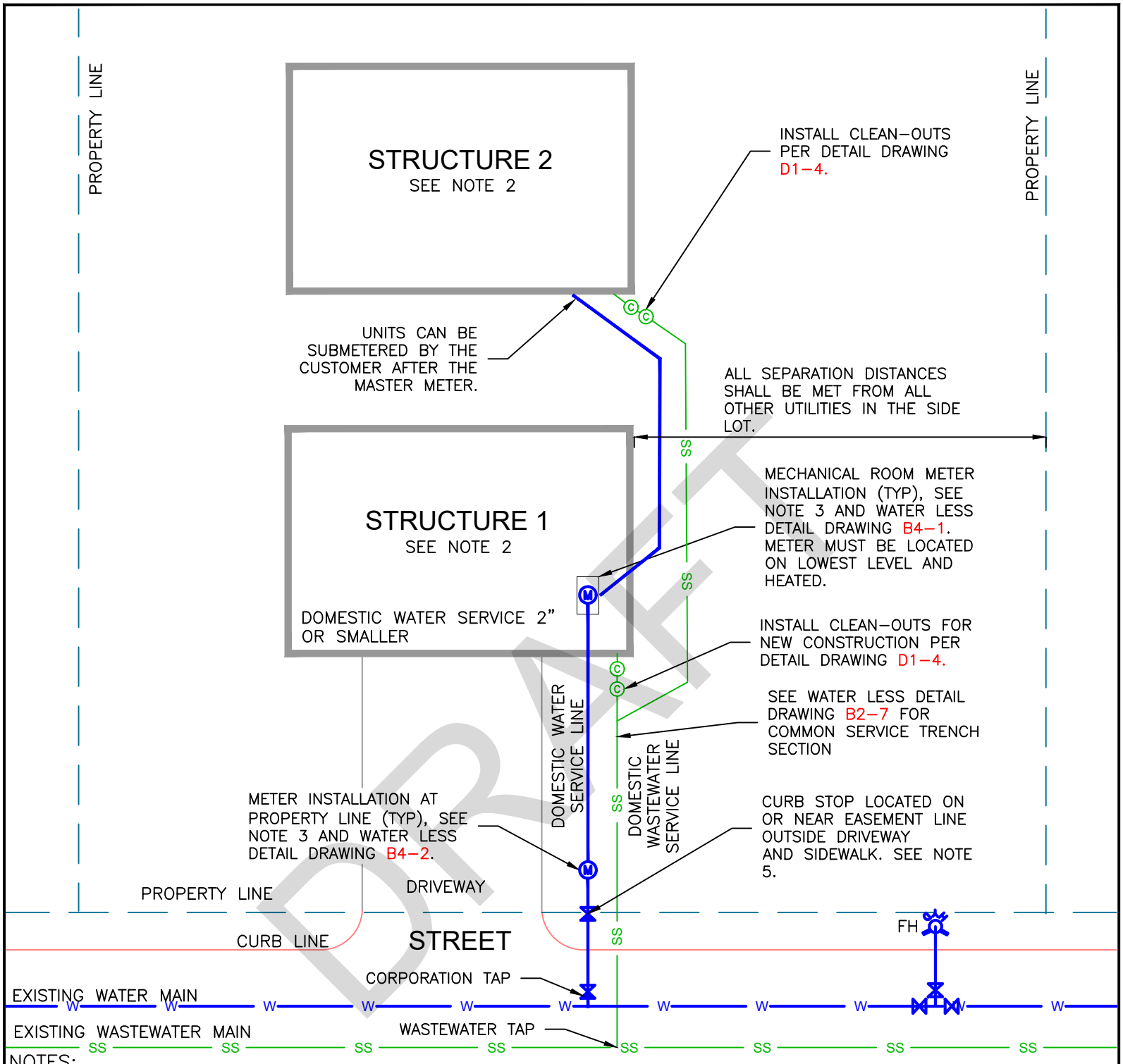
SINGLE–FAMILY RESIDENTIAL WITH DETACHED ADU OPTION 1

D1–14

DATED 7/2022



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SINGLE-FAMILY RESIDENTIAL WITH DETACHED ADU OPTION 2

D1-15

DATED 7/2022