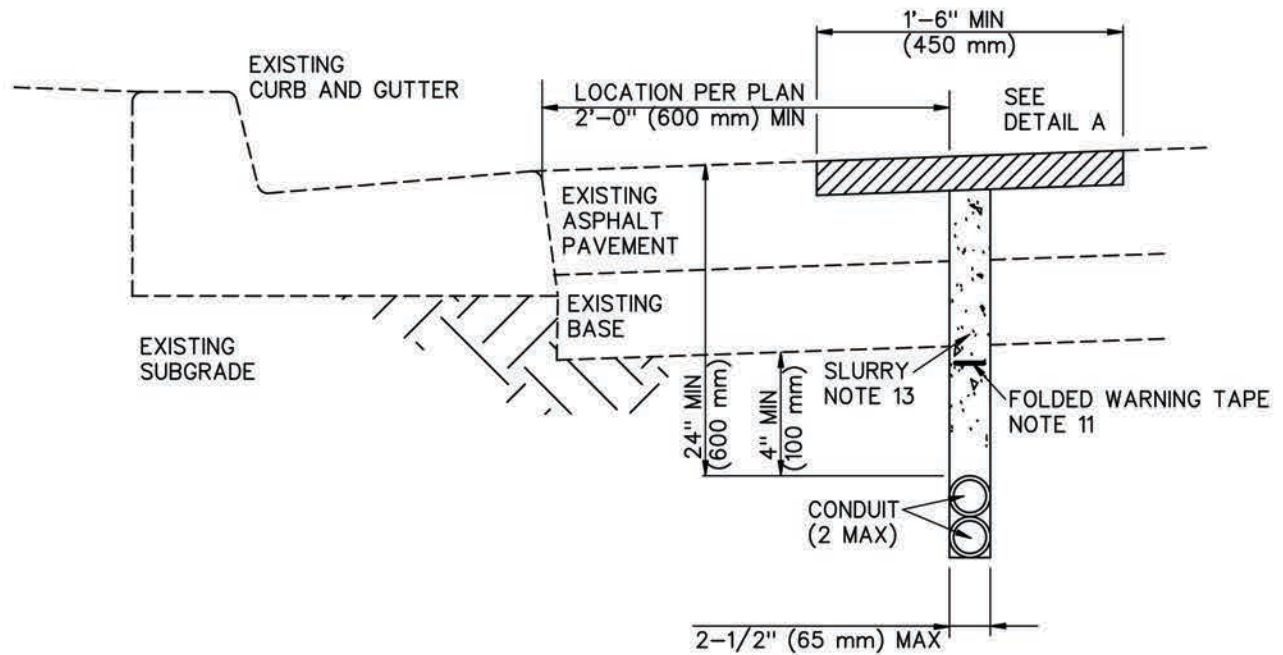


Proposed Revision To: ☐ Standard Specifications For Public Works Construction ☒ Standard Plans For Public Works Construction	Change No. 335 SP (ASSIGNED BY GREENBOOK COMMITTEE)
Public Works Standards, Inc. c/o Associated General Contractors of California Los Angeles District Office 1906 West Garvey Avenue, Suite No. 100 West Covina, California 91760	Date Proposal Received 01/02/24 (ASSIGNED BY GREENBOOK COMMITTEE)
Subsection or Standard Plan to be revised: New Plans 135 and 136, Microtrenching	
Warning: Public Contract Code §3400 prohibits any local agency specification that limits bidding, directly or indirectly, to any one specific concern or product. If this revision describes a proprietary or patented product, it must identify other products which equally perform the functions of the proprietary or patented product.	
<u>Revision:</u> New plans for installation of conduit for fiber-optic cable	
<u>Reason For Revision:</u> Recent state legislation requires local agencies to adopt standards for installation of data-transmission cable.	
Submitted By: <u>David Mitchell</u> Phone No: <u>(562)400-9159</u> Agency: <u>Member at large</u> Address: _____	
Instructions: Use a separate form for each revision. Attach plain paper if more space is needed. For minor changes, copy present wording striking out words to be deleted and <u>underlining</u> new text. For major changes, rewrite or add paragraph or sections. All proposed revisions must include the reason(s) for the revision.	
Subcommittee Action: On <u>Dec 5, 2023</u> (Date) ☒ Recommended For _____ Supplement/Edition ☐ Rejected ☐ As Modified	Editorial Standards Subcommittee Review: On <u>04/03/2025</u> (Date) ☐ Reviewed For Surf/Und/Spec/Plans Subcommittee ☒ NO Modifications ☐ As Modified
Greenbook Committee Action: On 05/15/2025 (Date) X Approved For 2025 ☐ Rejected Supplement Edition ☐ As Modified	



