

GENERAL NOTES

- 1. TOPOGRAPHIC AND EXISTING CONDITIONS PER CITY GIS DATA AND SUPPLEMENTED WITH LANDMARK CONSULTANTS, INC. ARCHIVED SURVEY FIELD DATA...
2. CITY OF STEAMBOAT SPRINGS PLAN REVIEW AND APPROVAL IS ONLY FOR GENERAL CONFORMANCE WITH DESIGN CRITERIA AND THE CITY CODE...
3. ONE COPY OF THE APPROVED CONSTRUCTION PLANS AND SPECIFICATIONS SHALL BE KEPT ON THE JOB SITE AT ALL TIMES...
4. ALL MATERIALS, WORKMANSHIP, AND CONSTRUCTION OF PUBLIC IMPROVEMENTS SHALL MEET OR EXCEED THE STANDARDS AND SPECIFICATIONS SET FORTH IN THE CITY OF STEAMBOAT SPRINGS TECHNICAL SPECIFICATIONS (MARCH, 2018 EDITION)...

CONSTRUCTION NOTES

A. GRADING AND DRAINAGE

- 44. NO WORK SHALL OCCUR IN WETLANDS OR FLOODPLAINS WITHOUT PERMITS. ANY WORK SHALL BE IN ACCORDANCE WITH ISSUED PERMITS.
45. VEGETATED SLOPES GREATER THAN 3:1 REQUIRE SOIL STABILIZATION.
46. CLEAN ALL INSTALLED CULVERTS AND STORM SEWERS PRIOR TO SUBSTANTIAL COMPLETION INSPECTIONS.
47. LENGTHS SHOWN ON PLANS ARE HORIZONTAL LENGTHS FROM CENTER OF MANHOLE TO CENTER OF MANHOLE OR TO THE END OF THE FLARED END SECTIONS...

B. CONSTRUCTION SITE AND STORMWATER MANAGEMENT

- 52. CONTRACTOR SHALL SUBMIT A CONSTRUCTION SITE MANAGEMENT PLAN TO THE CITY FOR APPROVAL PRIOR TO BUILDING PERMIT ISSUANCE.
53. WHEN REQUIRED THE CONTRACTOR SHALL PREPARE A STORMWATER MANAGEMENT PLAN. THE STORMWATER MANAGEMENT PLAN SHALL BE PREPARED BY A QUALIFIED INDIVIDUAL WITH KNOWLEDGE IN THE PRINCIPLES AND PRACTICES OF EROSION AND SEDIMENT CONTROL AND POLLUTION PREVENTION...
54. THE STORMWATER MANAGEMENT PLAN SHALL ADDRESS INSTALLATION, INSPECTION AND MAINTENANCE OF ALL NECESSARY EROSION AND SEDIMENT CONTROL MEASURES...

C. PAVING

- 64. UNLESS NOTED OTHERWISE, THE PAVEMENT SECTION SHALL CONSIST OF:
A. 8-INCH THICK AGGREGATE SUBBASE COURSE: MODIFIED CDOT STANDARD CLASS 3 BASE AGGREGATE OR WELL GRADED PIT RUN CONFORMING TO CDOT STANDARD SPECIFICATION SECTION 703 FOR AGGREGATES.
B. 4-INCH THICK AGGREGATE BASE COURSE: CDOT STANDARD SPECIFICATIONS SECTION 703.03 FOR CLASS 5 AGGREGATE BASE COURSE.
C. 4-INCH THICK ASPHALT PAVEMENT: CDOT STANDARD SPECIFICATIONS, LATEST EDITION, WITH TYPE SX GRADATION AND PG58-28 BINDER. TACK COATS SHALL BE 55-1H AND CONFORM TO AASHTO M140 PAVING OF PUBLIC STREETS SHALL NOT START UNTIL SUBGRADE COMPACTION AND MATERIAL TESTS ARE TAKEN AND ACCEPTED BY THE PUBLIC WORKS DIRECTOR.

D. WATER AND SEWER NOTES

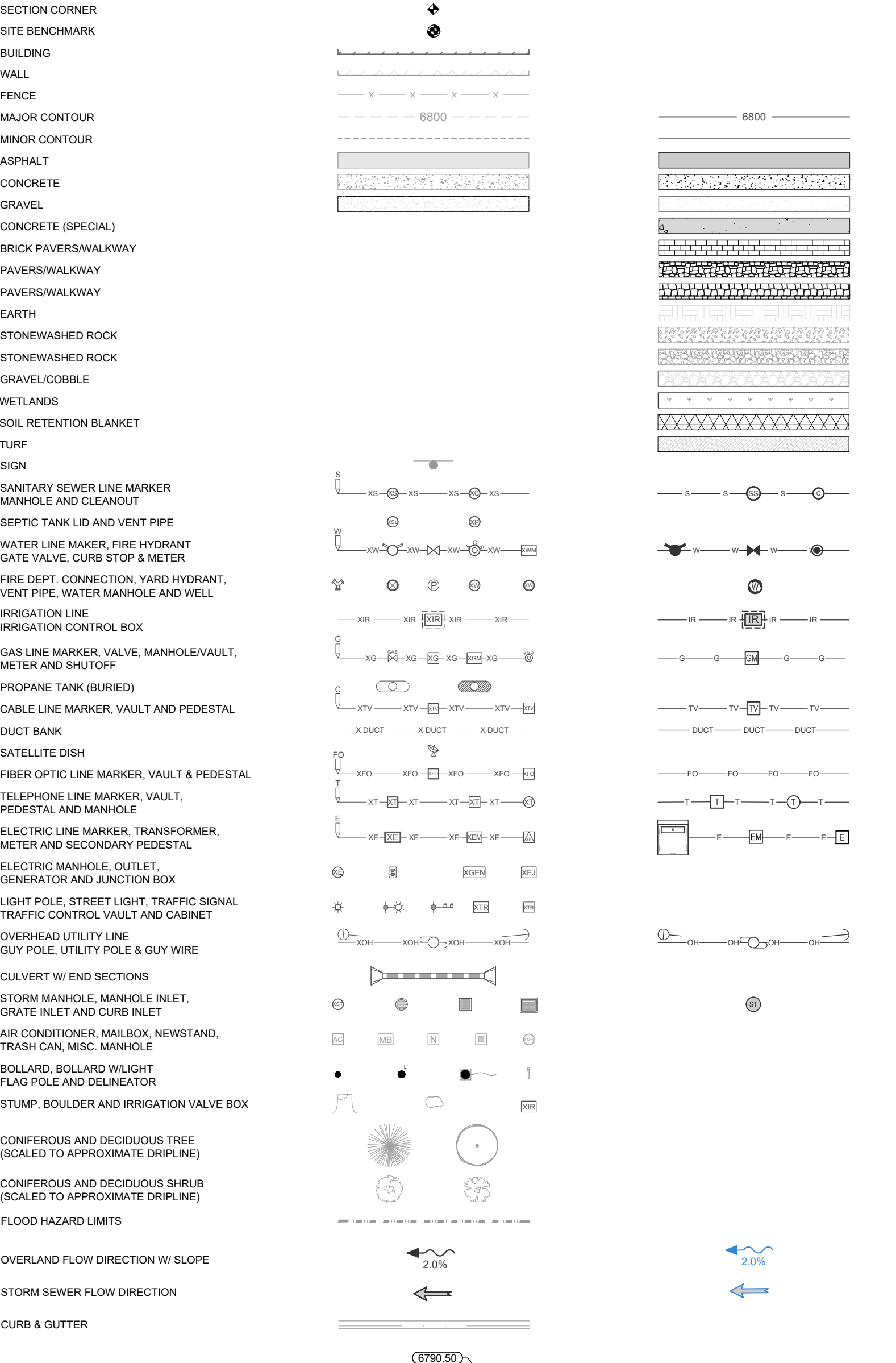
- 79. ALL WATER AND SEWER CONSTRUCTION SHALL BE PER THE CITY OF STEAMBOAT SPRINGS WATER & SEWER STANDARD SPECIFICATIONS, LATEST EDITION.
80. MAINTAIN 10' HORIZONTAL AND 18" VERTICAL MINIMUM SEPARATION BETWEEN ALL SANITARY SEWER MAINS, WATER MAINS & SERVICES.
81. MANHOLES LOCATED OUTSIDE OF THE ROADWAY SHALL PROTRUDE 1' ABOVE EXISTING GRADE TO REDUCE INFILTRATION. GRADE SURFACE TO DRAIN AROUND/AWAY FROM MANHOLE RIMS.
82. ALL MANHOLES LOCATED IN THE ROADWAY SHALL HAVE RIM ELEVATIONS ADJUSTED TO 1/2" BELOW FINISHED GRADE. IF NECESSARY, CONE SECTIONS SHALL BE ROTATED TO PREVENT LIDS BEING LOCATED WITHIN VEHICLE OR BICYCLE WHEEL PATHS.

THE CONTRACTOR AGREES TO CAREFULLY STUDY AND COMPARE THE INDIVIDUAL CONTRACT DOCUMENTS AND REPORT AT ONCE IN WRITING T THE OWNER ANY DEFICIENCIES THE CONTRACTOR MAY DISCOVER. THE CONTRACTOR FURTHER AGREES TO REQUIRE EACH SUBCONTRACTOR TO LIKEWISE STUDY THE DOCUMENTS AND REPORT AT ONCE ANY DEFICIENCIES DISCOVERED.

CONSTRUCTION PHASE SERVICES:

IT IS UNDERSTOOD AND AGREED THAT LANDMARK DOES NOT HAVE AN OBLIGATION TO CONDUCT CONSTRUCTION OBSERVATION OR REVIEW OF THE CONTRACTOR'S PERFORMANCE OR ANY OTHER CONSTRUCTION PHASE SERVICES, AND THAT SUCH SERVICES WILL BE PROVIDED FOR BY THE OWNER AS MAY BE REQUIRED BY THE CITY OF STEAMBOAT SPRINGS. THE OWNER ASSUMES ALL RESPONSIBILITY FOR INTERPRETATION OF THESE CONSTRUCTION DOCUMENTS AND FOR CONSTRUCTION OBSERVATION AND THE OWNER WAIVES ANY CLAIMS AGAINST LANDMARK THAT MAY BE IN ANY WAY CONNECTED THERETO.

