

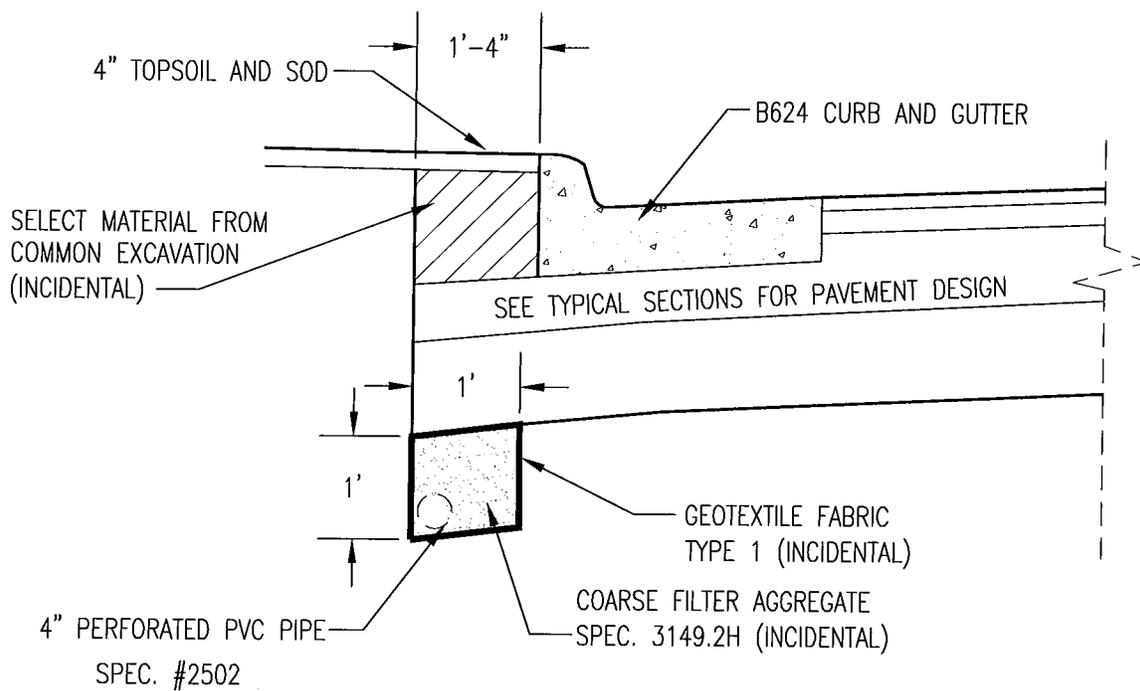


DEPARTMENT OF PUBLIC WORKS & UTILITIES  
ENGINEERING DIVISION

STANDARD DETAIL DRAWINGS

STREET

- STR-1 PERFORATED PIPE
- STR-2 PERFORATED PIPE - SPECIAL
- STR-3 4" CONCRETE WALK SPECIAL
- STR-4 BITUMINOUS CURB
- STR-5 DRIVEWAY & ALLEY ENTRANCE
- STR-6 CONCRETE RETAINING WALL
- STR-7 CONCRETE STEPS
- STR-8 STREET RESTORATION OVER TRENCH