NOTES:

1. DETAIL "A" IS ONLY APPLICABLE WHERE THERE IS AN EXISTING VISIBLE/EXPOSED CONCRETE GUTTER.
2. DETAIL "A" SHALL NOT BE APPLICABLE AT STREET INTERSECTIONS OR ALONG MEDIAN GUTTERS.
3. EXISTING AC SHALL BE MILLED AND REPAVED IF REQUIRED BY THE AGENCY.

TYPICAL SECTION NOT TO SCALE

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

PROMULGATED BY THE
PUBLIC WORKS STANDARDS INC.
GREENBOOK COMMITTEE
2024

MICROTRENCHING – CASE 1

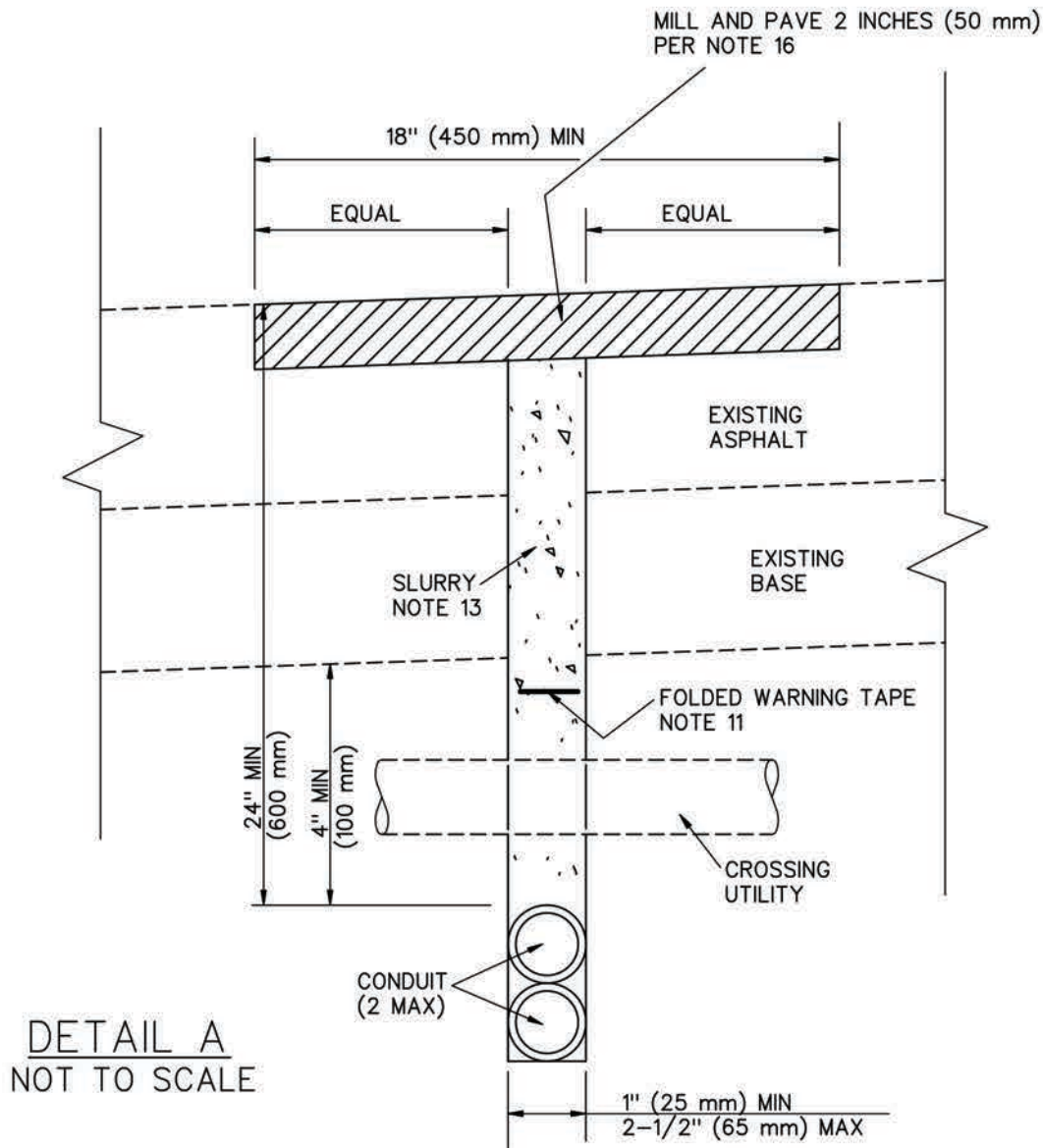
USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