LEGENDS TO REFLECT CHANGED FIELD OR OTHER CONDITIONS. EXISTING CLAIMS ARISING FROM THE SOLE NEGLIGENCE PROPOSED CONDUCT OF...



ABBREVIATIONS

Table with 2 columns: Abbreviation and Full Name. Includes ADA (Americans with Disabilities Act), APR (Approximate), BMP (Best Management Practice), BOT (Bottom), BVCE (Begin Vertical Curve Elevation), BVCS (Begin Vertical Curve Station), B/W / B/S (Bottom of Wall), C&C (Cut and Capped), CAP (Corrugated Aluminum Pipe), CIP (Cast-in-Place), CL (Center Line), CMP (Corrugated Metal Pipe), CO (Clean Out), CP (Concrete Pipe), CSP (Corrugated Steel Pipe), DIA (Diameter), DIP (Ductile Iron Pipe), EG (Existing Ground), EL (Elevation), EOA / EA (Edge of Asphalt), EOC (Edge of Concrete), EOP (Edge of Pavement), EVCE (End Vertical Curve Elevation), EVCS (End Vertical Curve Station), EX (Existing), F&G (Frame and Grate), F&C (Frame and Cover), FES (Flared End Section), FFE (Finish Floor Elevation), FH (Fire Hydrant), FL (Flow Line), FL (Finish Grade), FG@BW (Finish Grade at Bottom of Wall), GB (Grade Break), GFGE (Garage Finish Floor Elevation), GTD (Grade to Drain), HDPE (High Density Polyethylene Pipe), INV (Invert), LBS (Pounds), LOD (Limits of Disturbance), MAX (Maximum), MEP (Mechanical, Electrical, and Plumbing), ME (Match Existing), MH (Manhole), MIN (Minimum), MJ (Mechanical Joint), NAP (Not a Part (Not Included in Scope)), NTS (Not to Scale), OFF (Offset), PC (Point of Curve), PI (Point of Intersection), PCC (Point of Concave Curve), PLDP (Porous Landscape Detention Pond), PRC (Point of Reverse Curve), PVT (Point of Tangency), PVC (Point of Vertical Curve / Polyvinyl Chloride), PVI (Point of Vertical Intersection), PVT (Point of Vertical Tangent), R (Radius), RCP (Reinforced Concrete Pipe), REQ (Required), ROW (Right of Way), STA (Station), TB (Thrust Block), TBC (Top Back of Curb), TBR (To Be Removed), TO (Top of), TOP (Top of Pipe), TTG (Tapered to Grade), TW / T/W (Top of Wall), TYP (Typical), VCP (Vitrified Clay Pipe), VOL (Volume), WI (With)

LANDMARK CONSULTANTS, INC. CIVIL ENGINEERS & SURVEYORS. 141 9th Street - P.O. Box 17484, Steamboat Springs, CO 80477 (970) 871-5694 - www.LANDMARK-CO.com

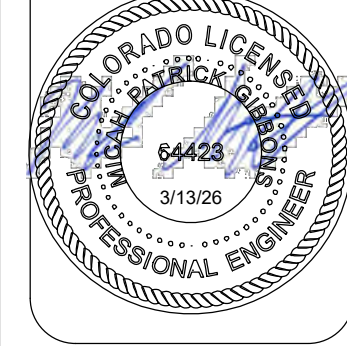


Table with columns: NO., DATE, DISCREPANCY. Includes project information: PROJECT: 2387-009, DATE: 3/12/2026, CONTACT: Michael Gibbons, EMAIL: michaelgibbons@landmark-co.com

Steamboat Basecamp 2 Residential Civil Notes

811 logo with text: CALL UTILITY NOTIFICATION CENTER OF COLORADO. Call before you dig. CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.





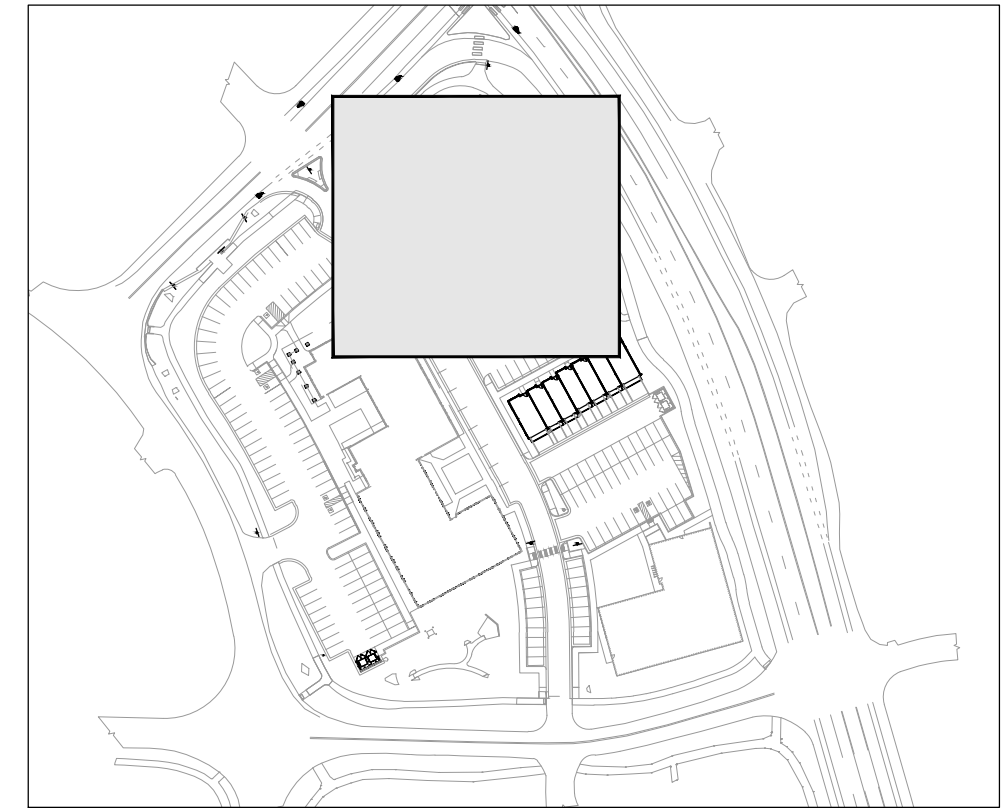
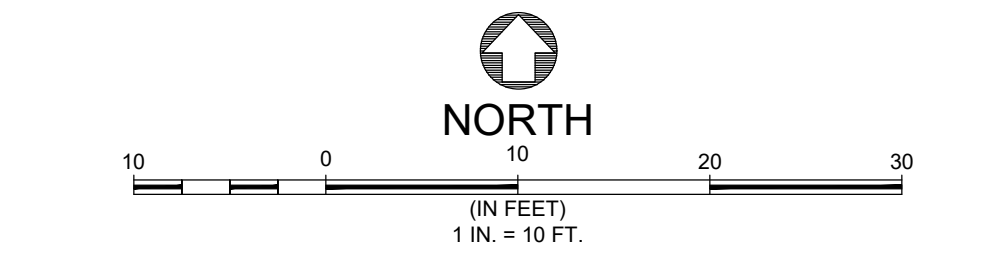










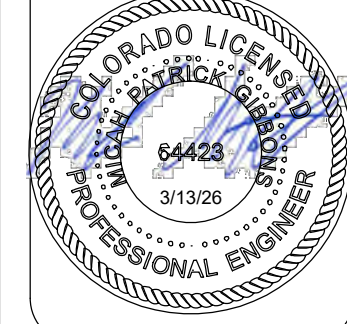


**UTILITY PLAN LEGEND:**

EXISTING SANITARY SEWER W/ MH & C.O.	
EXISTING WATER	
PROPOSED SANITARY SEWER W/ MH & C.O.	
PROPOSED WATER PIPE	
PROPOSED OV, FH & CS	
PROPOSED STORM SEWER W/ FLARED END SECTION	
PROPOSED STORM INLET (CURB & AREA)	
PROPOSED STORM MANHOLE & CLEANOUT	
APPROX. PAVEMENT SAW CUT	

