!! CAUTION !!

UTILITIES IN THE AREA, BEFORE CONSTRUCTION
UTILIZE 1 CALL **1-800-252-1166**

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL " **C** ". THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

PLAN SYMBOLS

- RIGHT-OF-WAY LINE ROAD
- RIGHT-OF-WAY LINE DRAINAGE DITCH
- SECTION LINE
- QUARTER LINE
- PROPERTY LINE
- EASEMENT LINE
- RAILROAD
- FENCE
- SANITARY SEWER - EXISTING
- SANITARY SEWER - PROPOSED
- SANITARY SEWER SERVICE - EXISTING
- SANITARY SEWER SERVICE - PROPOSED
- SANITARY SEWER FORCE MAIN
- STORM SEWER - EXISTING
- STORM SEWER - PROPOSED
- WATER - EXISTING
- WATER - PROPOSED
- WATER SERVICE - EXISTING
- WATER SERVICE - PROPOSED
- TELEPHONE
- TELEVISION
- FIBER OPTIC
- OVERHEAD POWER
- UNDERGROUND POWER
- PETROLEUM PIPELINE
- GAS
- CURB & GUTTER - EXISTING
- CURB & GUTTER - PROPOSED

- SANITARY MANHOLE
- STORM MANHOLE
- EXISTING MANHOLE
- HYDRANT
- EXISTING HYDRANT
- GATE VALVE
- EXISTING GATE VALVE
- CLEAN OUT
- CURB STOP
- PROPOSED INLET
- EXISTING INLET
- SIGN - STREET NAME
- SIGN - REGULATORY / WARNING
- POWER POLE
- STREET LIGHT
- ELECTRICAL TRANSFORMER
- UTILITY PEDESTAL
- UTILITY HANDHOLD / VAULT
- DECIDUOUS TREE
- CONIFEROUS TREE
- BUSH / HEDGE

SPECIFICATION REFERENCE

THE 2014 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN, AS MODIFIED BY THE CITY OF MOORHEAD SPECIFICATIONS AND SPECIAL PROVISIONS.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE 2014 MMUTCD, AND TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS (FIELD MANUAL) DATED JANUARY 2014.

City of Moorhead

Right-of-Way Details and Standards

MOORHEAD
MINNESOTA

INDEX

SHEET NO.	TITLE
1	Title Sheet
2	Street Patch Repair Details
3	Sidewalk & Private Drive Details
4	Sidewalk & ADA Ramp Details
5	Storm Sewer Details
6	Storm Sewer Curb Details
7	Water and Sewer Service Details
8	Utility Location Construction Standards

S.P. No.	ENG. No.	LEGAL. No.
LJH DRAWN BY	MEO CHECKED BY	TET APPROVED BY

MOORHEAD MINNESOTA Engineering

THESE DOCUMENTS HAVE BEEN PREPARED IN ACCORDANCE WITH CITY OF MOORHEAD SPECIFICATIONS AND STANDARDS. ALL RIGHT-OF-WAY WORK MUST BE APPROVED AND PERMITTED BY THE CITY OF MOORHEAD CITY ENGINEERS OFFICE BEFORE ANY WORK MAY COMMENCE.

EFFECTIVE DATE: 01-01-25

City of Moorhead
Right-of-Way
Details and Standards

Right-of-Way Details and Standards

SHEET 1 OF 9

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Any area of work that requires the removal, physical disturbance, penetration, or crossing of any part of the City maintained public right-of-way is subject to the requirements of the following details in accordance with the City Code Title 8 Chapter 4. Any area affected by any excavation activity, including the staging area for the storage of equipment and materials, located in either the roadway or boulevard; will require a permit before commencement of work.

RIGHT-OF-WAY EXCAVATION PERMIT

Excavation permits are required whenever an excavation or underground work is planned within the public right-of-way. No person may execute any type of work in the public right-of-way without first having obtained the appropriate right-of-way permit from the City Engineering Department.

Applicants must submit a completed permit application along with the following information (Online application can be found at: https://moorheadmn.gov/departments/engineering/permits):

- Scaled drawings, designs, or plans showing the scope of work and location of the proposed project
- $25,000 minimum Contractor Bond on file with the City prior to submittal of any permits
- Certificate of Liability Insurance with the City of Moorhead listed as additional insured

FEES

Boring, Trenching & Excavations (Length of boring and trenching activities and the total perimeter of excavation area; includes stormwater fees):

0' - 500' = $295
501' - 1500' = $635
1501' - 5000' = $1,410

Any projects with disturbance areas greater than 5,000 LF will require multiple permit applications.

DRIVEWAY, SIDEWALK, CULVERT & CURB/GUTTER PERMITS

Right-of-way permits are required for installing driveway approaches, sidewalks, culverts, and curb/gutter in the public right-of-way. The permit will only be issued to a bonded contractor or homeowner who obtains a Certificate of Insurance bond in the amount of $5,000 payable to the City of Moorhead.

FEES

Driveway Approach Permit = $60
Culvert Permit = $60
Sidewalk Permit = $60 per 50' Increment
Curb & Gutter Permit = $60 per 50' Increment

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EFFECTIVE DATE: 01-01-25

NOTES:

1. TEMPORARY COLD WEATHER PATCH SHALL CONSIST OF A 4" MINIMUM OF COLD-MIX OR CONCRETE AND MUST BE MAINTAINED UNTIL PERMANENT PAVEMENT IS INSTALLED. CLASS 5 WILL NOT BE ALLOWED FOR WINTER TIME TEMPORARY PATCHES.
2. CONCRETE REPAIRS WITHIN 5' OF EXISTING JOINT MUST BE MADE TO THE JOINT.
3. ALL REBAR USED IN CURB AND STREET REPAIR WILL BE EPOXY COATED REBAR.
4. DRIVEWAY REMOVALS WITHIN THE RIGHT-OF-WAY SHALL EXTEND TO THE BACK OF CURB OR THE SIDEWALK CROSSING PLATE IF LESS THAN 3' OF DRIVEWAY REMAINS ADJACENT TO EXCAVATION AREAS.

CONSTRUCTION NOTES:

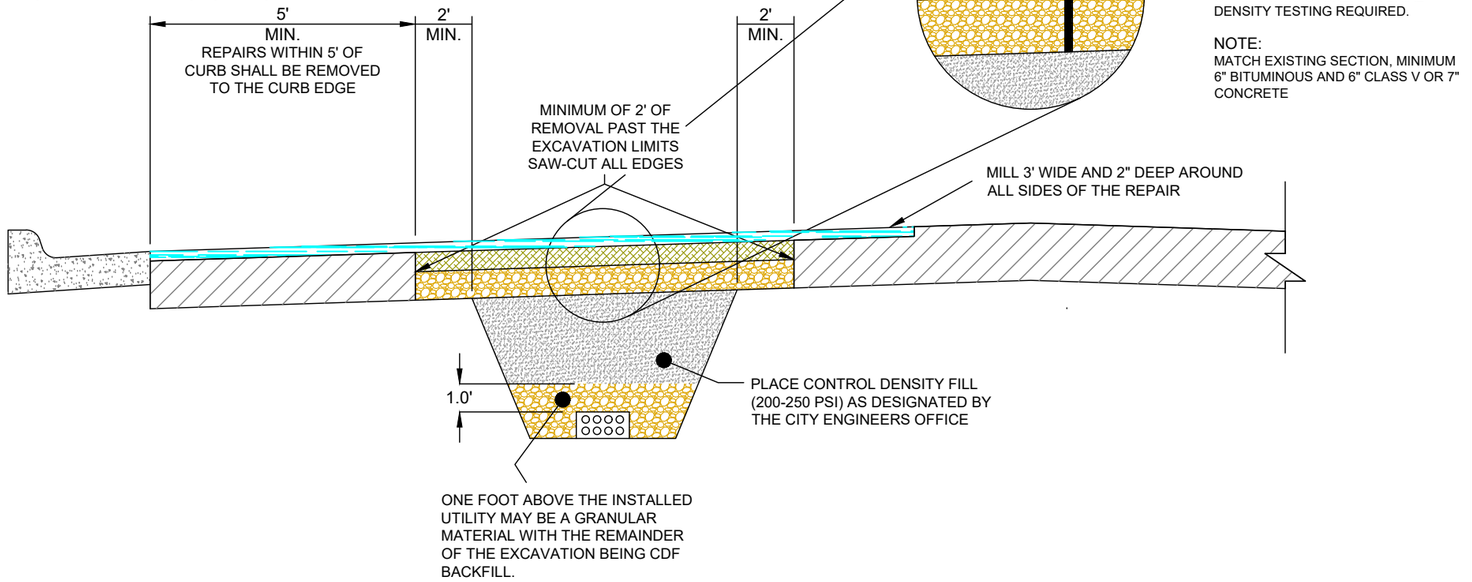
BITUMINOUS-
SHALL BE PLACED A MINIMUM OF 6" THICK. MATCH EXISTING BITUMINOUS DEPTH IF GREATER THAN 6"