STANDARD PLAN

135-0

SHEET 1 OF 4

*David Mitchell updated 04/22/25



NOTES:

1. SHALL APPLY TO ALL TRENCHES THAT ARE A MINIMUM OF 2 FEET (600 mm) FROM THE FACE OF GUTTER (OR CURB WHEN NO GUTTER EXISTS).
2. SEE TYPICAL SECTION FOR TRENCH LOCATION.
3. TRENCH SHALL BE AT LEAST 12 INCHES (300 mm) FROM ANY EXISTING UTILITY STRUCTURE.
4. TRENCH ALIGNMENT SHALL AVOID WHEEL PATH OF TRAVEL.

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

MICROTRENCHING – CASE 1

STANDARD PLAN

135-0

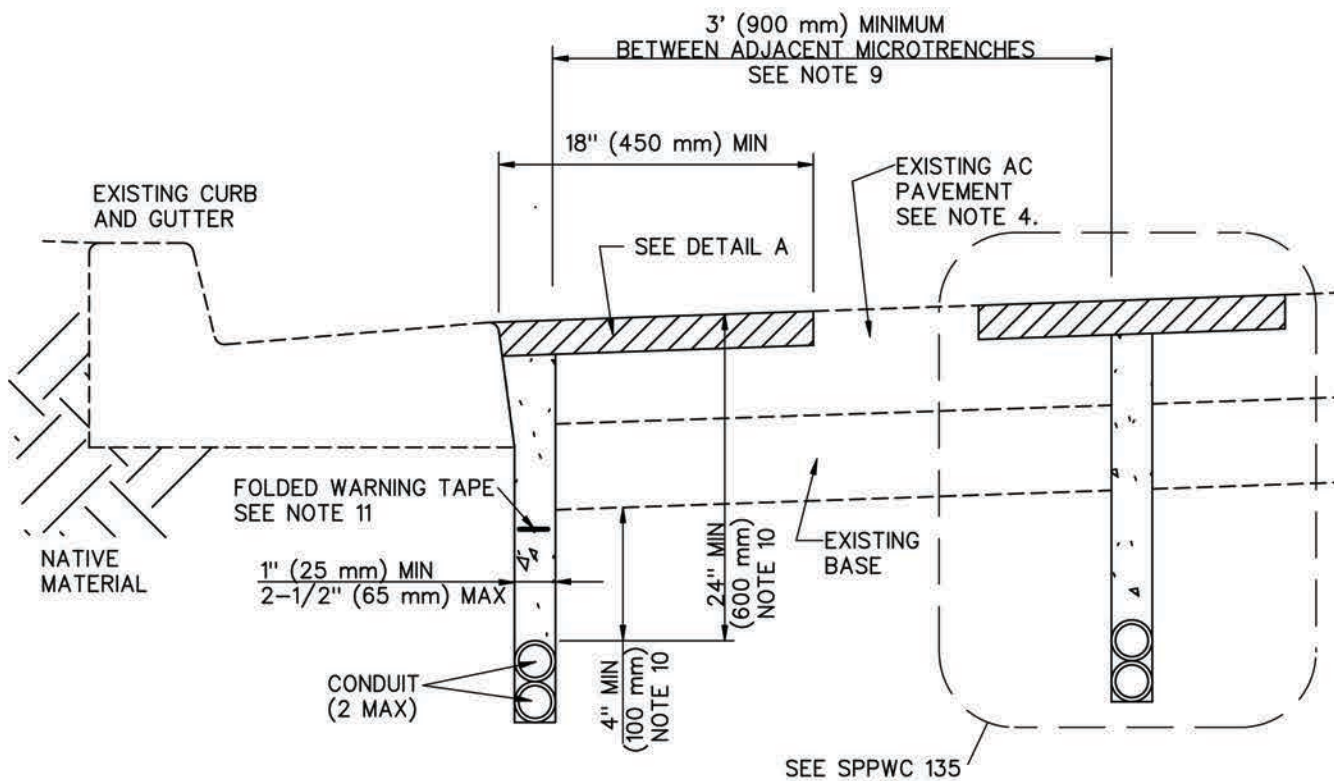
SHEET 2 OF 4

NOTES:

1. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC) "GREENBOOK".
2. CLEARANCE SEPARATIONS BETWEEN UTILITIES SHALL BE MAINTAINED PER CALIFORNIA PUBLIC UTILITY CODE AND REQUIREMENTS FROM FEDERAL AND LOCAL JURISDICTIONS.
3. PERMITTING REQUIREMENTS: PROPER PERMIT SHALL BE OBTAINED FROM THE LOCAL CITY/COUNTY AGENCIES WHO HAVE THE JURISDICTION OVERSEEING SUBJECT PUBLIC RIGHT OF WAY WHERE THE WORK WILL BE PERFORMED. PERMIT PROCESS AND SUBMITTALS SHALL FOLLOW THE REQUIREMENTS OF THE LOCAL CITY/COUNTY AGENCIES.
4. CONDUIT ANCHORING: CONTRACTOR MUST PROVIDE THEIR METHOD OF WEIGHING/ANCHORING DOWN CONDUITS IN THEIR PERMIT TO PREVENT CONDUITS FROM FLOATING, AND TO MAINTAIN REQUIRED DEPTH FOR TOP OF CONDUIT.
5. MICROTRENCHING USAGE: MICROTRENCHING WILL BE PERMITTED ON ASPHALT STREETS ONLY. MICROTRENCHING WILL NOT BE PERMITTED IN OR THROUGH EXISTING CONCRETE PAVED STREETS, PARKWAYS, CURB, GUTTER, CROSS GUTTER, BUS PAD, SIDEWALK, FLOATING CURB EXTENSION, BUS BULB, TRUCK PILLOW, RAISED CROSSWALK, ISLAND, MINI-ROUNDBOUT, OR SIMILAR ELEMENTS. MICROTRENCHING MAY BE PERMITTED, AT THE ENGINEER'S DISCRETION, IN OR THROUGH EXISTING IMPROVEMENTS AND SPECIAL PAVEMENTS (SUCH AS DECORATIVE ASPHALT PAVING, AND PERPENDICULAR TO SPEED BUMPS). EXISTING IMPROVEMENTS AND SPECIAL PAVEMENTS SHALL BE RESTORED IN KIND AS APPROVED BY THE ENGINEER.
6. DAMAGE TO EXISTING IMPROVEMENTS: CONNECTION TO SERVICE LATERALS, JUNCTION BOXES, ETC. SHALL BE DONE SUCH THAT EXISTING IMPROVEMENTS ARE NOT DISTURBED, SETTLED, OR DAMAGED. ANY DAMAGE TO EXISTING IMPROVEMENTS BY PARALLEL OR PERPENDICULAR MICROTRENCHING ACTIVITIES SHALL BE RESTORED IN KIND AS APPROVED BY THE ENGINEER. DAMAGE TO CONCRETE CURB, GUTTER, SIDEWALK, AND PAVEMENT SHALL BE REMOVED AND RESTORED IN ACCORDANCE WITH DETAILS HEREIN OR APPLICABLE SSPWC AND ENGINEER'S DESIGN. THE USE OF HYDROJETTING IS NOT PERMITTED. WHERE HYDRO-VACUUM EXCAVATION IS USED, ANY STANDING WATER SHALL BE REMOVED CONTINUOUSLY.