- NOTES:**
- THE SIZE, TYPE AND LOCATION OF ALL KNOWN UNDERGROUND UTILITIES ARE APPROXIMATE WHEN SHOWN ON THESE DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE OF ALL UNDERGROUND UTILITIES IN THE AREA OF THE WORK. BEFORE COMMENCING NEW CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND SHALL BE RESPONSIBLE FOR ALL UNKNOWN UNDERGROUND UTILITIES.
  - EXISTING UNDERGROUND AND OVERHEAD PUBLIC AND PRIVATE UTILITIES AS SHOWN ARE INDICATED ACCORDING TO THE BEST INFORMATION MADE AVAILABLE TO THE ENGINEER. THE ENGINEER DOES NOT GUARANTEE NOR IS RESPONSIBLE FOR THE ACCURACY OF SUCH INFORMATION. EXISTING UTILITY MAINS AND SERVICES MAY NOT BE STRAIGHT LINES OR AS INDICATED ON THESE DRAWINGS. CONTRACTOR TO VERIFY EXISTING HORIZONTAL AND VERTICAL LOCATIONS PRIOR TO CONSTRUCTION.
  - ALL SEWER AND WATER CONSTRUCTION SHALL BE PER THE CITY OF STEAMBOAT SPRINGS STANDARD SPECIFICATIONS, LATEST EDITION.
  - MAINTAIN 12" HORIZONTAL AND 18" VERTICAL MINIMUM SEPARATION BETWEEN ALL SANITARY SEWER MAINS, WATER MAINS & SERVICES.
  - MANHOLES LOCATED OUTSIDE OF THE ROADWAY SHALL PROTRUDE 1" ABOVE EXISTING GRADE TO REDUCE INFILTRATION. GRADE SURFACE TO DRAIN AROUND/AWAY FROM MANHOLE RIMS.
  - ALL MANHOLES LOCATED IN THE ROADWAY SHALL HAVE RIM ELEVATIONS ADJUSTED TO 1/2" BELOW FINISHED GRADE. IF NECESSARY, CONE SECTIONS SHALL BE ROTATED TO PREVENT LIDS BEING LOCATED WITHIN VEHICLE OR BICYCLE WHEEL PATHS.
  - SEWER SERVICE SHALL HAVE A MINIMUM OF 4-FT OF COVER.
  - WATER SERVICE SHALL HAVE A MINIMUM OF 7-FT OF COVER.
  - ALL WATER PIPE SHALL BE INSTALLED WITH A #10 SOLID COPPER WIRE COATED WITH 45 MIL POLYETHYLENE FOR LOCATING PURPOSES. "GLENN TEST STATIONS" BY VALVCO, INC TRACER WIRE TEST STATIONS SHALL BE INSTALLED ADJACENT TO ALL FIRE HYDRANTS. ADDITIONAL LOCATIONS MAY BE REQUIRED.
  - ALL MATERIALS USED FOR BACKFILL SHALL BE FREE FROM REFUSE ORGANIC MATERIAL, COBBLES, BOULDERS, LARGE ROCKS OR STONES OR FROZEN SOILS GREATER THAN 6-INCHES IN DIAMETER.
  - ALL TRENCHES SHALL BE COMPACTED TO 95% AS DETERMINED BY ASTM D698 (STANDARD PROCTOR) OR AS SPECIFIED BY GEOTECHNICAL ENGINEER.
  - ALL WATER MAINS AND SERVICES (4-INCHES AND LARGER DIAMETER) SHALL BE PVC, NOT D.I.P.
  - COORDINATE WATER/SEWER SERVICE AND PAVEMENT WORK DISRUPTIONS WITH OWNERS OF EX. TOWNHOMES AND CITY OF STEAMBOAT SPRINGS.

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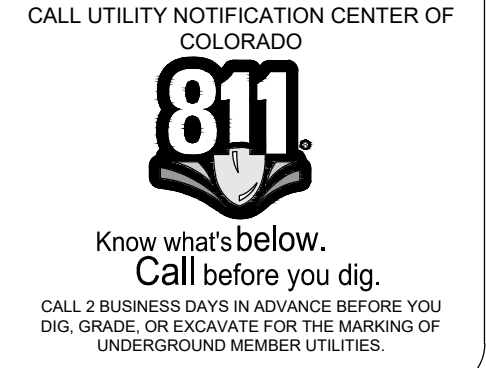


NO.	DATE	BY	DESCRIPTION

PROJECT: 2387-008  
 DATE: 3/13/2026  
 CONTACT: Micah Gibbons  
 EMAIL: mgibbons@landmark-co.com

**Steamboat Basecamp 2 Residential**  
**Utility Plan**  
**Lot 2**

SHEET  
**C.203**



DRAWING FILENAME: P:\2025\DWG\Projects\Steamboat\2387-008\CAD\CAD - Water and Sewer\Drawings\_LAYOUT\NAME\_C.203 DATE: Mar 13, 2026 4:58pm CAD OPERATOR: mgar  
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SEE SHEET C.202





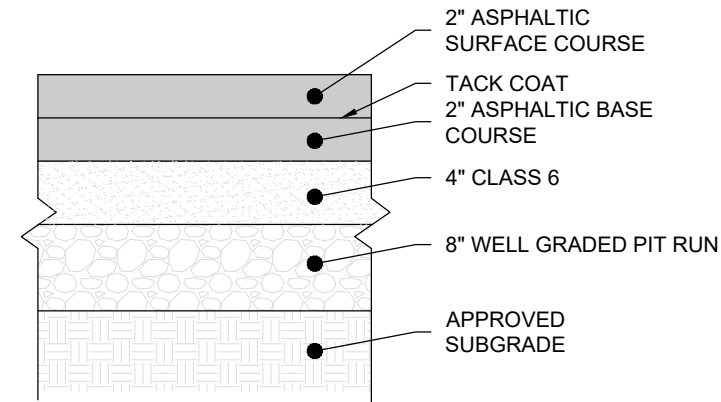






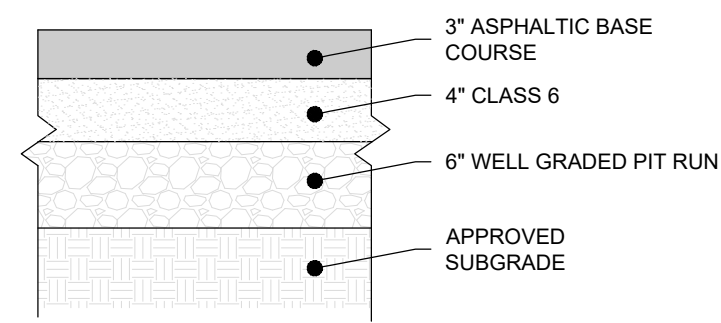






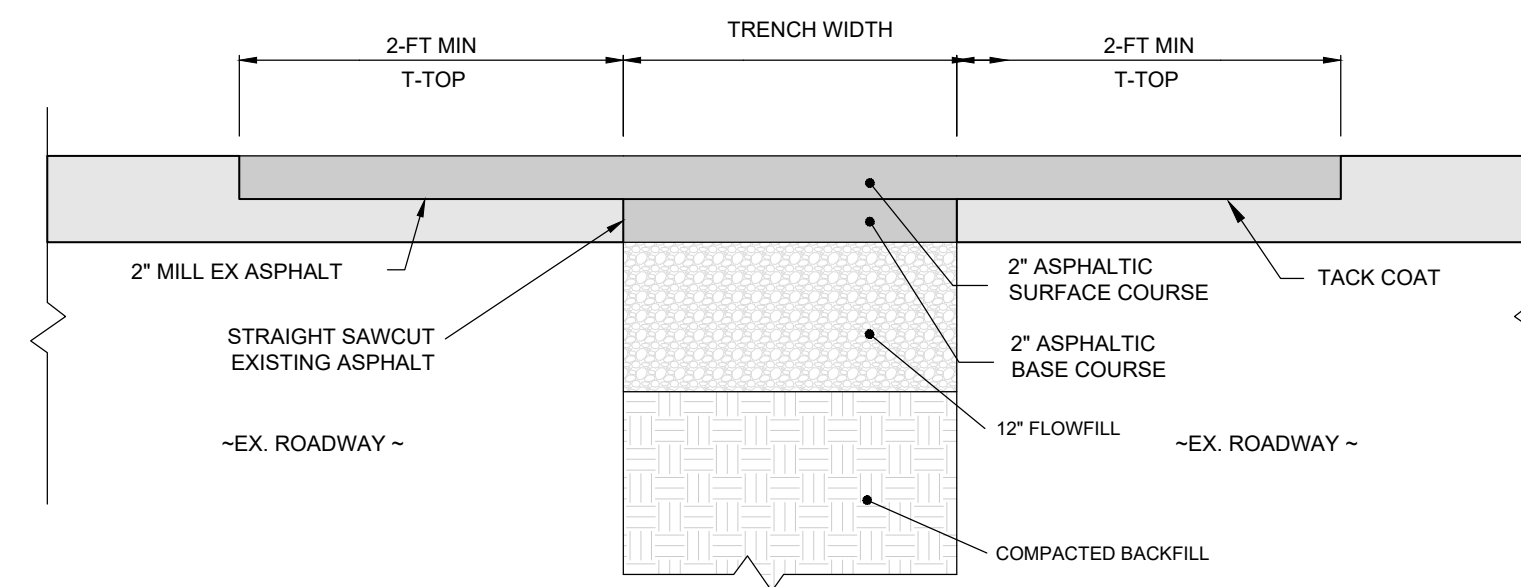
NOTE:  
1. REFER TO NWCC REPORT FOR ADDITIONAL INFORMATION REGARDING PAVEMENT RECOMMENDATIONS.

1.1 HEAVY TRAFFIC (ALL NON-PARKING STALLS) ASPHALT SECTION  
N.T.S.



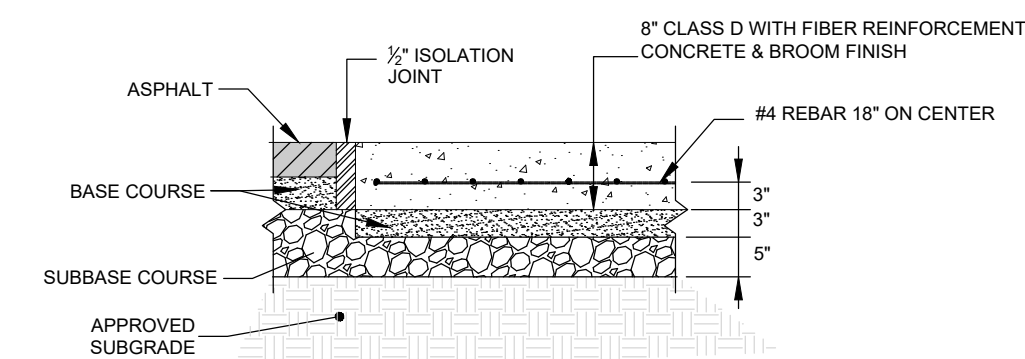
NOTE:  
1. REFER TO NWCC REPORT FOR ADDITIONAL INFORMATION REGARDING PAVEMENT RECOMMENDATIONS.