BITUMINOUS OVERLAID CONCRETE-
PLACE 7" OF CONCRETE AND No. 5 REBAR AT 24" O.C. EACH WAY AND DOWEL INTO EXISTING PAVEMENT. PLACE BITUMINOUS TO MATCH EXISTING

CONCRETE-
REPLACE TO EXISTING DEPTH. PLACE No. 5 REBAR AT 24" O.C. EACH WAY AND DOWEL INTO EXITING PAVEMENT

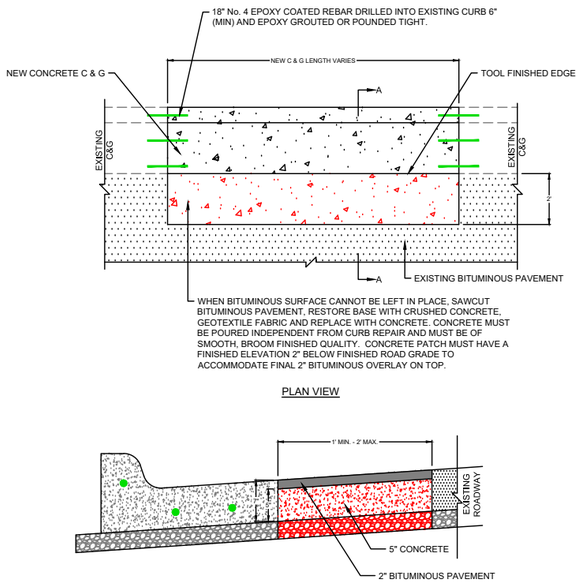
ALL STREETS AND AVENUES REQUIRE CDF BACKFILL*

*EXCAVATIONS OVER 150 SQUARE FEET HAVE THE OPTION TO USE CLASS V AGGREGATE FOR BACKFILL WITH DENSITY TESTING EVERY 3' IN ELEVATION AND EVERY 100 LF IN LENGTH. FAILURE TO PROVIDE TESTING RESULTS WILL RESULT IN THE REMOVAL AND REPLACEMENT OF THE EXCAVATION AT THE CONTRACTORS COST.



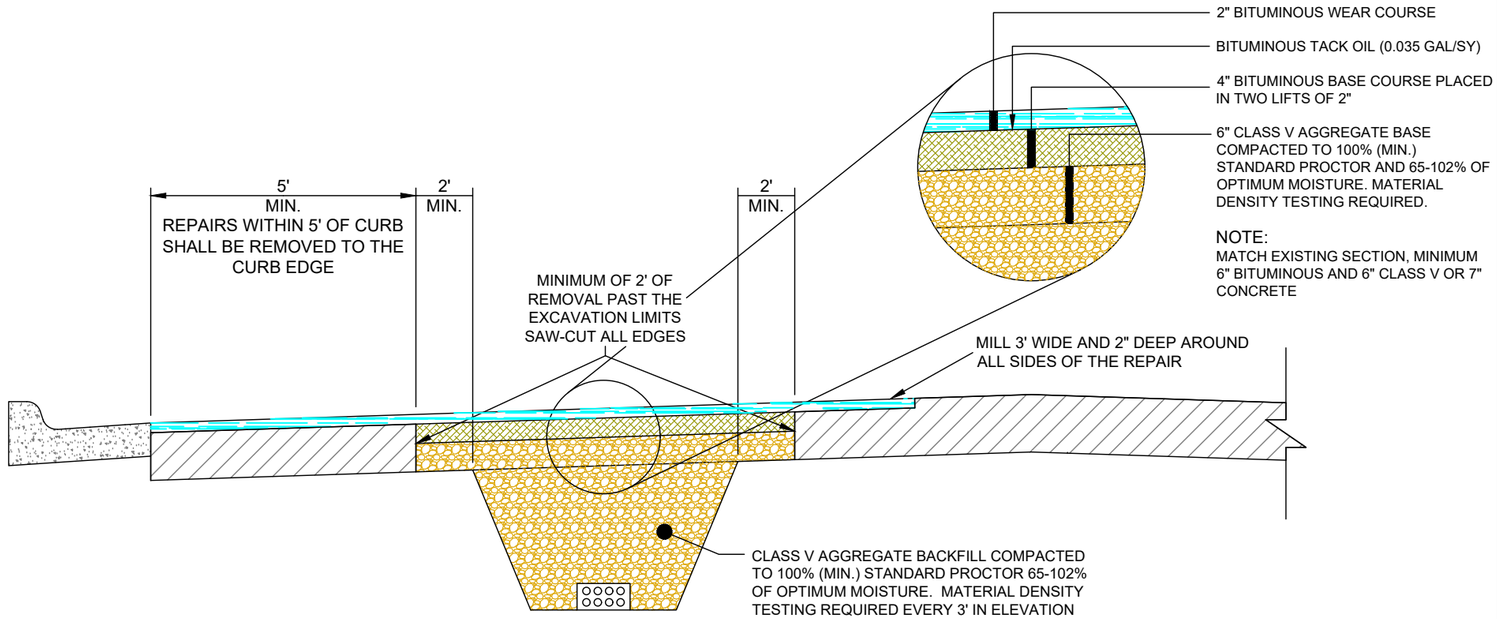
MINIMUM STANDARDS FOR STREET REPAIR, EXCAVATION UNDER 150 SF

NOT TO SCALE



SPOT CURB AND GUTTER REPLACEMENT

NOT TO SCALE



MINIMUM STANDARDS FOR STREET REPAIR, EXCAVATION OVER 150 SF

NOT TO SCALE

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LJH DRAWN BY	MEO CHECKED BY	TET APPROVED BY

MOORHEAD MINNESOTA Engineering

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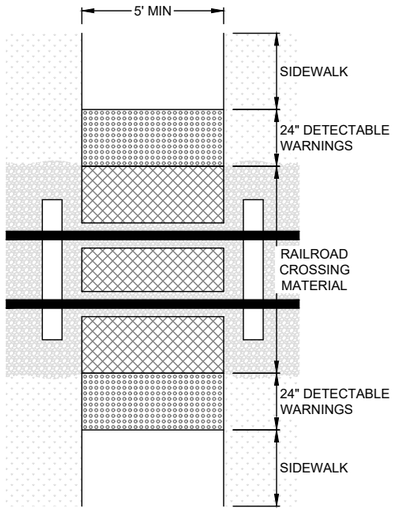
EFFECTIVE DATE: 01-01-25

Street Patch Repair Details

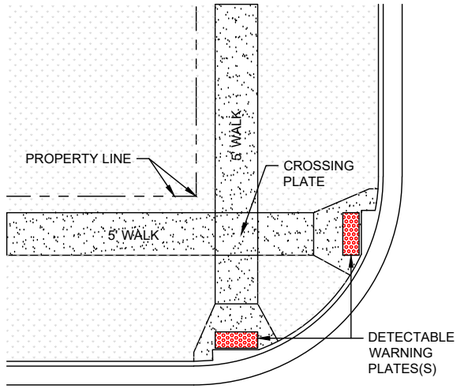
Right-of-Way Details and Standards

SHEET 3 OF 9

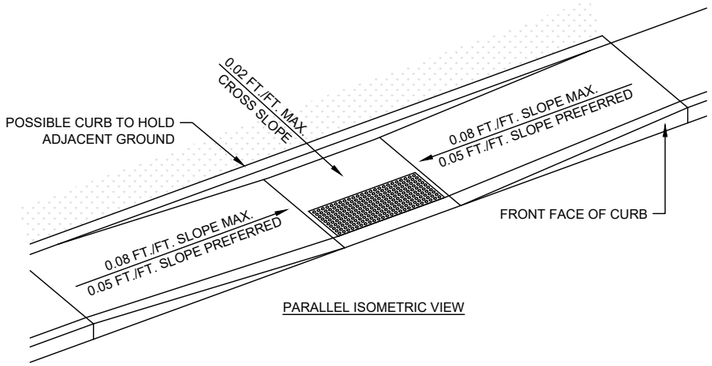
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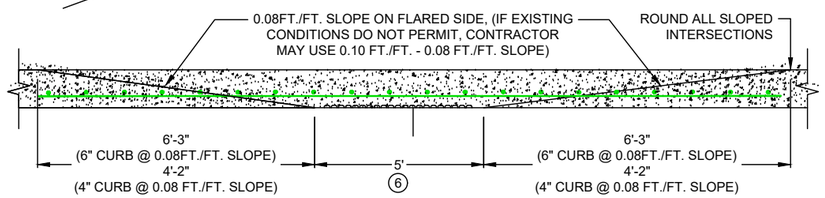
RAILROAD CROSSING
NOT TO SCALE