7. TRENCH CUTS: THE MICROTRENCH SHALL BE CONSTRUCTED CONTINUOUS TO INCLUDE UNIFORM, STRAIGHT, AND NEAT EDGES. RADIAL SWEEPS SHALL BE DONE IN A SINGLE PASS, DEVOID OF "CROSS-CUTTING", AND WITH CONSIDERATION OF EQUIPMENT LIMITATIONS PRESENT AT THE SITE. SHARP 90 DEGREE RADIAL SWEEPS OR SHARP CHANGES IN DIRECTION SHALL BE AVOIDED. ALL POTENTIAL OBSTRUCTIONS, COVERS, UTILITIES, MINIMUM CLEARANCES, ETC. SHALL BE PREDETERMINED AND THE RESULTING ALIGNMENT SHALL BE PREMARKED PRIOR TO CUTTING TO ENSURE A CONSISTENT DISTANCE FROM THE ROADWAY CURB/EDGE. THE ACTUAL TRENCH SHALL BE STRAIGHT, OR OF CONSTANT RADII ALONG CURVED ROADS, DEVOID OF ANY WAVY, MEANDERING, OR ZIGZAGGING PATTERNS BEING LEFT BEHIND. REMOVAL OF AC TO IDENTIFY CROSSING UTILITIES, POTHOLING, VAULT/BOX PLACEMENT, ETC., SHALL BE CUT TRUE AND SQUARE.
8. MICROTRENCH WIDTH: MICROTRENCH WIDTH SHALL BE A MINIMUM OF 1 INCH (25 mm) AND A MAXIMUM OF 2 1/2 INCHES (65 mm).
9. MICROTRENCH LOCATION: NO MICROTRENCHING SHALL BE LESS THAN 3 FEET (900 mm) FROM ADJACENT MICROTRENCHES (EDGE TO EDGE). HOWEVER, NO MORE THAN 2 MICROTRENCHES ARE PERMITTED PER EACH ROADWAY DIRECTION OF STREET. THIS MAY REQUIRE THE CONTRACTOR TO POTHOLE TO VERIFY PARALLEL UTILITIES SIZE AND TRENCH WIDTH TO ENSURE PROPER SEPARATION.
10. CONDUIT PLACEMENT IN TRENCH: THE TOP OF HIGHEST CONDUIT SHALL BE 24 INCHES (600 mm) MINIMUM FROM TOP OF PAVEMENT OR 4 INCHES (100 mm) FROM BOTTOM OF PAVEMENT SECTION TO INCLUDE ASPHALT, BASE AND CEMENT TREATED BASE (CTB), WHICHEVER IS GREATER. MAX 2 CONDUITS PER TRENCH IS ALLOWED.
11. TRENCH IDENTIFICATION: INSTALL FOLDED WARNING/IDENTIFICATION TAPE WARNING TAPE PER APPLICABLE ENGINEER'S SPECIFICATIONS. EACH TRENCH SHALL BE IDENTIFIED WITH A CALLOUT ON THE PULLBOX/VAULT/JUNCTION BOX LID WITH THE NAME OF THE OWNER OF THE MICROTRENCH.