1.2 LIGHT TRAFFIC (PARKING STALLS) ASPHALT SECTION  
N.T.S.



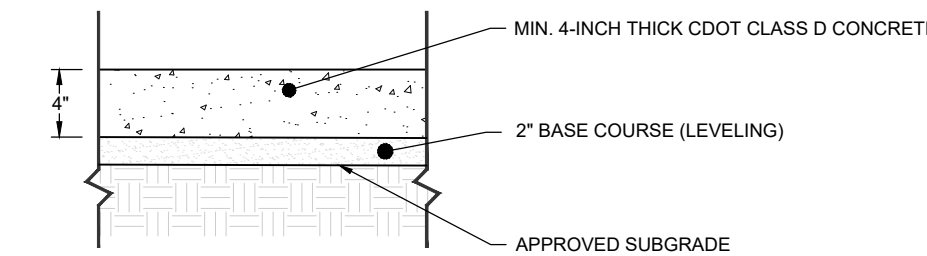
1.3 T-TOP AND ASPHALT TRENCH PATCH (W/ FLOWFILL) SECTION  
N.T.S.

NOTES:  
1. IF FINAL PAVING IS NOT SCHEDULED WITHIN 48 HOURS OF PLACEMENT OF FLOW FILL, CONTRACTOR SHALL PLACE FLOW FILL TO FINISHED GRADE. THEN THE TOP 4-INCHES SHALL BE REMOVED IMMEDIATELY PRIOR TO FINAL ASPHALT PAVING.



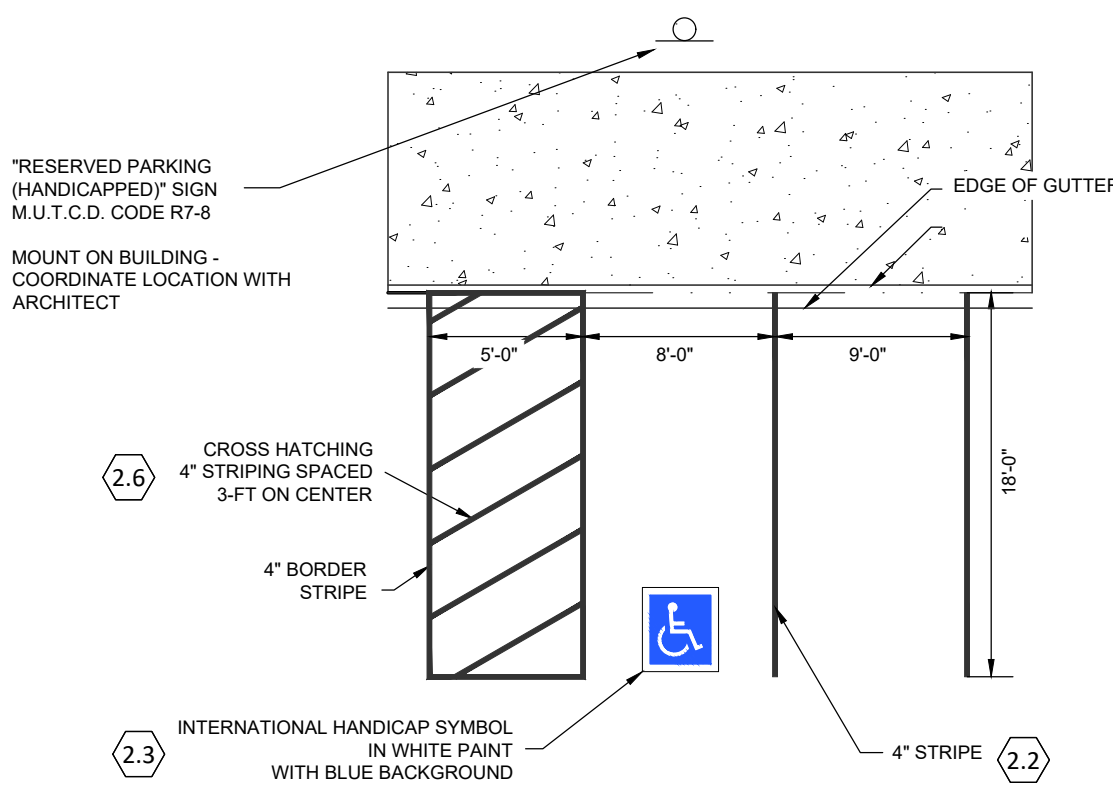
NOTE:  
1. REFER TO NWCC REPORT FOR ADDITIONAL INFORMATION REGARDING PAVEMENT RECOMMENDATIONS.

1.5 DUMPSTER PAD  
N.T.S.



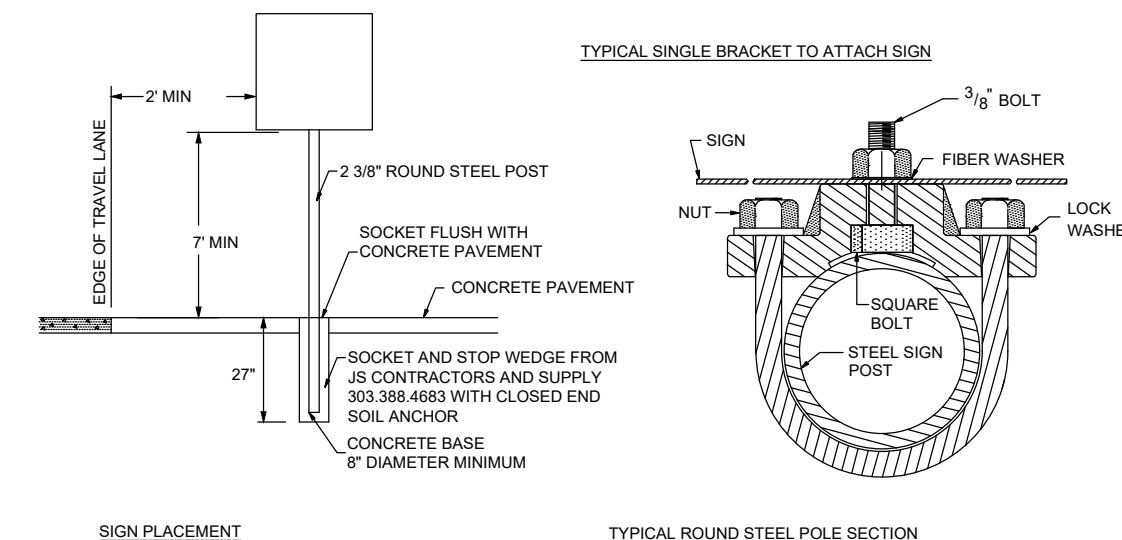
1.6 SIDEWALK AND PATIO SECTION - NON-TRAFFIC  
N.T.S.

NOTE:  
1. REFER TO NWCC REPORT FOR ADDITIONAL INFORMATION REGARDING PAVEMENT RECOMMENDATIONS.



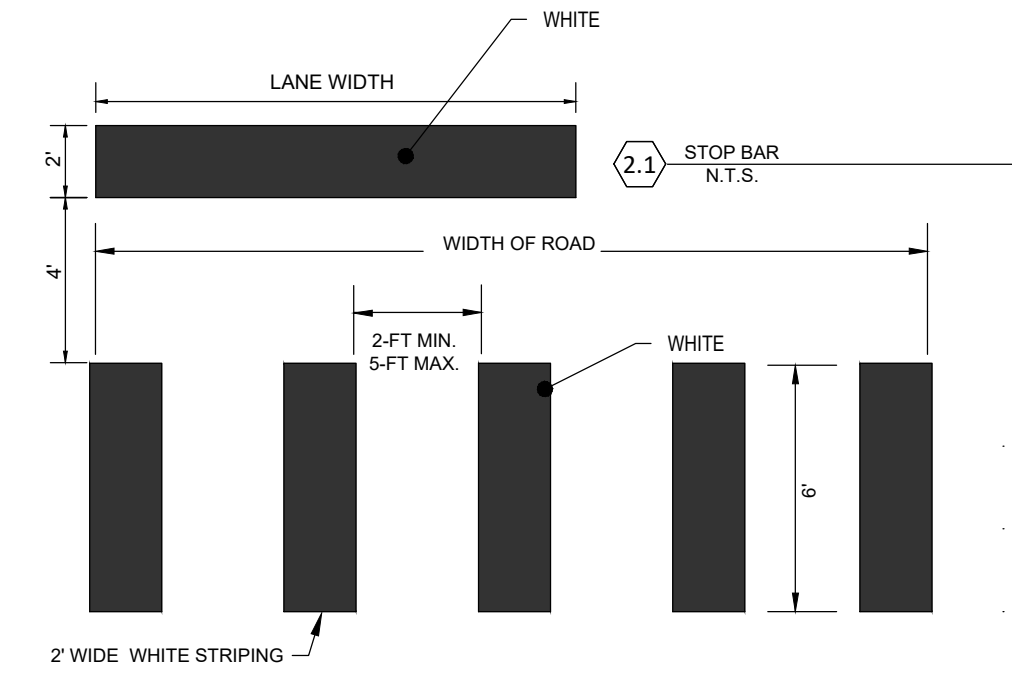
PAVEMENT MARKING NOTES:  
1. PAVEMENT MARKING PAINT SHALL BE YELLOW LATEX, WATERBORNE EMULSION, LEAD AND CHROMATE FREE, READY MIXED, COMPLYING WITH FS TT-P-1952, WITH DRYING TIME LESS THAN 45 MINUTES.  
2. PAINT PAVEMENT MARKINGS ONLY ON CLEAN, DRY SURFACES AND AT A MINIMUM AMBIENT OR SURFACE TEMPERATURE OF 50° F AND MAXIMUM AMBIENT OR SURFACE TEMPERATURE OF 95° DEG F.

TYPICAL STRIPED PARKING LAYOUT  
N.T.S.