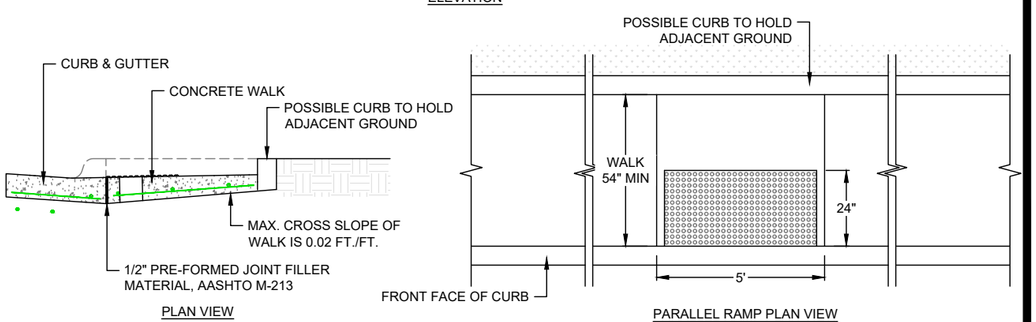
TYPICAL CORNER
(SEE PLAN SHEETS FOR NUMBER &LOCATION OF RAMPS)
NOT TO SCALE



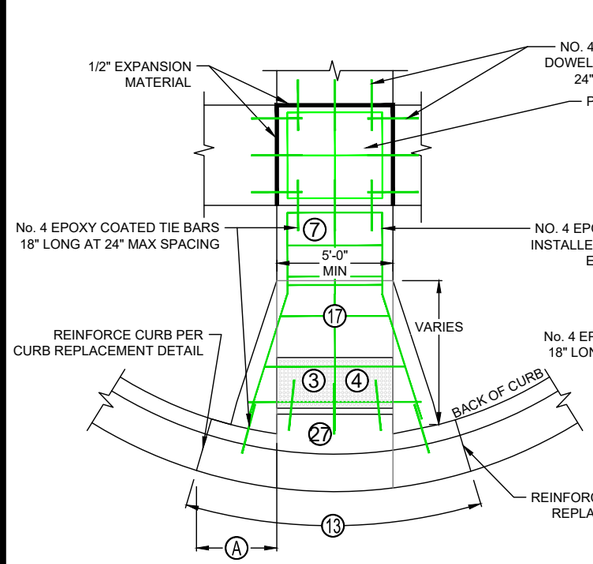
PARALLEL ISOMETRIC VIEW



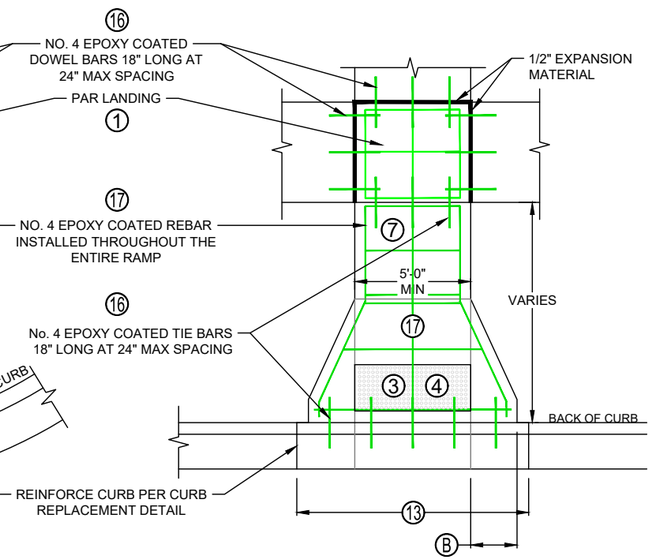
ELEVATION



PARALLEL RAMP
NOT TO SCALE



DIAGONAL / RADIAL RAMP
A: MOUNTABLE CURB - 2' MINIMUM FLAIR, HIGH-BACK CURB - 3' MINIMUM FLAIR; MEASURED PERPENDICULAR TO DIRECTION OF TRAVEL
NOT TO SCALE



PERPENDICULAR RAMP
B: MOUNTABLE CURB - 2' MINIMUM FLAIR, HIGH-BACK CURB - 3' MINIMUM FLAIR
NOT TO SCALE

NOTES:

1. PEDESTRIAN ACCESS ROUTE (PAR) LANDING TO BE **POURED BEFORE AND INDEPENDENT** TO THE PEDESTRIAN CURB RAMP.
2. WHEN ABUTTING EXISTING CONCRETE THAT EXCEEDS A 2% CROSS SLOPE THEN A TRANSITION OF NO MORE THAN 0.5% SLOPE CORRECTION PER FOOT TO BE USED.
3. ALL TRUNCATED DOMES MUST BE COATED CAST IRON AND BE A MNDOT APPROVED PRODUCT.
4. ALL TRUNCATED DOMES MUST HAVE FACTORY INSTALLED WEEP HOLES TO ENSURE PROPER BEDDING.
5. TRUNCATED DOMES MUST BE INSTALLED WITHIN 3" OF THE EDGE OF THE CONCRETE ON BOTH SIDES MEASURED PERPENDICULAR TO THE DIRECTION OF TRAVEL.
6. **THE CUTTING OF TRUNCATED DOME PANELS IS NOT ALLOWED.**
7. ALL CONCRETE SIDEWALK TO BE 6" THICK UNLESS OTHERWISE NOTED.
8. JOINT SPACING MUST NOT EXCEED 5' IN ANY DIRECTION SAWED OR TOOLED.
9. REINFORCEMENT SPACING SHALL NOT EXCEED 24" IN ANY DIRECTION AND BE SUPPORTED MID-DEPTH ON REBAR RISER CHAIRS EVERY 4' ON CENTER .
10. REINFORCING MUST BE PLACED 4" OF BOTH SIDES OF ALL JOINTS TOOLED OR SAWED.
11. ALL PATHS AT OR WIDER THAN 8' SHALL HAVE A LONGITUDINAL SAWED JOINT DOWN THE CENTER.
12. ALL REINFORCEMENT, AGGREGATE BASE, AND JOINTS SHALL BE INCIDENTAL TO CONSTRUCTION.
13. THE CURB AND CURB TRANSITION WILL BE PAID FOR AS LINEAR FEET OF CONCRETE CURB OR CONCRETE CURB AND GUTTER. SEE CURB & GUTTER DETAIL FOR ADDITIONAL REINFORCEMENT SPECS.
14. THE RAMP AREA WILL BE PAID AS ONE UNIT PEDESTRIAN RAMP 5' OR PEDESTRIAN RAMP 10'. THE TRUNCATED DOME AREA SHALL BE CONSIDERED INCIDENTAL.
15. THE PEDESTRIAN RAMP WILL INCLUDE AREA FROM BACK OF CURB THROUGH THE LANDING OR CROSSING PLATE AND IS NOT TO EXCEED 15', ANYTHING OVER 15' WILL BE PAID FOR AS CONCRETE WALK.
16. ALL TIE BARS AND DOWELS SHALL BE EPOXY COATED. ONE END OF ALL DOWEL BARS TO BE GREASED.
17. ALL REINFORCEMENT WITHIN THE PEDESTRIAN RAMP SHALL BE EPOXY COATED.
18. WHERE EPOXY COATED REBAR IS REQUIRED IT SHALL HAVE NO VISIBLE DINGS, SCRATCHES, OR OTHER EXPOSED METAL.
19. ALL REBAR, SUPPORTING CHAIRS, AND FRAMEWORK SHALL BE INCIDENTAL TO CONSTRUCTION.
20. TOOLED JOINTS MUST NOT EXCEED 1/4" IN WIDTH, MUST HAVE A 1/4" RADIUS BEVEL AND BE 1/4 THE SLAB THICKNESS IN DEPTH.
21. SAWED JOINTS MUST NOT EXCEED 1/4" IN WIDTH, BE 1/4 THE SLAB THICKNESS IN DEPTH AND BE SAW CUT WITHIN 24 HOURS OF CONCRETE PLACEMENT.
22. 1/2" PRE-FORMED JOINT FILLER MATERIAL, AASHTO M-213 (CELLULAR FIBER BIT. FELT)
23. LIMITS OF REMOVALS SHALL BE SHOWN IN THE PLANS OR AS DETERMINED IN THE FIELD BY THE ENGINEER. ALL EXCAVATED AND REMOVED MATERIAL SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION OF NEW SIDEWALK AND IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROPERLY DISPOSE OF ALL EXCAVATED MATERIALS, INCLUDING BITUMINOUS AND CONCRETE.
24. **CONCRETE PROWAG CERTIFICATION:** THE CONTRACTOR MUST DESIGNATE A RESPONSIBLE PERSON COMPETENT IN ALL ASPECTS OF PROWAG TO ASSESS PROPOSED SIDEWALK LAYOUTS AT EACH SITE BEFORE WORK BEGINS. THE DESIGNATED PERSON MUST HAVE ATTENDED THE MNDOT ADA CONSTRUCTION CERTIFICATION COURSE AND RECEIVED A PASSING SCORE, WITHIN THE PAST 3 YEARS. A MINIMUM OF ONE PERSON PER PROJECT MUST POSSESS A VALID ADA CONSTRUCTION CERTIFICATION CARD ANYTIME ADA WORK IS BEING PERFORMED ON THE PROJECT. ADA WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING: ASSESSMENT OF PROPOSED SIDEWALK LAYOUTS AT EACH SITE BEFORE WORK BEGINS, DETERMINING AND MARKING REMOVAL LIMITS FOR WORK PERTAINING TO PEDESTRIAN FACILITIES, ALL ADA RELATED REMOVALS AND GRADING, FORMING AND FINISHING OF CONCRETE AT ALL PEDESTRIAN FACILITIES, PAVING PEDESTRIAN CROSSINGS, PLACING BITUMINOUS PEDESTRIAN FACILITIES, FINAL GRADING, AND PAVEMENT MARKINGS. ANY ADA WORK NOT LISTED ABOVE CAN BE ADDED AT THE DISCRETION OF THE ENGINEER. AN ADA CERTIFIED PERSON IS NOT REQUIRED ON SITE IF THE ONLY WORK BEING PERFORMED CONCERNS TRAFFIC SIGNALS AND APS INSTALLATIONS.
25. MAX 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK AND DRAIN TO FLOW LINE. SHALL BE CONSTRUCTED INTEGRAL WITH CURB AND GUTTER.