NOTES (CONTINUED):

12. TRACER WIRE: INSTALL 20 AWG INSULATED TRACER COPPER WIRE AT THE BOTTOM OF THE TRENCH OR APPROVED EQUAL. ANY VARIATION OF THE DETECTABLE TRACER WIRE SHALL REQUIRE THE ENGINEER'S APPROVAL.
13. MICROTRENCH BACKFILL AND REQUIREMENTS TO OPEN THE STREET TO TRAFFIC: ALL MICROTRENCHES SHALL BE COMPLETELY BACKFILLED WITH A CEMENT SAND SLURRY 2000 PSI (14 MPa) MINIMUM AND 2% CALCIUM CHLORIDE TO FINISHED GRADE. THIS IS AN INTERIM CONDITION UNTIL FINAL PAVING RESTORATION OPERATIONS ARE COMPLETED. CONTRACTOR SHALL FOLLOW CURING TIME REQUIREMENTS PER NOTE 15 TO OPEN THE STREET TO TRAFFIC PRIOR TO COMPLETING PAVING REQUIREMENTS FOR FINAL RESTORATION.
14. SLURRY VOID REDUCTION: CEMENT SLURRY BACKFILL SHALL BE THOROUGHLY CONSOLIDATED TO PREVENT VOIDS.
15. SLURRY CURE TIME: SLURRY MUST ACHIEVE INITIAL SET BEFORE OPENING TO TRAFFIC.
16. FINAL MICROTRENCH RESTORATION: NO SOONER THAN 48 HOURS BUT NO LATER THAN 7 DAYS OF PLACING THE TRENCH BACKFILL SLURRY TO GRADE, MILL THE SLURRY AND EXISTING PAVEMENT A MINIMUM DISTANCE PER DETAIL A, BUT IN NO CASE LESS THAN 6 INCHES (150 mm) ON EACH SIDE OF THE TRENCH WHEN APPLICABLE, TO A DEPTH OF 2 INCHES (50 mm) THEN RESURFACE. TACK ALL EDGES OF THE MILLED AREA.
17. FINAL MICROTRENCH RESTORATION WHEN ADJACENT TO ANOTHER TRENCH: WHEN RESTORING A MICRO-TRENCH SEPARATED BY 3 FEET (900 mm) (EDGE TO EDGE) FROM ANY ADJACENT TRENCH, THE MICROTRENCH RESTORATION SHALL FOLLOW NOTE 16 FOR TRENCH RESTORATION AND DETAIL A FOR FULL LIMITS OF THE PERMITTED ALIGNMENT TO MAINTAIN INFLUENCE AREA INTEGRITY.
18. MICROTRENCHING IN BIKE LANES: FOR THE WORK IN THE BIKE LANE, CONTRACTOR SHALL PROVIDE A POTHOLING PLAN FOR REVIEW WITH THE ENGINEER FOLLOWING THE PRECONSTRUCTION MEETING. THE BIKE LANE SHALL BE FULLY CLOSED AND AN APPROPRIATE TRAFFIC CONTROL PLAN, INCLUDING SIGNAGE, SHALL BE PREPARED AND APPROVED BY LOCAL JURISDICTIONS.
19. FINAL MICROTRENCH RESTORATION IN BIKE LANES: THE CONTRACTOR SHALL RESTORE THE FULL WIDTH OF THE BIKE LANE. WHERE ANGULAR CROSSING OR ANY LENGTHWISE CUTS OF A BIKE LANE OCCUR BY MICROTRENCHING, THE CAPPING LIMITS SHALL EXTEND THE FULL WIDTH OF THE BIKE LANE. PERPENDICULAR CROSSING SHALL RECEIVE A TYPICAL CAPPING WIDTH OF 18 INCHES (450 mm) (MINIMUM). PAVEMENT MARKINGS AND TRAFFIC LOOPS DISTURBED BY MICROTRENCHING SHALL BE RESTORED IN KIND.
20. METAL IDENTIFICATION TAG: EACH MICROTRENCH SHALL BE IDENTIFIED WITH A METAL IDENTIFICATION TAG LISTING THE OWNER, YEAR OF CONSTRUCTION, AND INCLUDE THE WORDS "NOT A SURVEY POINT.". IF THE WORK IS MORE THAN 50 FEET (15 m) IN LENGTH, PLACE THE TAG NEAR EACH END OF THE MICROTRENCH AND AT INTERVALS NOT TO EXCEED 50 FEET (15 m).
21. THE CONTRACTOR SHALL IDENTIFY ALL EXISTING UTILITIES, INCLUDING SERVICE CONNECTIONS IN THE FIELD. THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (U.S.A.) AT LEAST 48 HOURS PRIOR TO START OF WORK AT 8-1-1, OR TOLL-FREE AT 1-800-422-4133. THE CONTRACTOR SHALL FURTHER SUPPLEMENT THE FINDINGS OF U.S.A. TO DETERMINE THE EXACT LOCATIONS AND DEPTHS OF ALL UTILITIES BY USING A MOBILE GROUND PENETRATING RADAR SYSTEM. THE CONTRACTOR SHALL POTHOLE ALL CROSSING UTILITIES AND PARALLEL UTILITIES WITHIN 18 INCHES (450 mm) OF THE PROPOSED ALIGNMENT TO A DEPTH OF 6 INCHES (150 mm) BELOW THE BOTTOM OF THE PROPOSED MICROTRENCH, TO DETERMINE THE EXISTING UTILITY ALIGNMENT AND ELEVATION. POTHOLES SHALL BE IMMEDIATELY BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE SSPWC OR RESTORED AS DIRECTED BY THE ENGINEER.



NOTES:

1. DETAIL "A" IS ONLY APPLICABLE WHERE THERE IS AN EXISTING VISIBLE/EXPOSED CONCRETE GUTTER.
2. DETAIL "A" SHALL NOT BE APPLICABLE AT STREET INTERSECTIONS OR ALONG MEDIAN GUTTERS.
3. INITIAL TRENCH LOCATION SHALL BE LOCATED AT EDGE OF GUTTER.
4. EXISTING AC SHALL BE MILLED AND REPAVED IF REQUIRED BY THE AGENCY.