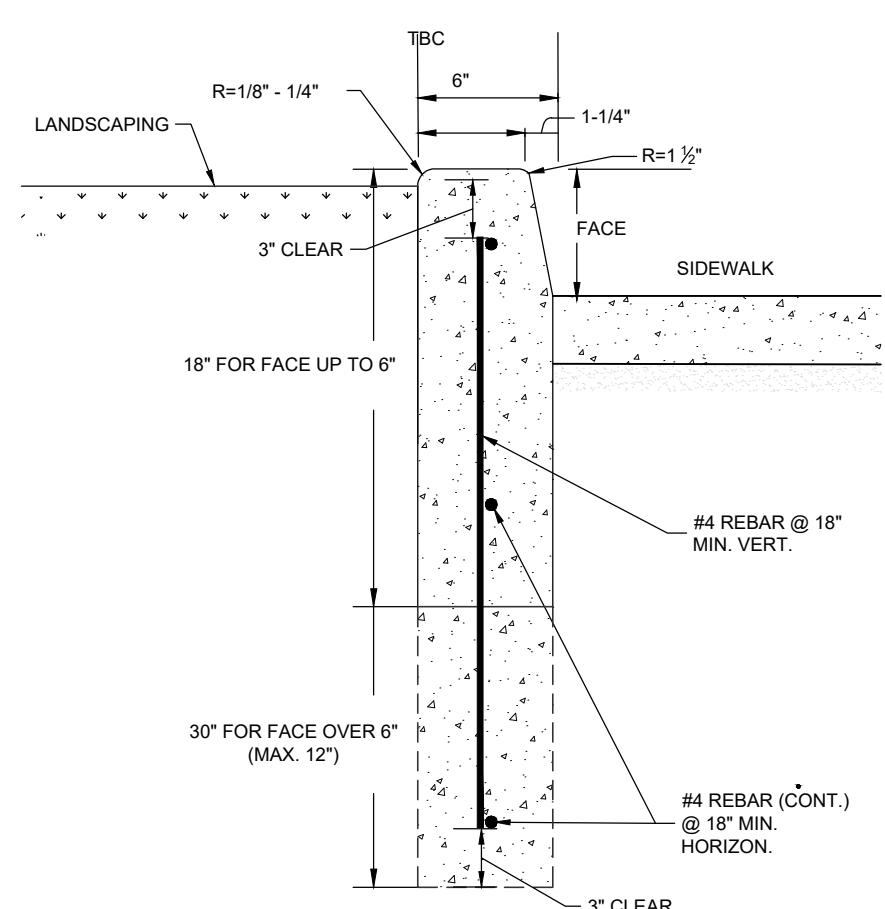
NOTES:  
1. CONFIRM LOCATION OF EACH SIGN IN FIELD WITH ENGINEER PRIOR TO INSTALLATION.

SIGN INSTALLATION DETAIL  
N.T.S.



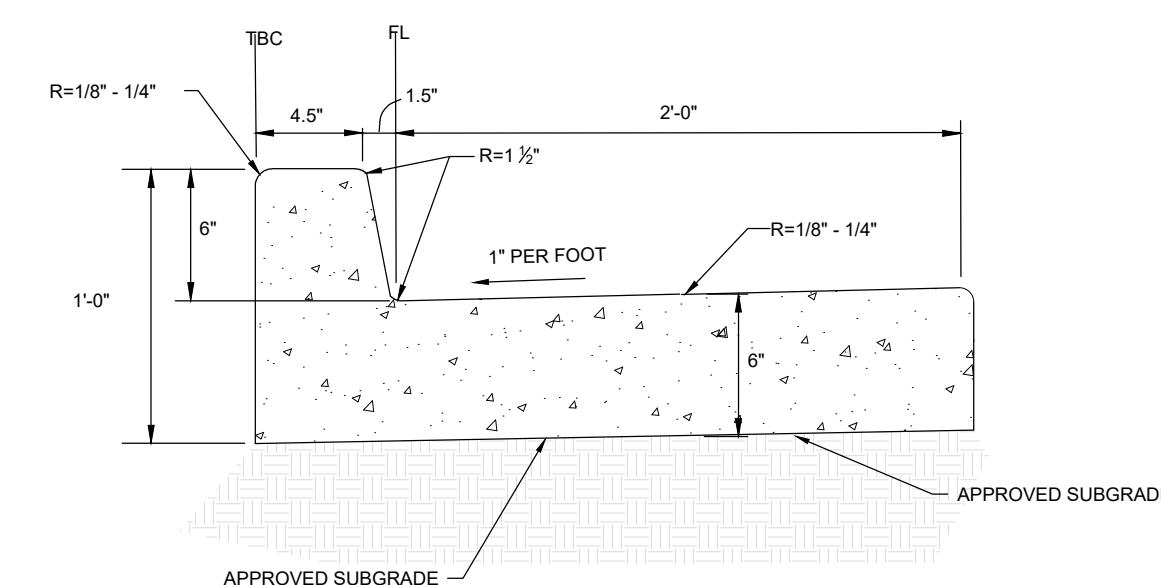
CONTINENTAL CROSS WALK STRIPING NOTES:  
1. CENTER CROSSWALKS ON CURB RAMPS. IF SUCH RAMPS ARE NOT PROVIDED, CENTER ON SIGNAL POLES WHEREVER PRACTICAL.  
2. CENTER CROSSWALKS ON EDGE LINES, LANE LINES AND CHANNELIZING LINES.  
3. CENTER CROSSWALKS BETWEEN ADJACENT LINES.  
4. MARKINGS SHALL NOT BE WITHIN WHEEL PATH OF VEHICLES.  
5. REFER TO CDOT STANDARD PLAN NO. S-627-1 FOR ADDITIONAL INFORMATION.

2.3 CONTINENTAL CROSS WALK STRIPING  
N.T.S.

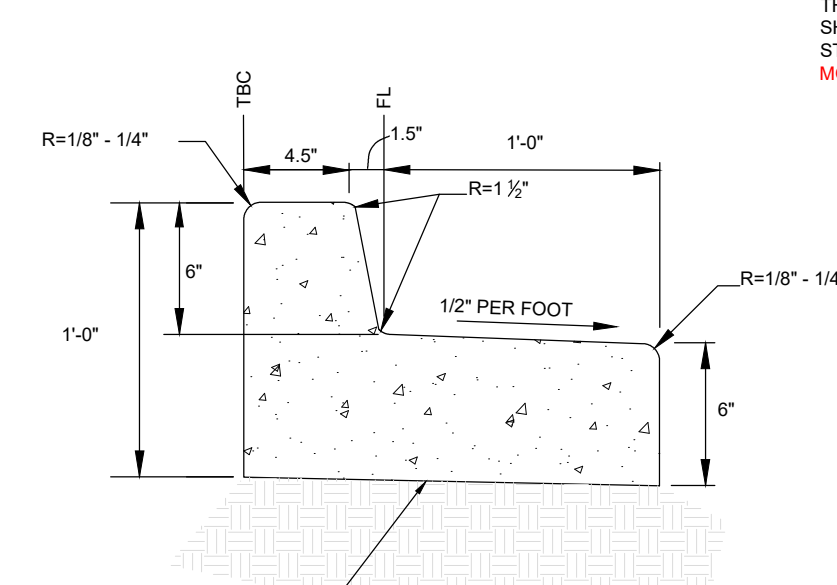


4.4 MODIFIED CDOT CURB TYPE-2 (SECTION B)  
N.T.S.

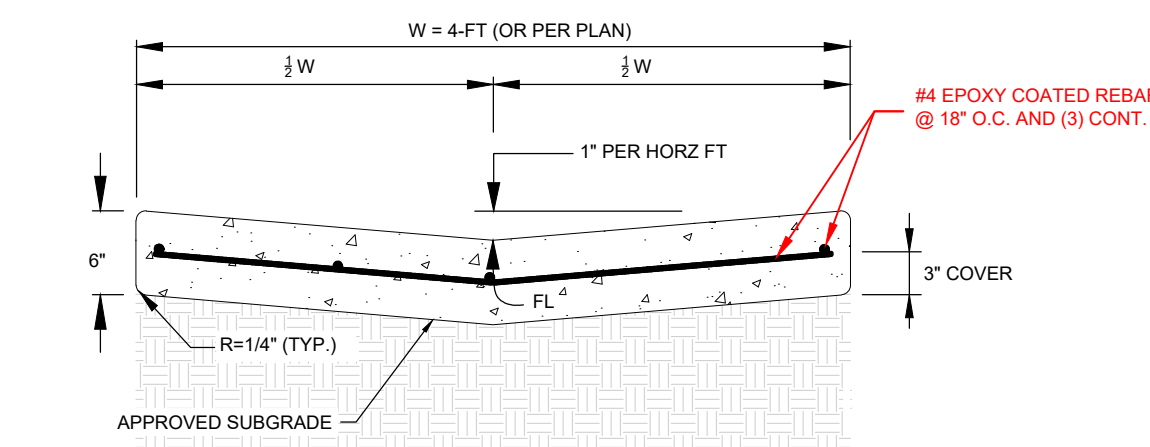
NOTE:  
THESE CURBS SHALL BE CONSTRUCTED USING THE SAME REQUIREMENTS AND METHODS AS DESCRIBED IN CDOT'S CURB, GUTTERS AND SIDEWALKS STANDARD PLAN NO. M-609-1



4.1 CDOT CURB AND GUTTER TYPE-2 (SECTION IIB)  
N.T.S.  
A.K.A.: CATCH CURB AND GUTTER OR VERTICAL CURB



4.2 CDOT CURB AND GUTTER TYPE-2 (SECTION IB)  
N.T.S.  
A.K.A.: SPILL CURB AND GUTTER



4.3 CDOT GUTTER TYPE-2  
N.T.S.  
A.K.A.: VALLEY PAN

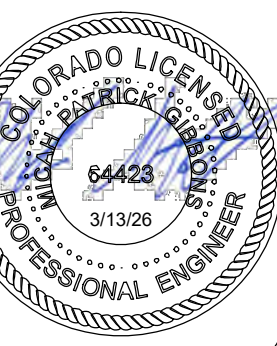
NOTE:  
THESE DETAILS WERE REPLICATED FROM CDOT'S CURB, GUTTERS AND SIDEWALKS STANDARD PLAN NO. M-609-1 AND ARE SHOWN FOR CONVENIENCE. CONTRACTOR TO REFER TO THAT DOCUMENT AND THE CITY OF STEAMBOAT SPRINGS ENGINEERING STANDARDS FOR FULL REQUIREMENTS WHICH ARE HEREBY ADOPTED AND REFERENCED FOR THIS PROJECT. PROJECT SPECIFIC MODIFICATIONS ARE SHOWN IN RED.