PERFORATED PIPE DETAIL

STR-1

REVIEWED/APPROVED 2/01/2013

CITY OF DULUTH STANDARD DETAIL  
DEPT. OF PUBLIC WORKS AND UTILITIES

NO SCALE

2" TOPSOIL AND SOD

SELECT MATERIAL FROM COMMON EXCAVATION

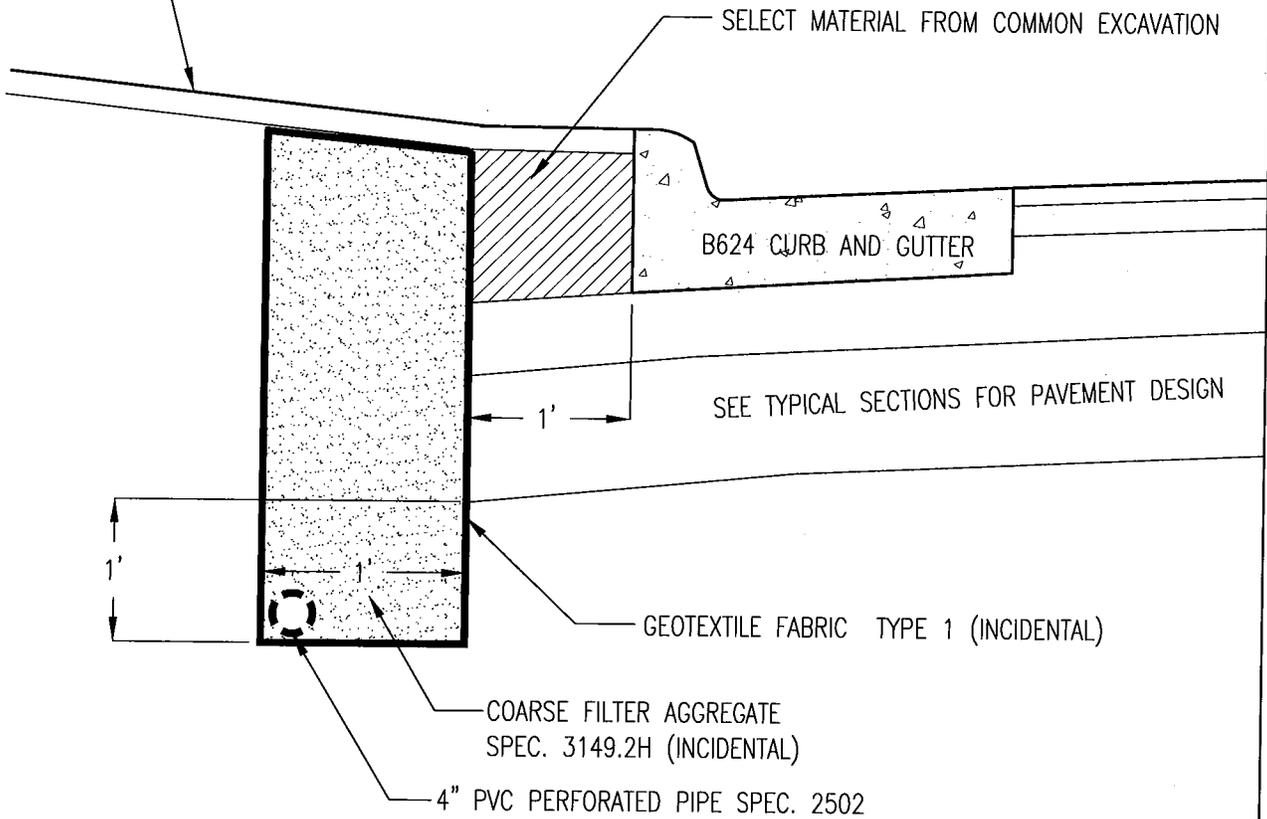
B624 CURB AND GUTTER

SEE TYPICAL SECTIONS FOR PAVEMENT DESIGN

GEOTEXTILE FABRIC TYPE 1 (INCIDENTAL)

COARSE FILTER AGGREGATE  
SPEC. 3149.2H (INCIDENTAL)