TYPICAL SECTION NOT TO SCALE

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

PROMULGATED BY THE
PUBLIC WORKS STANDARDS INC.
GREENBOOK COMMITTEE
2025

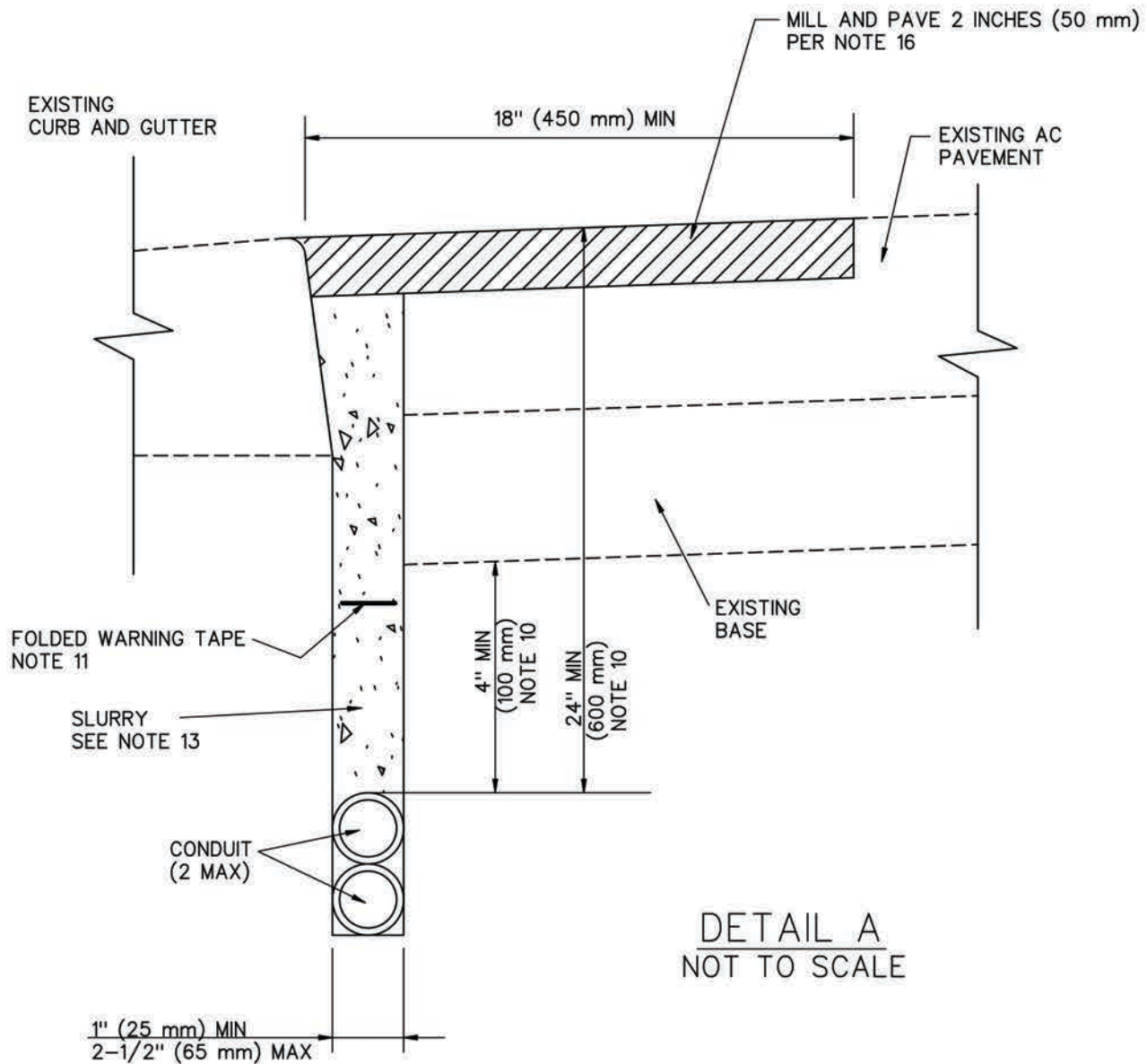
MICROTRENCHING – CASE 2

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

STANDARD PLAN

136-0

SHEET 1 OF 4



DETAIL A
NOT TO SCALE

NOTES:

1. SEE TYPICAL SECTION FOR TRENCH LOCATION.
2. TRENCH SHALL BE AT LEAST 12 INCHES (300 mm) FROM ANY EXISTING UTILITY STRUCTURE.
3. TRENCH ALIGNMENT SHALL AVOID WHEEL PATH OF TRAVEL.