CALL UTILITY NOTIFICATION CENTER OF COLORADO



Know what's below.  
Call before you dig.  
CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

These drawings are instruments of service provided by Landmark Consultants, Inc. and are not to be used for any type of construction or contracting unless signed and sealed by a Professional Engineer in the employ of Landmark Consultants, Inc.



NO.	DATE:	BY:	DISCRESSION:

PROJECT:	2387-008
DATE:	3/13/2026
CONTRACT:	Michael Gibbons
EMAIL:	michaelg@landmark-co.com





PROJECT:	2387-009
DATE:	3/12/2016
CONTRACT:	Much Gibbons
EMAIL:	mcc@landmark-co.com
NO.	
DATE:	
BY:	
DESCRIPTION:	

### NYLOPLAST 12" DRAIN BASIN: 2812AG \_\_X

(1, 2) INTEGRATED DUCTILE IRON FRAME & GRATE TO MATCH BASIN O.D.  
 (3) VARIABLE INVERT HEIGHTS AVAILABLE (ACCORDING TO PLANS/TAKE OFF)  
 (4) VARIOUS TYPES OF INLET & OUTLET ADAPTERS AVAILABLE  
 (5) ADAPTER ANGLES VARIABLE 0°-30° ACCORDING TO PLANS  
 (6) WATERTIGHT JOINT (CORRUGATED HOPE SHOWN)  
 (7) TRAFFIC LOADS: CONCRETE SLAB DIMENSIONS ARE FOR GUIDELINE PURPOSES ONLY. ACTUAL CONCRETE SLAB MUST BE DESIGNED TAKING INTO CONSIDERATION LOCAL SOIL CONDITIONS, TRAFFIC LOADING, & OTHER APPLICABLE DESIGN FACTORS. SEE DRAWING NO. 7001-110-111 FOR NON TRAFFIC INSTALLATION.

GRADE OPTIONS	LOAD RATING	PART #	DRAWING
PEDESTRIAN	MEETS H-10	12892GP	7001-110-202
STANDARD	MEETS H-20	12892GS	7001-110-203
SOLID COVER	MEETS H-20	12892GQ	7001-110-204
PEDESTRIAN (BROWSE)	N/A	12892GPR	7001-110-205
DOVE	N/A	12892GD	7001-110-206
DROP IN GRATE	LIGHT DUTY	1291DI	7001-110-201

**ADIS**  
 3130 VERONA AVE  
 BUROFD, GA 30118  
 PHN (770) 832-2443  
 FAX (770) 832-2489  
 www.nyloplast-usa.com

**NYLOPLAST**  
 TITLE: 12 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL  
 DWG NO. 7001-110-188 REV E

### NYLOPLAST DOWNSPOUT ADAPTER WITH CLEANOUT AND INSERTA-TEE

ROOF DRAIN  
 NYLOPLAST DOWNSPOUT ADAPTER TO ADAPT INSIDE ADS N-12 PIPE  
 CLEAN-OUT WITH THREADED CAP  
 ADS N-12 PIPE  
 ADS N-12 WATERTIGHT 45° ELBOW  
 INSERTA-TEE  
 ADS N-12 WATERTIGHT 90° ELBOW  
 ADS N-12 WATERTIGHT TEE-WYE  
 EXISTING MAINLINE PIPE DIAMETER AND MATERIAL MAY VARY

**ADIS**  
 3130 VERONA AVE  
 BUROFD, GA 30118  
 PHN (770) 832-2443  
 FAX (770) 832-2489  
 www.nyloplast-usa.com

**NYLOPLAST**  
 TITLE: NYLOPLAST DOWNSPOUT ADAPTER WITH CLEANOUT AND INSERTA-TEE TYING INTO MAINLINE AT 45°  
 DWG NO. 6008-110-224 REV A

### DOWNSPOUT ADAPTERS

PART #	PIPE SIZE	A	B	C
0364AA	3 in (76 mm)	2.5 in (64 mm)	3.3 in (83 mm)	4.8 in (121 mm)
0464AA	4 in (102 mm)	2.5 in (64 mm)	3.3 in (83 mm)	4.8 in (121 mm)
0465AA	4 in (102 mm)	3.3 in (83 mm)	4.5 in (114 mm)	5.0 in (127 mm)
0466AA	4 in (102 mm)	2.6 in (65 mm)	2.6 in (65 mm)	4.6 in (118 mm)
0664AA	6 in (152 mm)	3.6 in (92 mm)	5.6 in (143 mm)	6.4 in (163 mm)
0664AC*	6 in (152 mm)	3.6 in (92 mm)	5.6 in (143 mm)	6.4 in (163 mm)

\* Part 0664AC is PVC

SNAP CONNECTION

**ADIS**  
 ADVANCED DRAINAGE SYSTEMS, INC.

DRAWING # 6000  
 DRAWN BY: JCB 03-20-07  
 APPROVED BY: JCB 06-28-07  
 REVISIONS: NJP 06-20-07

NOTE: ALL DIMENSIONS ARE NOMINAL

### NON TRAFFIC INSTALLATION

#### DRAIN BASIN

GRATECOVER  
 TOP SOIL  
 4" MIN ON 8" - 24" / 6" MIN ON 3" - 36"

#### INLINE DRAIN

GRATECOVER  
 TOP SOIL  
 4" MIN ON 8" - 24" / 6" MIN ON 3" - 36"

THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS I, CLASS II, OR CLASS III MATERIAL AS DEFINED IN ASTM D2221. BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2221.

**ADIS**  
 3130 VERONA AVE  
 BUROFD, GA 30118  
 PHN (770) 832-2443  
 FAX (770) 832-2489  
 www.nyloplast-usa.com

**ADIS**  
 TITLE: DRAIN BASIN & INLINE DRAIN NON TRAFFIC INSTALLATION  
 DWG NO. 7001-110-111 REV F

### HP STORM TRENCH INSTALLATION DETAIL

MIN COVER TO RIGID PAVEMENT, H  
 MIN COVER TO FLEXIBLE PAVEMENT, H  
 SPRINGLINE  
 INITIAL BACKFILL  
 HAUNCH  
 BEDDING  
 SUITABLE FOUNDATION  
 4" FOR 12" - 24" PIPE / 6" FOR 30" - 60" PIPE  
 MIN TRENCH WIDTH (SEE TABLE)

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**ADIS**  
 TITLE: HP STORM TRENCH INSTALLATION DETAIL  
 DWG NO. 7001-110-189 REV E

### 3099CGSQ & 3099CGSQFH

APPROX. GRATE DRAIN AREA = 146.18 SQ IN  
 \*APPROX. WEIGHT WITH FRAME & HOOD = 287.00 LBS

ADJUSTMENT SLOTS  
 2" X 2" CURB INLET STANDARD GRATE 3099CGSQ  
 22 X SLOT @ 1.00 THRU  
 8.73 HIGHEST HOOD SETTING  
 4.73 LOWEST HOOD SETTING  
 6.87

TOP OF BASE PLATE TO TOP OF DRAIN BASIN

WEIGHT DOES NOT INCLUDE DUCTILE IRON BASE PLATE  
 12BASES: 2.82  
 18BASES: 2.82  
 24BASES: 2.82  
 30BASES: 3.8

12BASES: APPROX. 109.00 LBS  
 18BASES: APPROX. 86.00 LBS  
 24BASES: APPROX. 85.00 LBS  
 30BASES: APPROX. 82.00 LBS

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**ADIS**  
 TITLE: 3" X 2" FT CURB INLET STANDARD GRATE ASSEMBLY  
 DWG NO. 7002-110-942 REV D

### NYLOPLAST INLINE DRAIN WITH STANDARD GRATE

(1, 2) INTEGRATED DUCTILE IRON FRAME & GRATE TO MATCH BASIN O.D.  
 (3) VARIABLE INVERT HEIGHTS AVAILABLE (ACCORDING TO PLANS/TAKE OFF)  
 (4) TRAFFIC LOADS: CONCRETE SLAB DIMENSIONS ARE FOR GUIDELINE PURPOSES ONLY. ACTUAL CONCRETE SLAB MUST BE DESIGNED TAKING INTO CONSIDERATION LOCAL SOIL CONDITIONS, TRAFFIC LOADING, & OTHER APPLICABLE DESIGN FACTORS. SEE DRAWING NO. 7001-110-111 FOR NON TRAFFIC INSTALLATION.  
 (5) VARIOUS TYPES OF INLET & OUTLET ADAPTERS AVAILABLE 4"-30" FOR CORRUGATED HOPE (ADS N-12/HANCOR DUAL WALL, ADS/HANCOR SINGLE WALL, N-12 HP, PVC SEWER (EX. SDR 35), PVC DWV (EX. SCH 40), PVC CROUCORCS, CORRUGATED & RIBBED PVC  
 (6) WATERTIGHT JOINT (CORRUGATED HOPE SHOWN)  
 (7) TRAFFIC LOADS: CONCRETE SLAB DIMENSIONS ARE FOR GUIDELINE PURPOSES ONLY. ACTUAL CONCRETE SLAB MUST BE DESIGNED TAKING INTO CONSIDERATION LOCAL SOIL CONDITIONS, TRAFFIC LOADING, & OTHER APPLICABLE DESIGN FACTORS. SEE DRAWING NO. 7001-110-111 FOR NON TRAFFIC INSTALLATION.