4" PVC PERFORATED PIPE SPEC. 2502



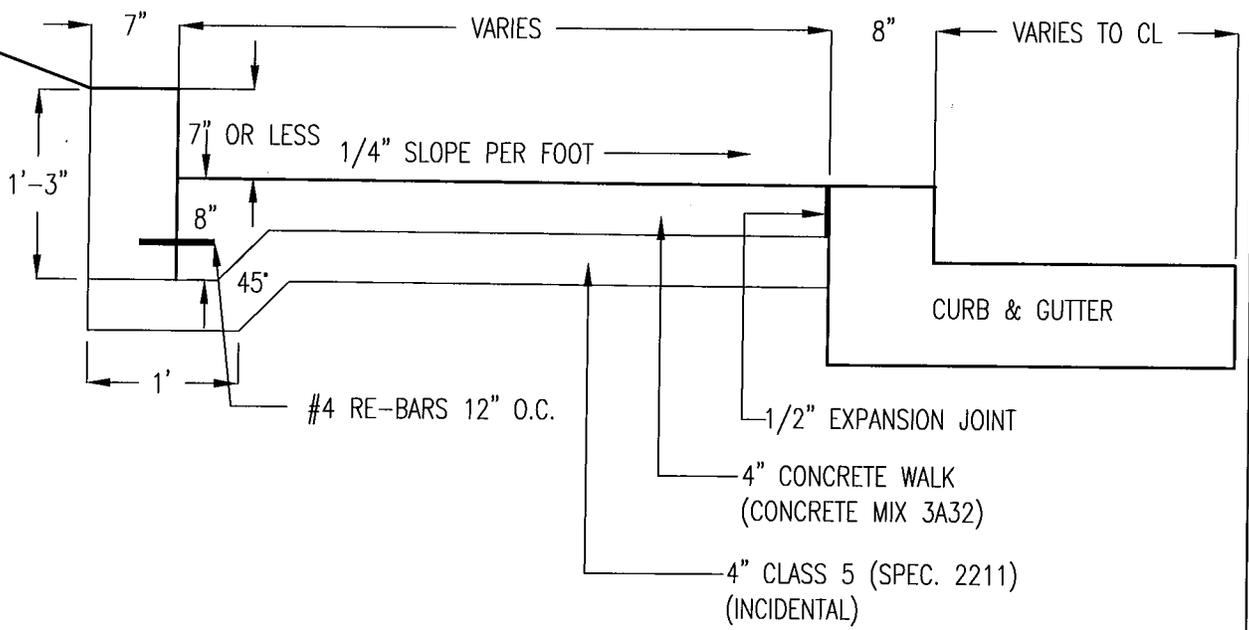
PERFORATED PIPE - SPECIAL

STR-2

REVIEWED/APPROVED 2/01/2013

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NO SCALE