THESE REQUIREMENTS SHALL BE EFFECTIVE AS OF MAY 1ST, 2019. ANY TIME WORK THE CONTRACTOR IS PERFORMING CONCERNS PEDESTRIAN FACILITIES, THE CONTRACTOR'S ADA CERTIFIED PERSON SHALL BE ON SITE.

STANDARD PEDESTRIAN CURB RAMP
NOT TO SCALE

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S.P. No.	ENG. No.	LEGAL. No.
LJH	MEO	TET
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MOORHEAD MINNESOTA Engineering

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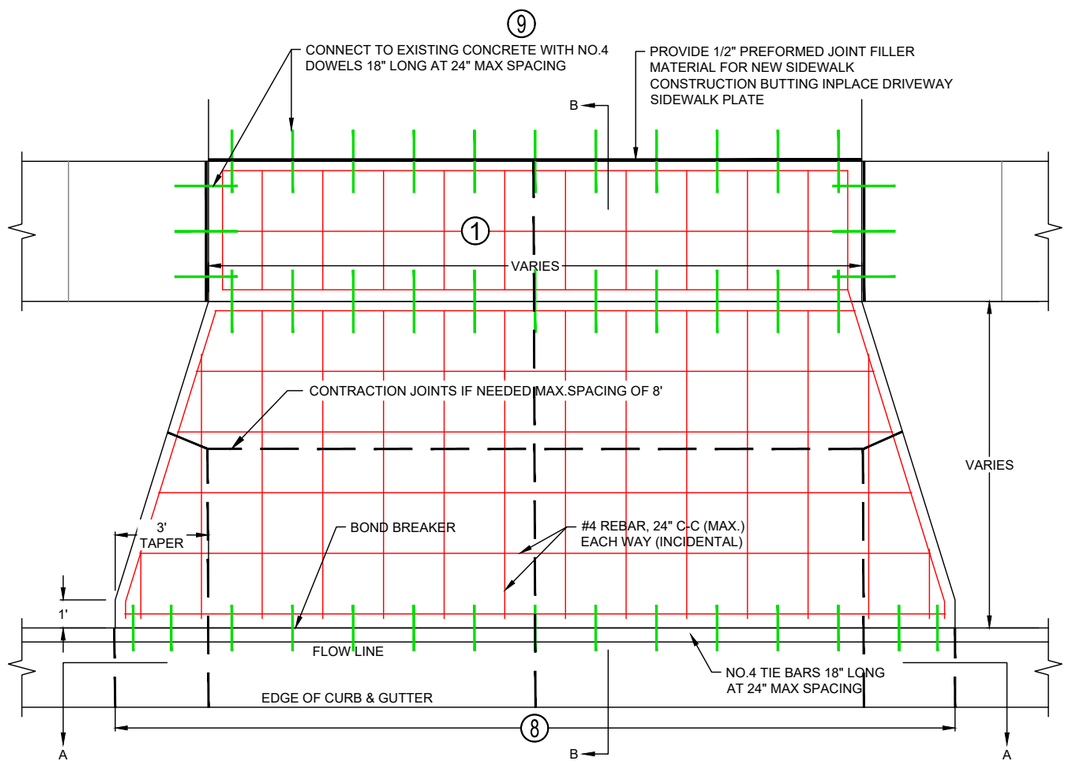
EFFECTIVE DATE: 01-01-25

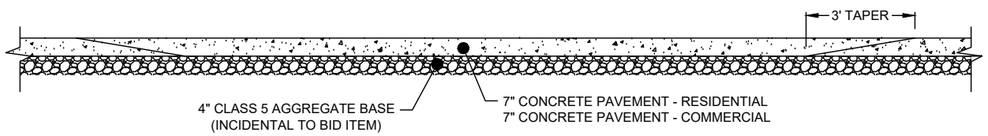
Pedestrian ADA Ramp & Sidewalk Detail

Right-of-Way Details and Standards

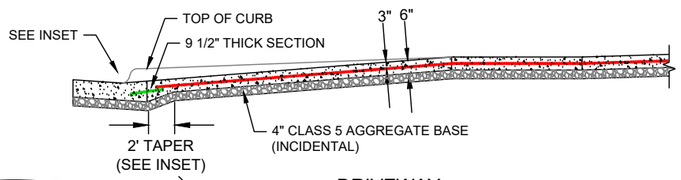
SHEET 5 OF 9

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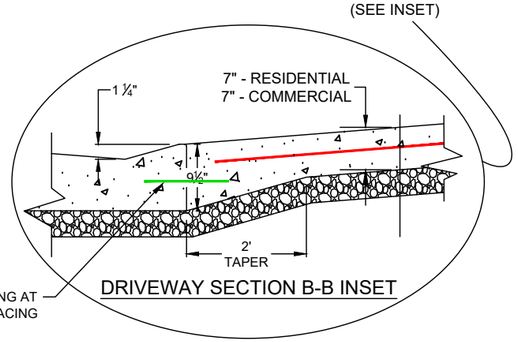




DRIVEWAY SECTION A-A



DRIVEWAY SECTION B-B
B-624 CURB

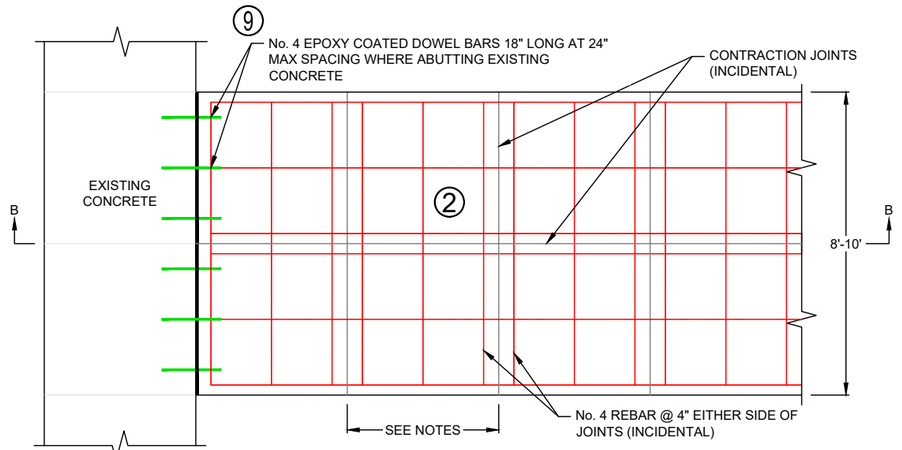


DRIVEWAY SECTION B-B INSET

NOTES:

1. DRIVEWAY CROSSING PLATE TO BE **POURED BEFORE AND INDEPENDENT** FROM THE APRON.
2. ALL CONCRETE SIDEWALK TO BE 4" THICK UNLESS OTHERWISE NOTED.
3. JOINT SPACING MUST NOT EXCEED 5' IN ANY DIRECTION SAWED OR TOOLED.
4. REINFORCEMENT SPACING SHALL NOT EXCEED 24" IN ANY DIRECTION AND BE SUPPORTED MID-DEPTH ON REBAR RISER CHAIRS EVERY 4' ON CENTER .
5. REINFORCING MUST BE PLACED 4" OF BOTH SIDES OF ALL JOINTS TOOLED OR SAWED.
6. ALL PATHS AT OR WIDER THAN 8' SHALL HAVE A LONGITUDINAL SAWED JOINT DOWN THE CENTER.
7. ALL REINFORCEMENT, AGGREGATE BASE, AND JOINTS SHALL BE INCIDENTAL TO CONSTRUCTION.
8. 18' MINIMUM OPENING INCLUDED 3' TAPERS. THE CURB AND CURB TRANSITION WILL BE PAID FOR AS LINEAR FEET OF CONCRETE CURB OR CONCRETE CURB AND GUTTER. SEE CURB & GUTTER DETAIL FOR ADDITIONAL REINFORCEMENT SPECS.
9. ALL TIE BARS AND DOWELS SHALL BE EPOXY COATED. ONE END OF ALL DOWEL BARS TO BE GREASED.
10. WHERE EPOXY COATED REBAR IS REQUIRED IT SHALL HAVE NO VISIBLE DINGS, SCRATCHES, OR OTHER EXPOSED METAL.
11. ALL REBAR, SUPPORTING CHAIRS, EXPANSION MATERIAL, AND FRAMEWORK SHALL BE INCIDENTAL TO CONSTRUCTION.
12. TOOLED JOINTS MUST NOT EXCEED 1/4" IN WIDTH, MUST HAVE A 1/4" RADIUS BEVEL AND BE 1/4 THE SLAB THICKNESS IN DEPTH.
13. SAWED JOINTS MUST NOT EXCEED 1/4" IN WIDTH, BE 1/4 THE SLAB THICKNESS IN DEPTH AND BE SAW CUT WITHIN 24 HOURS OF CONCRETE PLACEMENT.
14. 1/2" PRE-FORMED JOINT FILLER MATERIAL, AASHTO M-213 (CELLULAR FIBER BIT. FELT) PLACED AT EVERY PC AND PT OR EVERY 200 FT. UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
15. LIMITS OF SIDEWALK REMOVAL SHALL BE SHOWN IN THE PLANS OR AS DETERMINED IN THE FIELD BY THE ENGINEER. ALL EXCAVATED AND REMOVED MATERIAL SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION OF NEW SIDEWALK AND IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROPERLY DISPOSE OF ALL EXCAVATED MATERIALS, INCLUDING BITUMINOUS AND CONCRETE.
16. **CONCRETE PROWAG CERTIFICATION:** THE CONTRACTOR MUST DESIGNATE A RESPONSIBLE PERSON COMPETENT IN ALL ASPECTS OF PROWAG TO ASSESS PROPOSED SIDEWALK LAYOUTS AT EACH SITE BEFORE WORK BEGINS. THE DESIGNATED PERSON MUST HAVE ATTENDED THE MNDOT ADA CONSTRUCTION CERTIFICATION COURSE AND RECEIVED A PASSING SCORE, WITHIN THE PAST 3 YEARS. A MINIMUM OF ONE PERSON PER PROJECT MUST POSSESS A VALID ADA CONSTRUCTION CERTIFICATION CARD ANYTIME ADA WORK IS BEING PERFORMED ON THE PROJECT. ADA WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING: ASSESSMENT OF PROPOSED SIDEWALK LAYOUTS AT EACH SITE BEFORE WORK BEGINS, DETERMINING AND MARKING REMOVAL LIMITS FOR WORK PERTAINING TO PEDESTRIAN FACILITIES, ALL ADA RELATED REMOVALS AND GRADING, FORMING AND FINISHING OF CONCRETE AT ALL PEDESTRIAN FACILITIES, PAVING PEDESTRIAN CROSSINGS, PLACING BITUMINOUS PEDESTRIAN FACILITIES, FINAL GRADING, AND PAVEMENT MARKINGS. ANY ADA WORK NOT LISTED ABOVE CAN BE ADDED AT THE DISCRETION OF THE ENGINEER. AN ADA CERTIFIED PERSON IS NOT REQUIRED ON SITE IF THE ONLY WORK BEING PERFORMED CONCERNS TRAFFIC SIGNALS AND APS INSTALLATIONS.

THESE REQUIREMENTS SHALL BE EFFECTIVE AS OF MAY 1ST, 2019. ANY TIME WORK THE CONTRACTOR IS PERFORMING CONCERNS PEDESTRIAN FACILITIES, THE CONTRACTOR'S ADA CERTIFIED PERSON SHALL BE ON SITE.



SIDEWALK SECTION C-C

. S.P. No.	ENG. No.	LEGAL. No.
LJH DRAWN BY	MEO CHECKED BY	TET APPROVED BY

MOORHEAD MINNESOTA Engineering

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EFFECTIVE DATE: 01-01-25

Sidewalk & Private Drive (Approach) Detail

Right-of-Way Details and Standards

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NOTES:

1. REINFORCEMENT NOT SHOWN
2. TYPE "A" CASTING ASSEMBLY TO BE USED FOR STORM AND SANITARY MANHOLES
3. TYPE "B" CASTING ASSEMBLY TO BE USED FOR REAR YARD, BOULEVARD, AND DITCH DRAINAGE
4. TYPE "C" CASTING ASSEMBLY TO BE USED IN TYPE "C" MOUNTABLE CURB AND GUTTER
5. TYPE "D" CASTING ASSEMBLY TO BE USED IN B-624 CURB AND GUTTER
6. TYPE "E" CASTING ASSEMBLY TO BE AT ADA PEDESTRIAN RAMP LOCATIONS AS DIRECTED BY THE ENGINEER
7. TYPE "F" CASTING ASSEMBLY TO BE USED FOR STORM SEWER CATCH BASIN INSTALLATIONS WITH ELEVATION CONSTRAINTS.
8. TYPE "G" CASTING ASSEMBLY TO BE USED IN CONCRETE ROADWAY CONSTRUCTION.
9. INLET PIPE OPENINGS SHALL BE GROUTED ON THE INSIDE AND OUTSIDE OF EACH STRUCTURE WITH AN APPROVED CONCRETE MIX
10. HDPE RINGS SHALL BE INSTALLED VERTICALLY; STAGGERING OF ADJUSTMENT RINGS SHALL NOT BE ALLOWED, CONTRACTOR SHALL ADJUST STRUCTURE PLACEMENT OR CURB ALIGNMENT AS NECESSARY
11. PROVIDE MORTAR FILLETS / INVERTS TO DIRECT FLOW TO OUTLET

TYPE "A" CASTING ASSEMBLY

FRAME	Mn/DOT 700-7
FRAME	Mn/DOT 700-4 (LOW PROFILE)
SAN. GRATE	Mn/DOT 716 (MUST HAVE CONCEALED PICK HOLES)
STS. GRATE	Mn/DOT 715

TYPE "B" CASTING ASSEMBLY

FRAME	CONCRETE (STND PLATE 4143E)
GRATE	MNDOT CASTING #731 (NEENAH R-4342)

TYPE "C" CASTING ASSEMBLY

FRAME	NEENAH 3508-A2
GRATE	NEENAH TYPE C

TYPE "D" CASTING ASSEMBLY

FRAME	Mn/DOT 801
GRATE	Mn/DOT 810
CURB BOX	Mn/DOT 823A (STRAIGHT CURB)
CURB BOX	Mn/DOT 821B (RADIUS CURB)