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**ADIS**  
 TITLE: NYLOPLAST INLINE DRAIN WITH STANDARD GRATE QUICK SPEC INSTALLATION DETAIL  
 DWG NO. 7003-110-022 REV J

### 3099CGRDF & 3099CGRFH

APPROX. GRATE DRAIN AREA = 232.87 SQ IN  
 \*APPROX. WEIGHT WITH FRAME & HOOD = 344.00 LBS

2" X 3" CURB INLET DIAGONAL GRATE 3099CGRDF  
 16 X SLOT @ 1.00 THRU  
 ADJUSTMENT SLOTS  
 8.73 HIGHEST HOOD SETTING  
 4.73 LOWEST HOOD SETTING  
 6.87

TOP OF BASE PLATE TO TOP OF DRAIN BASIN

WEIGHT DOES NOT INCLUDE DUCTILE IRON BASE PLATE  
 18BASES: 2.83  
 24BASES: 2.83  
 30BASES: 4.4

18BASES: APPROX. 133.00 LBS  
 24BASES: APPROX. 122.00 LBS  
 30BASES: APPROX. 82.50 LBS

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**ADIS**  
 TITLE: 2 FT X 3 FT CURB INLET DIAGONAL GRATE ASSEMBLY  
 DWG NO. 7002-110-046 REV D

### SECTION 2723

ENGINEERED SURFACE DRAINAGE PRODUCTS

**GENERAL**  
 PVC SURFACE DRAINAGE INLETS SHALL BE OF THE CURB INLET STRUCTURE TYPE AS INDICATED ON THE CONTRACT DRAWINGS AND REFERENCED WITHIN THE CONTRACT SPECIFICATIONS. THE DUCTILE IRON FRAME, GRATE AND HOOD FOR EACH OF THESE STRUCTURES ARE TO BE CONSIDERED AN INTEGRAL PART OF THE SURFACE DRAINAGE INLET AND SHALL BE FURNISHED BY THE SAME MANUFACTURER. THE CURB INLET STRUCTURE SHALL BE AS MANUFACTURED BY NYLOPLAST A DIVISION OF ADVANCED DRAINAGE SYSTEMS, INC. OR PRIOR APPROVED EQUAL.

**MATERIALS**  
 THE CURB INLET STRUCTURE REQUIRED FOR THIS CONTRACT SHALL BE MANUFACTURED FROM PVC PIPE STOCK. UTILIZING A THERMO-MOLDING PROCESS TO REFORM THE PIPE STOCK TO THE SPECIFIED CONFIGURATION. THE DRAINAGE PIPE CONNECTION SHALL BE MANUFACTURED FROM PVC PIPE STOCK AND FORMED TO PROVIDE A WATERTIGHT CONNECTION WITH THE SPECIFIED PIPE SYSTEM. THIS JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR JOINTS FOR DRAIN AND SEWER PLASTIC PIPE USING FLEXIBLE ELASTOMERIC SEALS. THE FLEXIBLE ELASTOMERIC SEALS SHALL CONFORM TO ASTM F437. THE PIPE BELL SPOUT SHALL BE JOINED TO THE MAIN BODY OF THE STRUCTURE. THE RAW MATERIAL USED TO MANUFACTURE THE PIPE STOCK THAT IS USED TO MANUFACTURE THE MAIN BODY AND PIPE STUBS OF THE SURFACE DRAINAGE INLETS SHALL CONFORM TO ASTM D1794 CELL CLASS 15454.

THE GRATE, FRAME AND HOOD FOR ALL CURB INLET STRUCTURES SHALL BE DUCTILE IRON AND SHALL BE MADE SPECIFICALLY FOR EACH SO AS TO PROVIDE A ROUND BOTTOM FLANGE THAT CLOSELY MATCHES THE DIAMETER OF THE PVC STRUCTURE BODY. THE GRATE, FRAME AND HOOD SHALL BE CAPABLE OF SUPPORTING H-20 WHEEL LOADING FOR TRAFFIC AREAS. THE HOOD SECTION WILL HAVE A SOLID BACK AND BE ADJUSTABLE BY USE OF THREE (3) LOCKING HEX HEAD BOLTS. THE METAL USED IN THE MANUFACTURE OF THE CASTINGS SHALL CONFORM TO ASTM A536 GRADE 70-50-05 FOR DUCTILE IRON.

**INSTALLATION**  
 THE SPECIFIED PVC SURFACE DRAINAGE INLET SHALL BE INSTALLED USING CONVENTIONAL FLEXIBLE PIPE BACKFILL MATERIALS AND PROCEDURES. THE BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS I, CLASS II, OR CLASS III MATERIALS AS DEFINED IN ASTM D2221. BEDDING AND BACKFILL FOR THE CURB INLET STRUCTURE SHALL BE PLACED AND COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2221. THE CURB INLET STRUCTURE BODY WILL BE CUT AT THE TIME OF THE FINAL GRADE. NO BRICK, STONE OR CONCRETE BLOCK WILL BE REQUIRED TO SET THE GRATE TO THE FINAL GRADE HEIGHT. FOR H-20 LOAD RATED INSTALLATIONS, A CONCRETE RING WILL BE POURED UNDER THE FRAME, GRATE, AND HOOD. THE CONCRETE SLAB MUST BE DESIGNED TAKING INTO CONSIDERATION LOCAL SOIL CONDITIONS, TRAFFIC LOADING, AND OTHER APPLICABLE DESIGN FACTORS. FOR OTHER INSTALLATION CONSIDERATIONS SUCH AS MIGRATION OF FINES, GROUND WATER, AND SOFT FOUNDATIONS REFER TO ASTM D2221 GUIDELINES.

**PAINT:** CASTINGS ARE FURNISHED WITH A BLACK PAINT LOOKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7002-110-603

**QUALITY:** MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05

**GRADE:** GRATE SURFACE IS 5.2% SLOPE OF GRATE SURFACE IS 5.2%  
 CURB INLET FRAME INSIDE VOLUME IS APPROX 1.76 CU FT  
 APPROX. DRAIN AREA OF GRATE & HOOD  
 LOWEST SETTING = 227.32 SQ IN  
 LOWEST + 1" SETTING = 248.25 SQ IN  
 LOWEST + 2" SETTING = 269.12 SQ IN  
 LOWEST + 3" SETTING = 290.00 SQ IN  
 HIGHEST SETTING = 310.87 SQ IN

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**ADIS**  
 TITLE: 2 FT X 3 FT CURB INLET DIAGONAL GRATE ASSEMBLY  
 DWG NO. 7002-110-046 REV D

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PROJECT:	2387-009
DATE:	3/13/2020
CONTACT:	Muhammad Ghossein
EMAIL:	mghossein@landmark-co.com

NO.	DATE:	DESCRIPTION:

PROJECT:	2387-009
DATE:	3/13/2020
CONTACT:	Muhammad Ghossein
EMAIL:	mghossein@landmark-co.com

Steamboat Basecamp 2 Residential  
 CDOT - Ramp Details

**Blended Transition**  
**Depressed Corner**

**Blended Transition & Depressed Corner Notes**

- PERPENDICULAR AND PARALLEL RAMP CONFIGURATIONS ARE PREFERRED. BLENDED TRANSITIONS AND DEPRESSED CORNERS SHOULD ONLY BE USED WHERE SITE CONSTRAINTS MAKE THEM A MORE APPROPRIATE OPTION, OR WHERE PERPENDICULAR OR PARALLEL RAMP CONFIGURATIONS CANNOT BE INSTALLED DUE TO A PHYSICAL SITE CONSTRAINT.
- RAMP WIDTH - PROVIDE 5 FT. OR GREATER WHERE POSSIBLE. IF SITE CONSTRAINTS DO NOT PERMIT, PROVIDE 4 FT. WIDTH MINIMUM. RAMP WIDTHS SERVING SHARED USE PATHS SHALL MATCH THE WIDTH OF THE PATH.
- RAMP RUNNING SLOPE - 8.3% MAX.
- BLENDED TRANSITION RUNNING SLOPE - 5.0% MAX.
- RAMP AND TURNING SPACE CROSS SLOPE - 2.0% TYPICAL. AT CROSSINGS WITHOUT YIELD OR STOP CONTROL, OR WITH A SIGNAL WHERE VEHICLES CAN PROCEED THROUGH THE INTERSECTION WITHOUT SLOWING OR STOPPING, THE CROSS SLOPE OF RAMP AND TURNING SPACES MAY EQUAL THE HIGHWAY GRADE.
- TURNING SPACE DIMENSIONS - PROVIDE A 4 FT. X 4 FT. MIN. TURNING SPACE AT THE BOTTOM OF RAMP RUNS. THE TURNING SPACE MAY CONTAIN THE DETECTABLE WARNING SURFACES.
- RAMP ALIGNMENT - TURNING SPACE SHALL BE ALIGNED TO BE FULLY CONTAINED WITHIN THE CROSSWALK OR STREET CROSSING(S) IT SERVES.
- RAMP LENGTH - RAMP LENGTH IS DEPENDENT UPON THE RAMP SLOPE AND THE CHANGE OF ELEVATION FROM THE TURNING SPACE TO THE SIDEWALK. WHERE TERRAIN IS SLOPING A RAMP IS NOT REQUIRED TO CHASE GRADE MORE THAN 15 FT. REGARDLESS OF THE RESULTING RAMP SLOPE.
- RAMP FLARES - WHERE A RAMP EDGE ADJUTS A WALKABLE SURFACE, A FLARED SIDE SHALL BE PROVIDED. RAMP FLARE SLOPES SHALL NOT EXCEED 10.0%.
- VERTICAL CURB RETURNS - VERTICAL CURB RETURNS MAY BE USED ONLY WHERE A RAMP ADJUTS A NON-WALKABLE SURFACE, OR WHERE A RAMP IS PROTECTED FROM PEDESTRIAN CROSS TRAFFIC (FOR EXAMPLE BY A SIGNAL CABINET OR UTILITY POLE WHICH BLOCKS PASSAGE).
- GUTTER COUNTER SLOPE - 5.0% MAX.
- DWS PLACEMENT - DWS SHALL BE PLACED AROUND THE RADIUS AND LOCATED AT THE BACK OF CURB ON BLENDED TRANSITION AND DEPRESSED CORNER RAMPS.