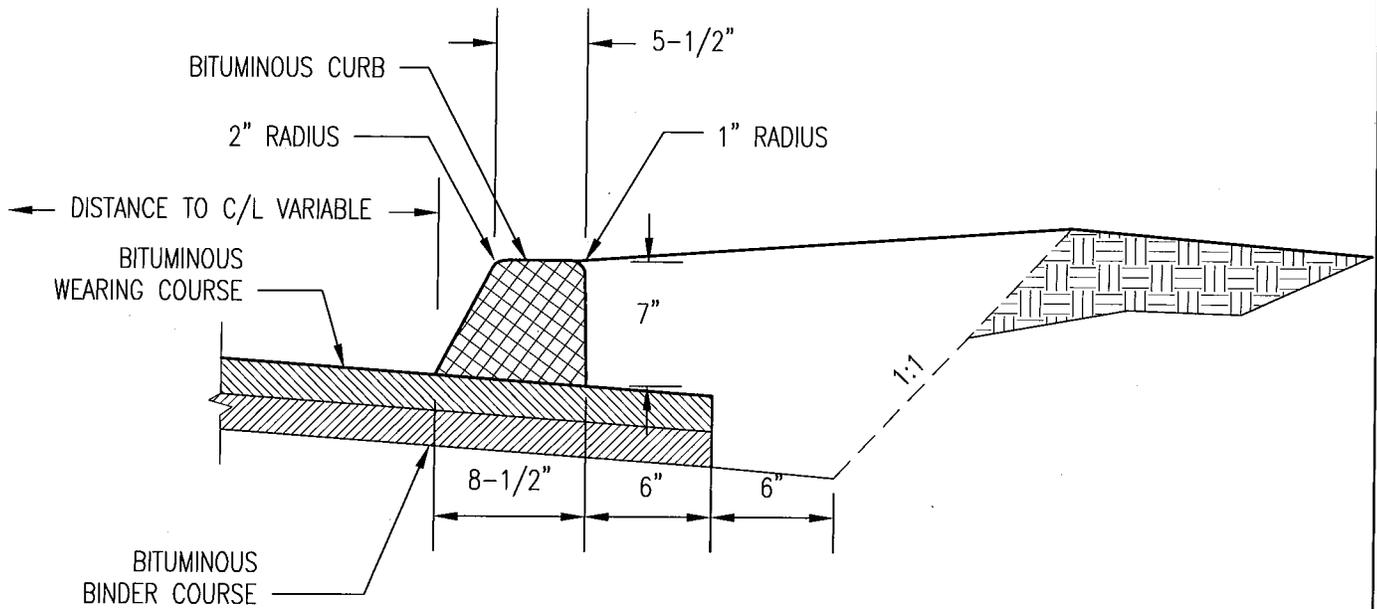
4" CONCRETE WALK SPECIAL

STR-3

REVIEWED/APPROVED 2/01/2013

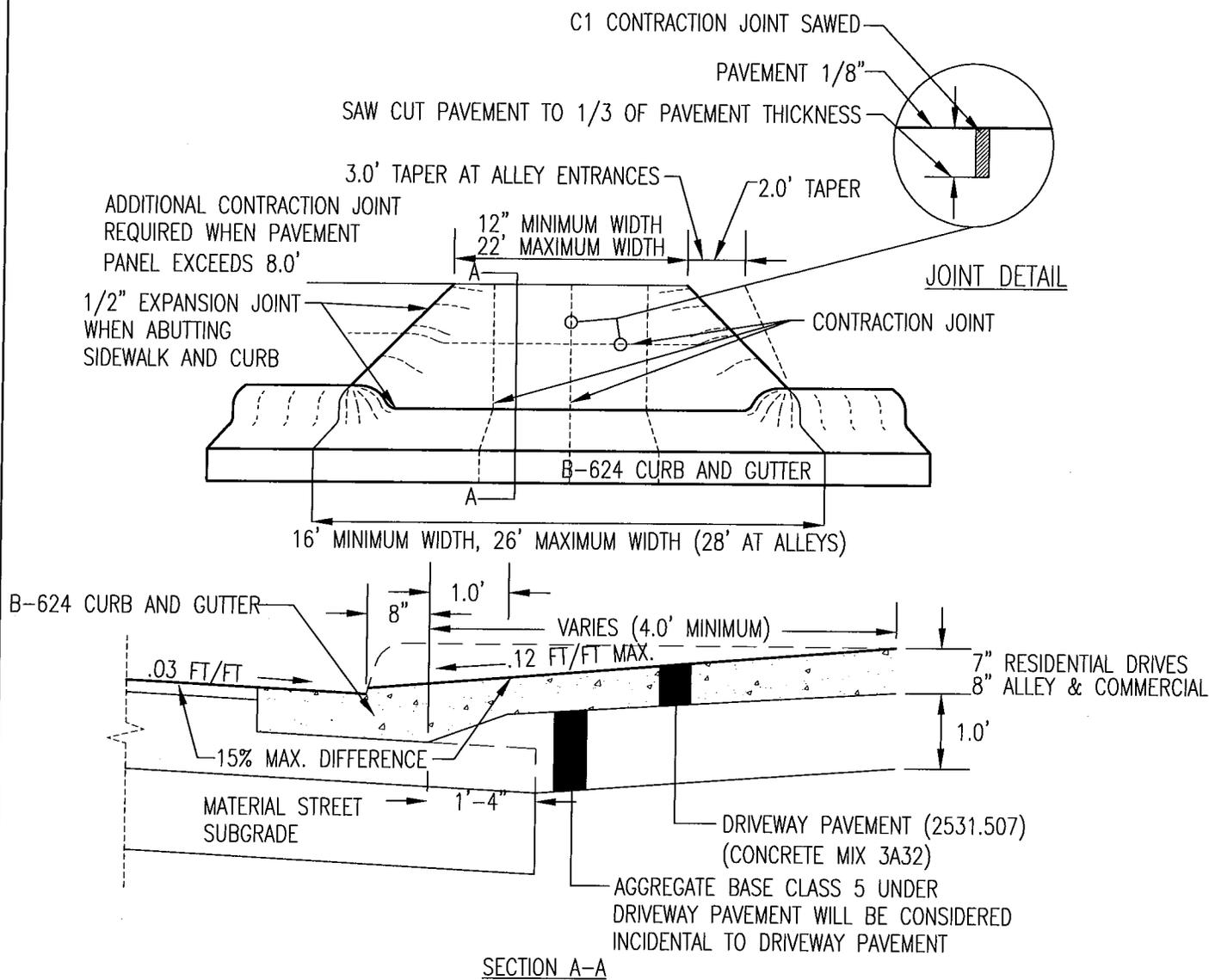
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NO SCALE