TYPE "E" CASTING ASSEMBLY

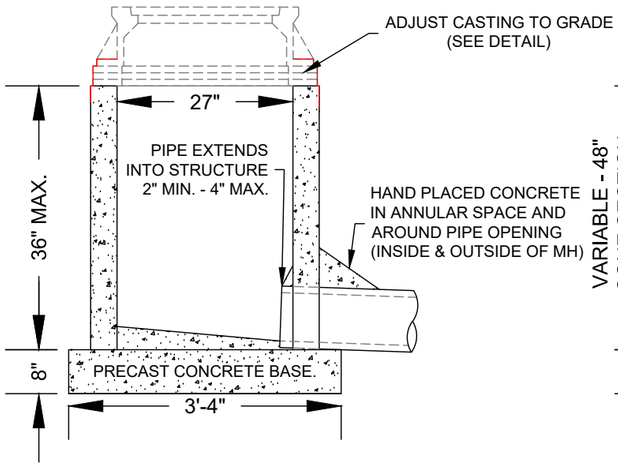
FRAME	Mn/DOT 805 (ADA RAMP USE)
GRATE	Mn/DOT 817 (ADA RAMP USE)

TYPE "F" CASTING ASSEMBLY

FRAME	Mn/DOT 700-4 (LOW PROFILE)
STS. GRATE	Mn/DOT 721

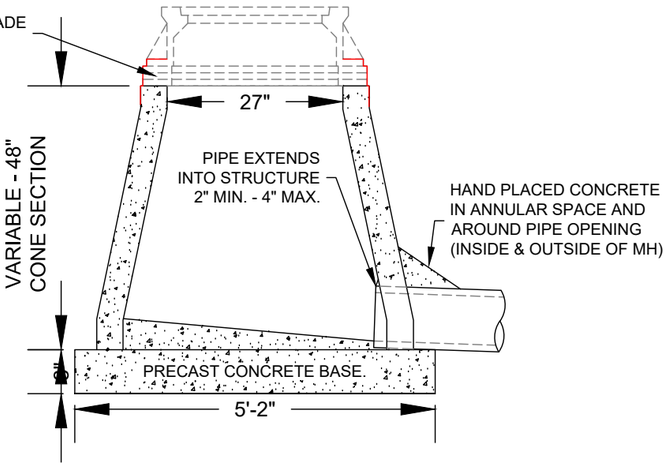
TYPE "G" CASTING ASSEMBLY

FRAME	NEENAH R-1955-1 (FLOATING CASTING)
GRATE	Mn/DOT 716 (MUST HAVE CONCEALED PICK HOLES)
GRATE	Mn/DOT 715



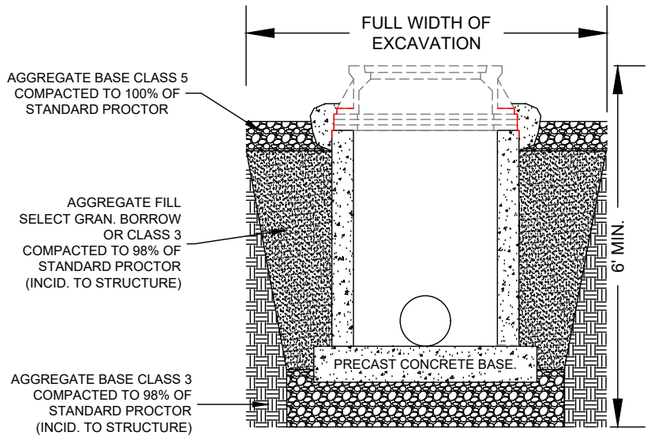
Mn/DOT DESIGN "H"

STANDARD PLATE NO. 4006L **NOT TO SCALE**



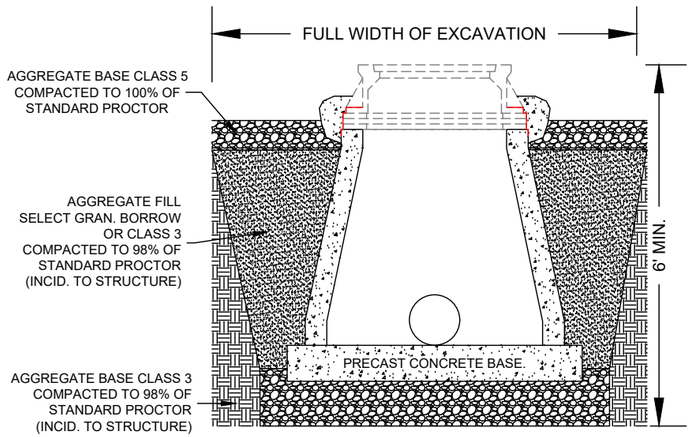
Mn/DOT DESIGN "G"

STANDARD PLATE NO. 4006L **NOT TO SCALE**



Mn/DOT DESIGN "H" CATCH BASIN INSTALLATION

STANDARD PLATE NO. 4006L **NOT TO SCALE**



Mn/DOT DESIGN "G" CATCH BASIN INSTALLATION

STANDARD PLATE NO. 4006L **NOT TO SCALE**

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S.P. No.	DRAWN BY	CHECKED BY	APPROVED BY
ENG. No.			
LEGAL No.			

MOORHEAD MINNESOTA Engineering

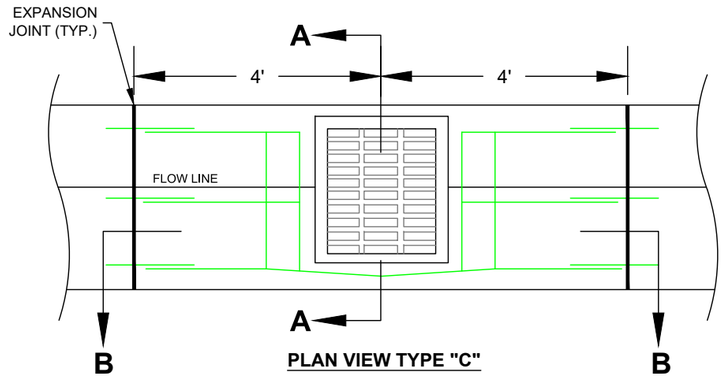
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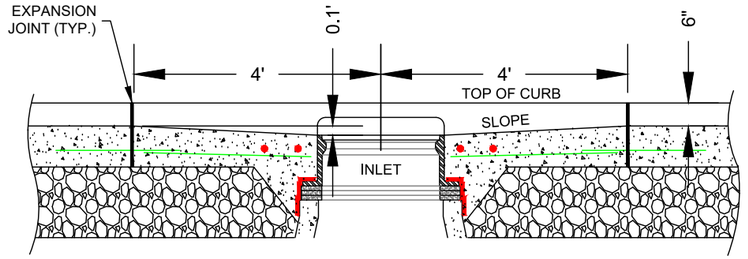
Storm Sewer Details

Right-of-Way Details and Standards

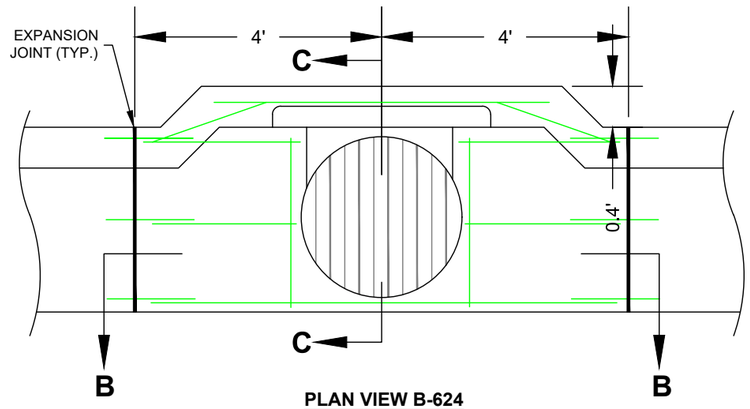
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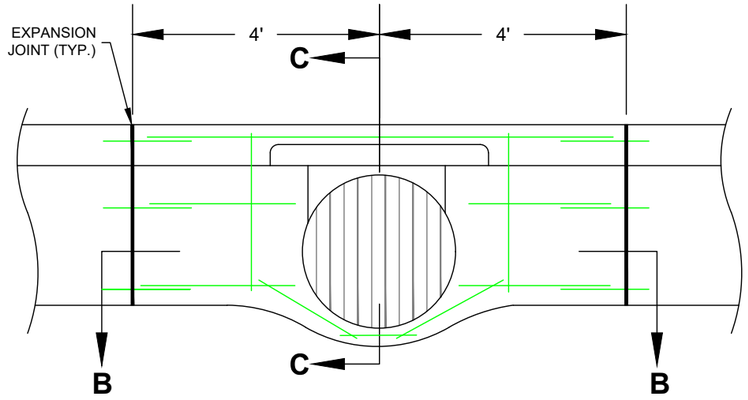
PLAN VIEW TYPE "C"