NOTES:

1. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC) "GREENBOOK".
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4. CONDUIT ANCHORING: CONTRACTOR MUST PROVIDE THEIR METHOD OF WEIGHING/ANCHORING DOWN CONDUITS IN THEIR PERMIT TO PREVENT CONDUITS FROM FLOATING, AND TO MAINTAIN REQUIRED DEPTH FOR TOP OF CONDUIT.
5. MICROTRENCHING USAGE: MICROTRENCHING WILL BE PERMITTED ON ASPHALT STREETS ONLY. MICROTRENCHING WILL NOT BE PERMITTED IN OR THROUGH EXISTING CONCRETE PAVED STREETS, PARKWAYS, CURB, GUTTER, CROSS GUTTER, BUS PAD, SIDEWALK, FLOATING CURB EXTENSION, BUS BULB, TRUCK PILLOW, RAISED CROSSWALK, ISLAND, MINI-ROUNDAABOUT, OR SIMILAR ELEMENTS. MICROTRENCHING MAY BE PERMITTED, AT THE ENGINEER'S DISCRETION, IN OR THROUGH EXISTING IMPROVEMENTS AND SPECIAL PAVEMENTS (SUCH AS DECORATIVE ASPHALT PAVING, AND PERPENDICULAR TO SPEED BUMPS). EXISTING IMPROVEMENTS AND SPECIAL PAVEMENTS SHALL BE RESTORED IN KIND AS APPROVED BY THE ENGINEER.
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NOTES (CONTINUED):

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13. MICROTRENCH BACKFILL AND REQUIREMENTS TO OPEN THE STREET TO TRAFFIC: ALL MICROTRENCHES SHALL BE COMPLETELY BACKFILLED WITH A CEMENT SAND SLURRY 2000 PSI (14 MPa) MINIMUM AND 2% CALCIUM CHLORIDE TO FINISHED GRADE. THIS IS AN INTERIM CONDITION UNTIL FINAL PAVING RESTORATION OPERATIONS ARE COMPLETED. CONTRACTOR SHALL FOLLOW CURING TIME REQUIREMENTS PER NOTE 15 TO OPEN THE STREET TO TRAFFIC PRIOR TO COMPLETING PAVING REQUIREMENTS FOR FINAL RESTORATION.
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20. METAL IDENTIFICATION TAG: EACH MICROTRENCH SHALL BE IDENTIFIED WITH A METAL IDENTIFICATION TAG LISTING THE OWNER, YEAR OF CONSTRUCTION, AND INCLUDE THE WORDS "NOT A SURVEY POINT.". IF THE WORK IS MORE THAN 50 FEET (15 m) IN LENGTH, PLACE THE TAG NEAR EACH END OF THE MICROTRENCH AND AT INTERVALS NOT TO EXCEED 50 FEET (15 m).
21. THE CONTRACTOR SHALL IDENTIFY ALL EXISTING UTILITIES, INCLUDING SERVICE CONNECTIONS IN THE FIELD. THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (U.S.A.) AT LEAST 48 HOURS PRIOR TO START OF WORK AT 8-1-1, OR TOLL-FREE AT 1-800-422-4133. THE CONTRACTOR SHALL FURTHER SUPPLEMENT THE FINDINGS OF U.S.A. TO DETERMINE THE EXACT LOCATIONS AND DEPTHS OF ALL UTILITIES BY USING A MOBILE GROUND PENETRATING RADAR SYSTEM. THE CONTRACTOR SHALL POTHOLE ALL CROSSING UTILITIES AND PARALLEL UTILITIES WITHIN 18 INCHES (450 mm) OF THE PROPOSED ALIGNMENT TO A DEPTH OF 6 INCHES (150 mm) BELOW THE BOTTOM OF THE PROPOSED MICROTRENCH, TO DETERMINE THE EXISTING UTILITY ALIGNMENT AND ELEVATION. POTHOLES SHALL BE IMMEDIATELY BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE SSPWC OR RESTORED AS DIRECTED BY THE ENGINEER.