VOLUME OF CURB  
0.338 CU. FT. PER LIN. FT.

BITUMINOUS CURB		STR-4
REVIEWED/APPROVED 2/01/2013	CITY OF DULUTH STANDARD DETAIL DEPT. OF PUBLIC WORKS AND UTILITIES	NO SCALE



NOTE: THE CREST OF THE DRIVEWAY MUST BE AT LEAST 6" ABOVE GUTTER TO CONTAIN RUNOFF. NOTE: STATE OF MIN. STANDARD PLATE 7035L NOTE 5 SHALL NOT APPLY.

DRIVEWAY & ALLEY ENTRANCES

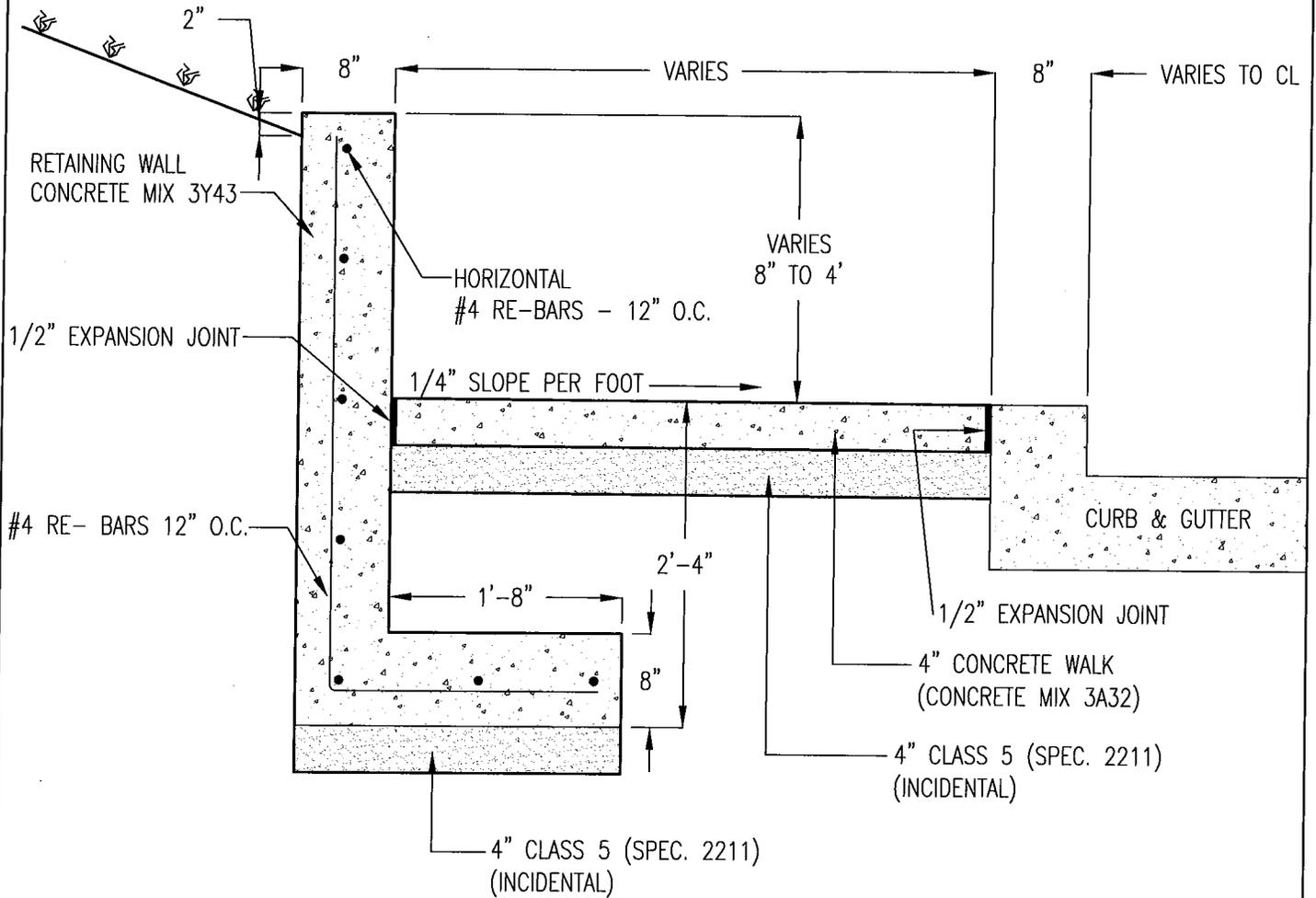
STR-5

REVIEWED/APPROVED 2/01/2013

CITY OF DULUTH STANDARD DETAIL  
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NO SCALE

EXACT LOCATION AND ELEVATION OF  
RETAINING WALL WILL BE DETERMINED  
IN THE FIELD BY THE ENGINEER



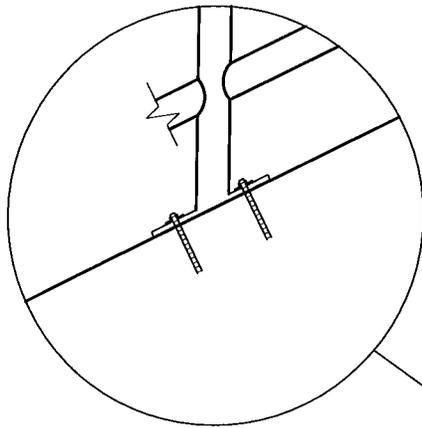
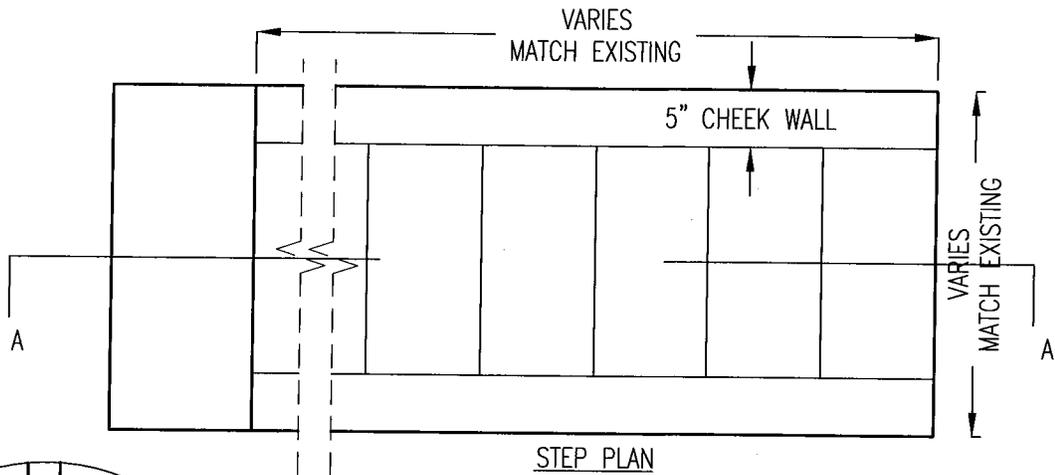
CONCRETE RETAINING WALL