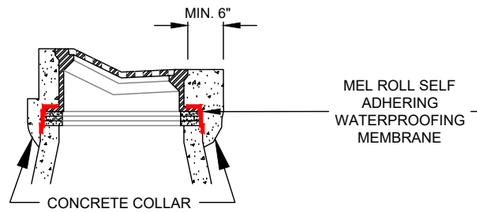
SECTION B-B



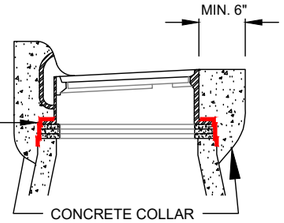
PLAN VIEW B-624



PLAN VIEW B-624



SECTION A-A



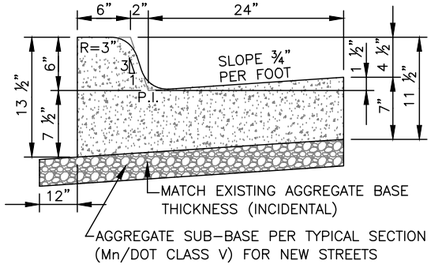
SECTION C-C

TYPE "C" MOUNTABLE CURB & GUTTER CONSTRUCTION AT CATCH BASIN

NOT TO SCALE

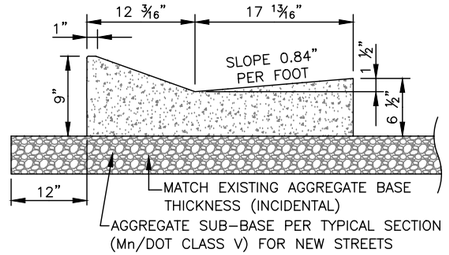
B-624 CURB & GUTTER CONSTRUCTION AT CATCH BASIN

NOT TO SCALE



B-624 CURB DETAIL

NOT TO SCALE



TYPE "C" MOUNTABLE CURB DETAIL

NOT TO SCALE

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LJH	MEO	TET

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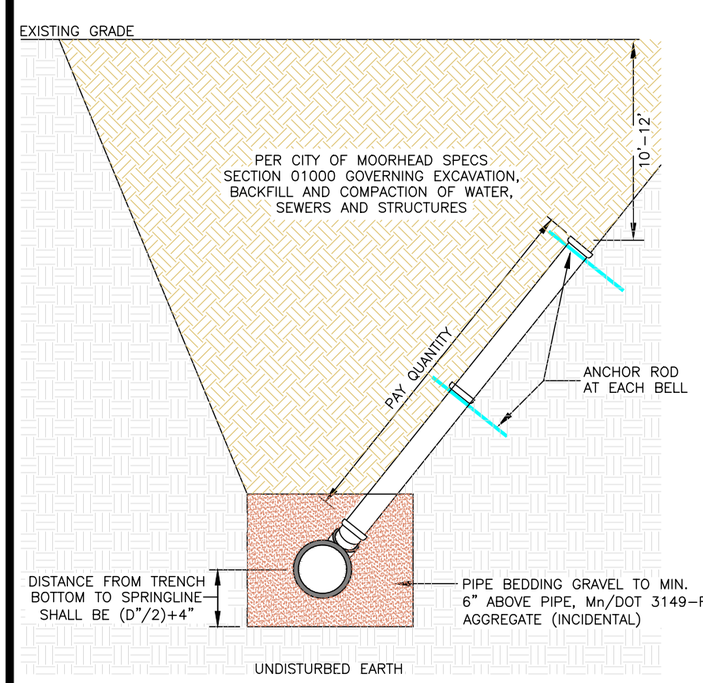
EFFECTIVE DATE: 01-01-25

Storm Sewer Curb Details

Right-of-Way Details and Standards

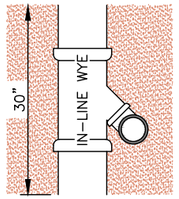
SHEET 7 OF 9

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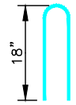
TYPICAL SANITARY SEWER SERVICE RISER DETAIL
(FOR SEWERS 12' OR MORE IN DEPTH)

MINIMUM SEWER SERVICE GRADES
4" - 2.00%, 6" - 1.00%, 8" - 0.50%
NOT TO SCALE

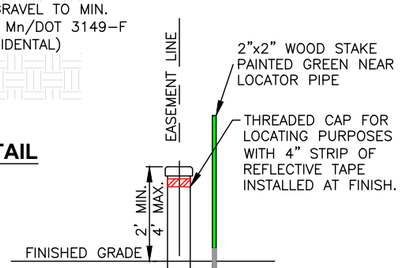


PLAN VIEW

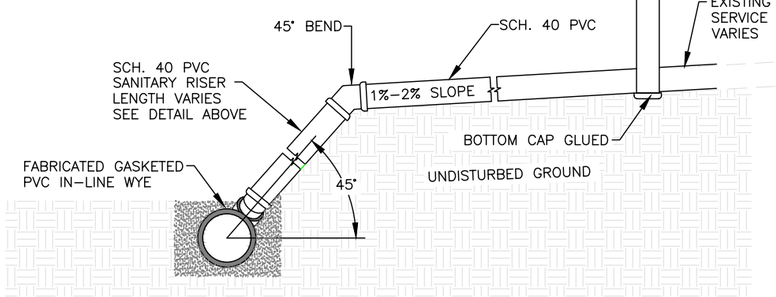
NOTE:
ANCHOR ROD TO BE MADE OF #3 REINFORCING BARS



ANCHOR DETAIL
NOT TO SCALE

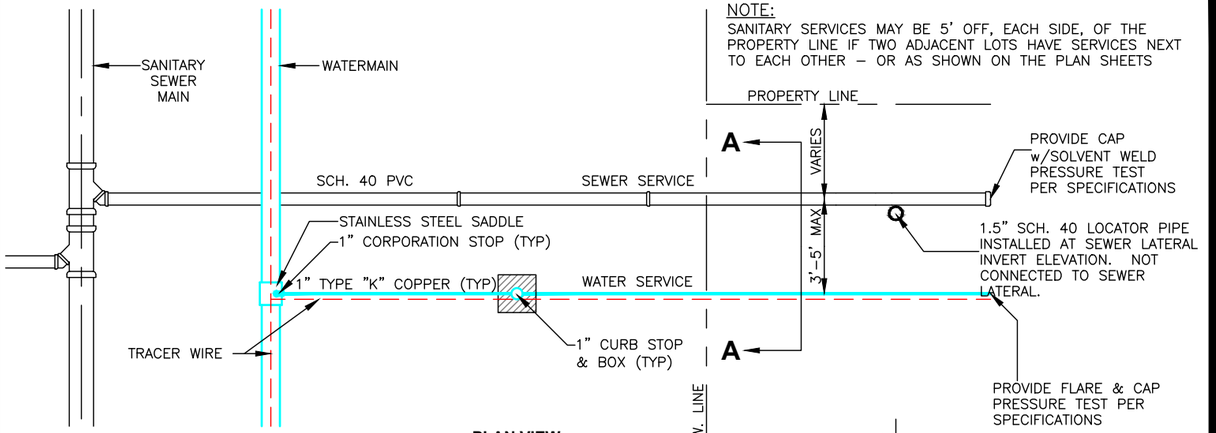


NOTES:
1. HEIGHT OF RISER SHALL BE MEASURED FROM INVERT TO TOP OF RISER.
2. PAYMENT FOR RISERS WILL BE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL COSTS FOR MATERIALS, EXCAVATION AND LABOR.
3. SANITARY RISER MAY BE REQUIRED IF SANITARY SEWER IS 12' IN DEPTH OR MORE. IF SANITARY SEWER IS LESS THAN 12' IN DEPTH, NO RISER WILL BE REQUIRED.
4. LOCATOR PIPE SHALL BE ONE SEAMLESS SECTION OF PIPE OR ELSE WILL HAVE NO JOINTS WITHIN 5 FEET OF PROPOSED FINISHED GRADE.

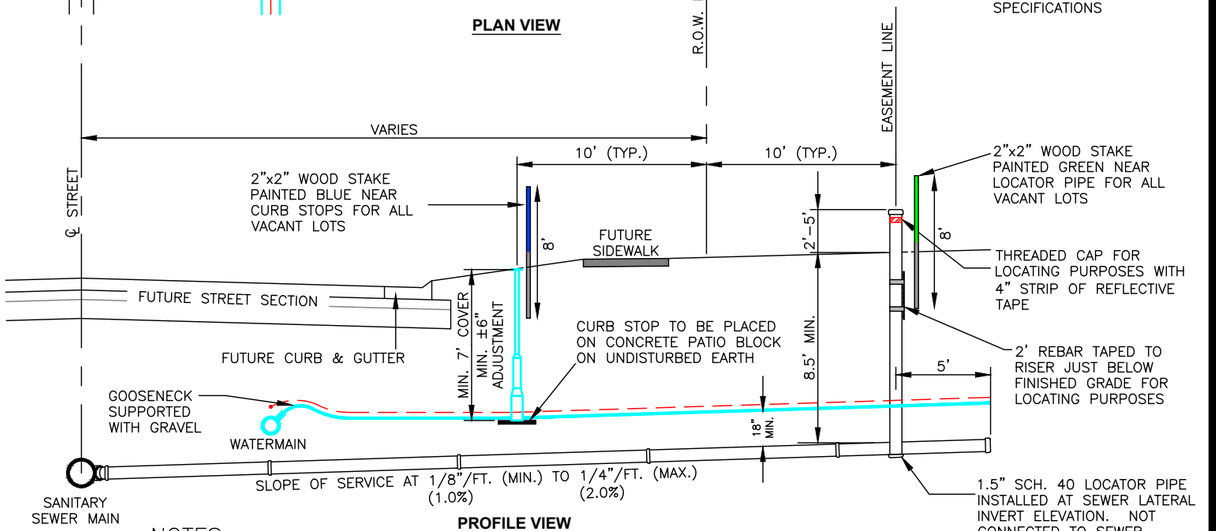


TYPICAL SANITARY SEWER SERVICE RISER AND LOCATOR PIPE DETAIL
NOT TO SCALE

NOTE:
SANITARY SERVICES MAY BE 5' OFF, EACH SIDE, OF THE PROPERTY LINE IF TWO ADJACENT LOTS HAVE SERVICES NEXT TO EACH OTHER – OR AS SHOWN ON THE PLAN SHEETS



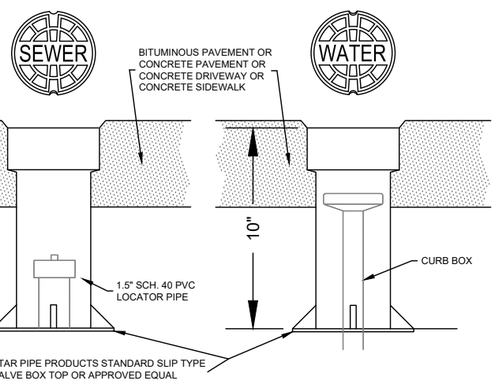
PLAN VIEW



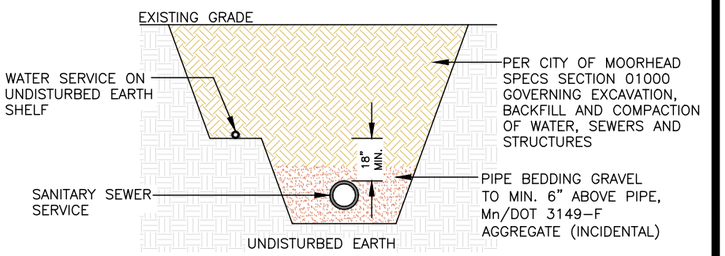
PROFILE VIEW

NOTES:
1. TRACER WIRE IS TO BE #10 BLUE STRANDED, WHICH IS TO BE LOCATED ABOVE THE WATERMAIN
2. TRACER WIRE IS ALSO TO BE PLACED ALONG THE SERVICES AND CONNECTED TO THE TRACER WIRE ON THE MAIN
3. DUCTILE IRON CURB BOXES SHALL BE WRAPPED IN POLYETHYLENE (MIN. 0.008" THICK)

TYPICAL SANITARY SEWER & WATER SERVICE DETAIL
NOT TO SCALE



VALVE BOX FOR LOCATOR PIPE AND CURB BOX INSTALLATION IN PAVEMENTS
NOT TO SCALE



SECTION A-A

TRENCH DETAIL
SANITARY SEWER & WATER SERVICE
SINGLE TRENCH
NOT TO SCALE

S.P. No.	ENG. No.	LEGAL No.
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Water and Sewer Service Details

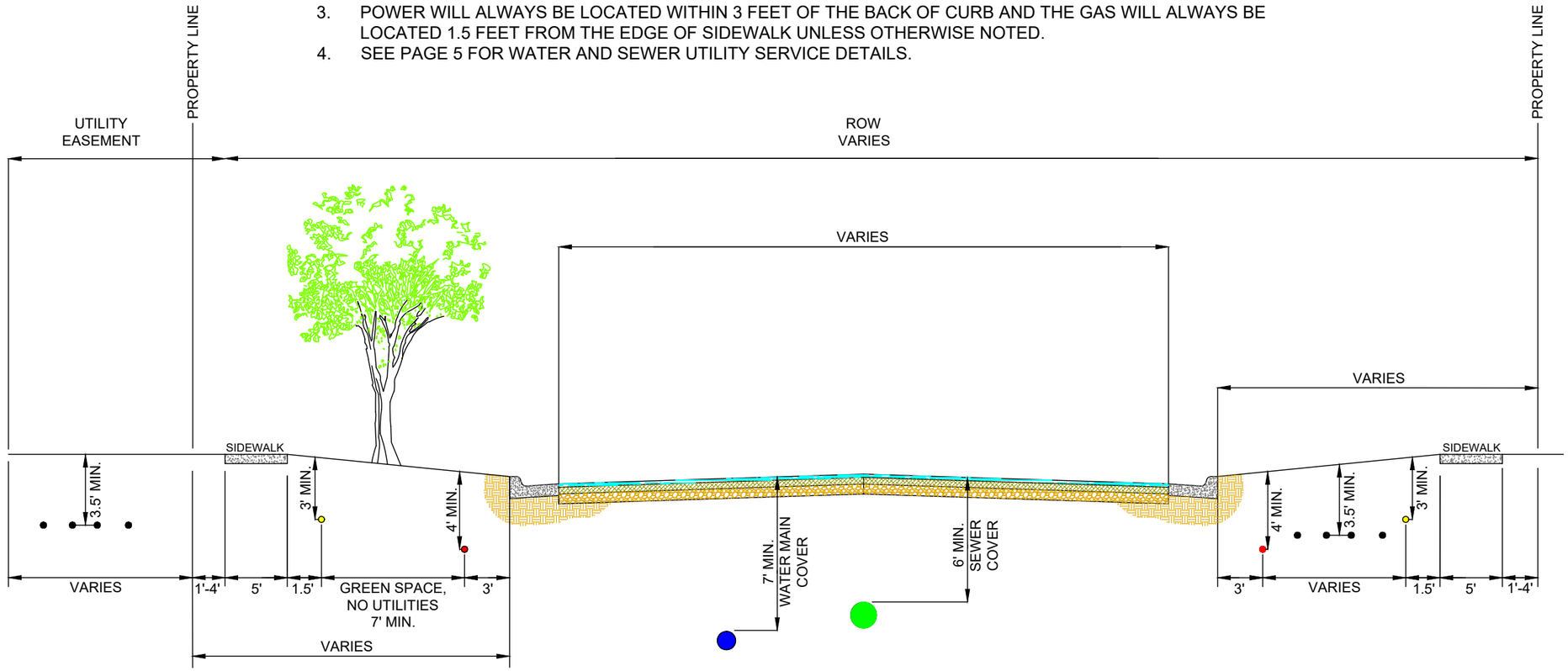
Right-of-Way Details and Standards

SHEET 8 OF 9

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NOTES:

1. ALL UTILITIES, WITH THE EXCEPTION OF GAS AND POWER, MUST BE LOCATED WITHIN THE DESIGNATED UTILITY EASEMENT WHENEVER POSSIBLE.
2. ROW WIDTHS AND UTILITY EASEMENT SIZES VARY, INFORMATION WILL BE PROVIDED BY THE CITY ENGINEERS OFFICE UPON REQUEST.
3. POWER WILL ALWAYS BE LOCATED WITHIN 3 FEET OF THE BACK OF CURB AND THE GAS WILL ALWAYS BE LOCATED 1.5 FEET FROM THE EDGE OF SIDEWALK UNLESS OTHERWISE NOTED.
4. SEE PAGE 5 FOR WATER AND SEWER UTILITY SERVICE DETAILS.



WHEN UTILITY EASEMENT IS AVAILABLE

WHEN NO UTILITY EASEMENT IS PRESENT

UTILITY LOCATION CONSTRUCTION STANDARDS

NOT TO SCALE

LJH	MEO	TET	.
DRAWN BY	CHECKED BY	APPROVED BY	S.P. No.
			ENG. No.
			LEGAL. No.

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Utility Location Construction Standards

Right-of-Way Details and Standards

SHEET 9 OF 9

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