STR-6

REVIEWED/APPROVED 2/01/2013

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NO SCALE

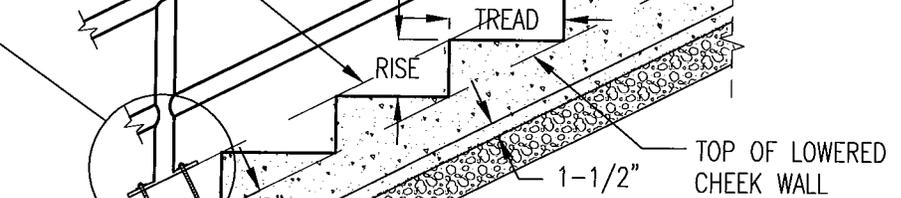


ALTERNATE METHOD OF ATTACHMENT:  
POST SET IN SLEEVE, PLATE 8400E.

PIPE RAILING PER STD.  
PLATE 8400E

TOP OF RAISED  
CHEEK WALL

TREAD + RISER = 18"  
RISE WILL BE 4-1/2" MIN.,  
7" MAX. TREAD 1% SLOPE



TREAD

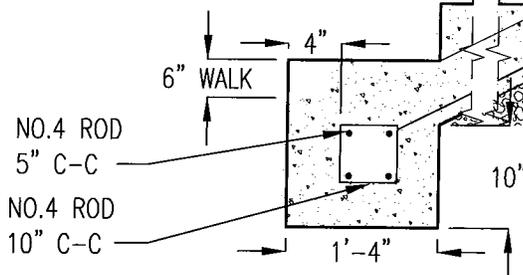
RISE

TOP OF LOWERED  
CHEEK WALL

1-1/2"

NO.4 ROD, 5" x 10" NOTE:  
612-14 PAVING REINFORCEMENT  
REPLACES RE-BARS.

4" AGG. BASE CL. 5



NO.4 ROD  
5" C-C

NO.4 ROD  
10" C-C

6" WALK

4"

4"

10"

1'-4"

SECTION A-A

3/8" PLATE (4 1/2" x 8") WELDED TO  
POST. FOUR 1/4" x 4 1/2" GALVANIZED  
BOLTS, DRILLED AND GROUTED INTO CHEEK  
WALL CONCRETE OR OTHER METHOD OF  
ATTACHMENT AS APPROVED BY ENGINEER.

NOTES:

1. 5" WIDE RAISED OR LOWERED CHEEK WALLS TO BE DETERMINED IN FIELD BY ENGINEER.
2. RAILINGS WILL BE REQUIRED WHERE MORE THAN THREE STEPS ARE NEEDED.
3. INCLUDES: ALL EXCAVATION (EXCEPT ROCK EXC.), REMOVAL OF EXISTING STEPS, FORMING, CLASS 5, REINFORCING AND BACKFILL, CONCRETE SHALL BE MIX 3Y43, RAILINGS WHERE NECESSARY. RAILINGS TO BE PAINTED WITH BLACK RUST PROOF PAINT, PER SPEC. NO'S 3501, 3507 & 3526.

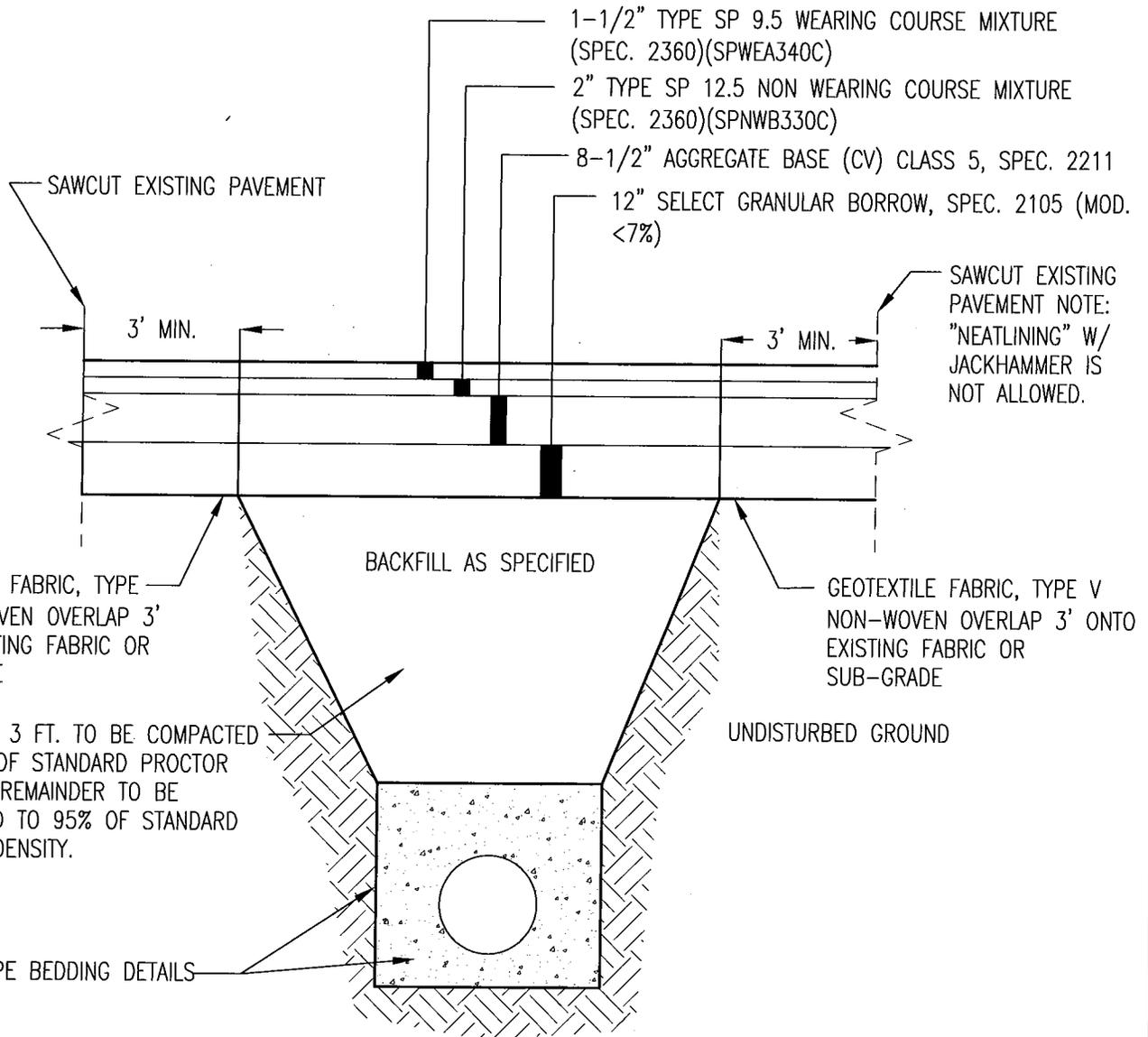
CONCRETE STEPS

STR-7

REVIEWED/APPROVED 2/01/2013

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NO SCALE



STREET RESTORATION OVER TRENCH

STR-8

REVISED/APPROVED 2/01/2013

CITY OF DULUTH STANDARD DETAIL  
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NO SCALE