**Blended Transition**  
**Depressed Corner**  
**TYPE 5 - DEPRESSED CORNER/BLENDED TRANSITION**

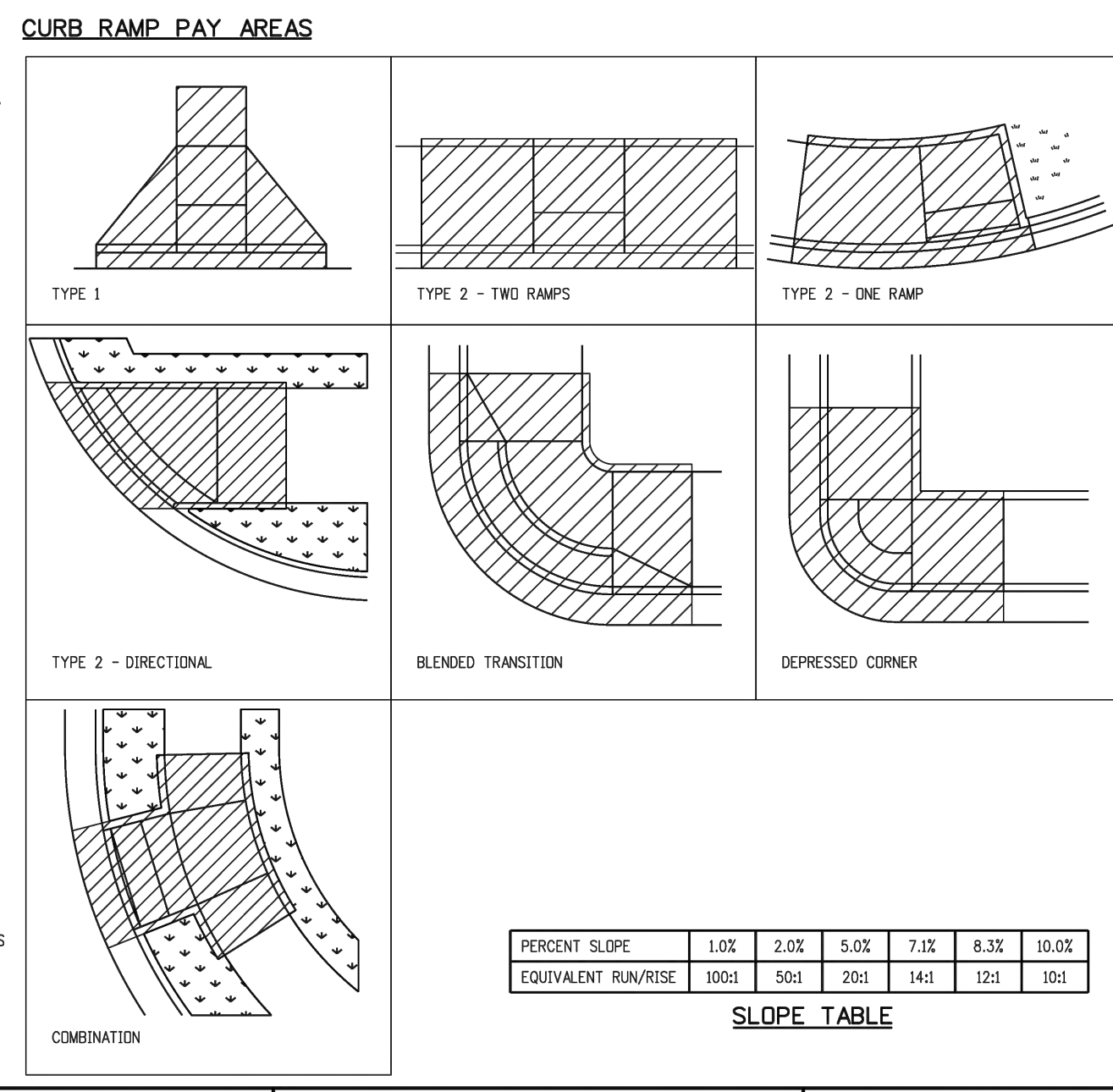
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Last Modification Date: 07/31/19		JBK	Project Sheet Numbers
Detailer Initials: LTA			
CAO Ver: MicroStation V8 Scale: Not to Scale Units: English			

**CURB RAMP GENERAL NOTES:**

- IN NEW CONSTRUCTION OR FULL-DEPTH RECONSTRUCTION, PROVIDE A SEPARATE CURB RAMP FOR EACH MARKED OR UNMARKED PEDESTRIAN STREET CROSSING. CURB RAMPS SHALL BE CONTAINED WHOLLY WITHIN THE WIDTH OF THE PEDESTRIAN STREET CROSSING OR CROSSWALK THEY SERVE, OR AS SHOWN ON THE CONTRACT PLANS.
- ALTERATIONS ARE DEFINED AS CHANGES TO AN EXISTING HIGHWAY THAT AFFECT PEDESTRIAN ACCESS, CIRCULATION, OR USE. ALTERATIONS INCLUDE, BUT ARE NOT LIMITED TO, RESURFACING, REHABILITATION, RECONSTRUCTION, CURB RAMP RETROFITS, HISTORIC RESTORATION, OR CHANGES OR REARRANGEMENT TO STRUCTURAL PARTS OR ELEMENTS OF A PEDESTRIAN FACILITY.
- A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP OR TURNING SPACE, WITHOUT RAISED OBSTACLES, THAT COULD BE MISTAKENLY TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.
- IN ALTERATIONS, WHERE AN EXISTING PHYSICAL CONSTRAINT PREVENTS PROVIDING A SEPARATE CURB RAMP FOR EACH PEDESTRIAN STREET CROSSING, A SINGLE DIAGONAL RAMP ON THE APPEX SHALL BE PERMITTED TO SERVE BOTH PEDESTRIAN STREET CROSSINGS. THE USE OF A SINGLE DIAGONAL RAMP SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION. DIAGONAL RAMPS ARE NOT ACCEPTABLE IN NEW CONSTRUCTION OR FULL-DEPTH RECONSTRUCTION.
- DETECTABLE WARNING SURFACES (DWS) ARE INTENDED TO INDICATE THE BOUNDARY BETWEEN A PEDESTRIAN ROUTE AND VEHICULAR ROUTE WHERE THERE IS A FLUSH RATHER THAN CURBED CONNECTION. DWS ARE NOT INTENDED TO PROVIDE WAYFINDING. DWS SHALL BE PROVIDED AT THE FOLLOWING LOCATIONS:
  - CURB RAMPS, BLENDED TRANSITIONS, AND DEPRESSED CORNERS AT PEDESTRIAN STREET CROSSINGS.
  - PEDESTRIAN REFUGE ISLANDS (6 FEET IN WIDTH OR GREATER).
  - BOARDING PLATFORMS AT TRANSIT STOPS WHERE THE EDGE OF THE PLATFORM IS NOT PROTECTED TO PEDESTRIAN CROSS TRAFFIC; AND
  - BOARDING AREAS AT SIDEWALK OR STREET LEVEL TRANSIT STOPS WHERE THE AREA IS NOT PROTECTED TO PEDESTRIAN CROSS TRAFFIC.
- DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH THE ADJACENT GUTTER, HIGHWAY, OR PEDESTRIAN ACCESS ROUTE SURFACE, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT. FEDERAL YELLOW COLOR IS PREFERRED, HOWEVER, OTHER COLORS MAY BE USED IF APPROVED BY THE ENGINEER.
- IN ALTERATIONS, TO AVOID CHASING GRADE INDEFINITELY ON STEEP ROADWAYS, A CURB RAMP LENGTH IS NOT REQUIRED TO EXCEED 15 FEET REGARDLESS OF THE RESULTING RAMP SLOPE.
- ALL SLOPES ARE MEASURED WITH RESPECT TO A LEVEL PLANE.
- DRAINAGE STRUCTURES, TRAFFIC SIGNAL EQUIPMENT, OR OTHER OBSTRUCTIONS SHALL NOT BE INSTALLED ON THE CURB RAMP, OR TURNING SPACE AREAS.
- IN NEW CONSTRUCTION, FULL BOXES, METER BOXES, MAINTENANCE HOLE COVERS, VAULT LIDS, OR SIMILAR, SHALL NOT BE CONSTRUCTED WITHIN ANY PART OF CURB RAMP OR TURNING SPACE. IN ALTERATIONS, WHERE THESE ITEMS CANNOT BE RELOCATED OUTSIDE OF THE CURB RAMP OR TURNING SPACE, THEY MUST NOT CREATE A VERTICAL DISCONTINUITY GREATER THAN 1/2 INCH. ANY VERTICAL DISCONTINUITY BETWEEN 1/4 INCH AND 1/2 INCH SHALL BE BEVELLED WITH A SLOPE NOT STEEPER THAN 1:2H. THE BEVEL SHALL BE APPLIED ACROSS THE ENTIRE SURFACE DISCONTINUITY.
- CONSTRUCTION OF ANY REQUIRED PEDESTRIAN CURB SHALL BE INCLUDED IN THE BID PRICE OF THE CONCRETE CURB RAMP AND WILL NOT BE PAID FOR SEPARATELY.
- ALL CURB RAMP JOINTS AND GRADE BREAKS SHALL BE FLUSH (0-1/8"). THE JOINT BETWEEN THE ROADWAY SURFACE AND THE GUTTER PAN SHALL BE FLUSH.
- THE CONTRACTOR SHALL VERIFY REMOVAL LIMITS ARE SUFFICIENT TO PROVIDE POSITIVE DRAINAGE, MAINTAIN EXISTING DRAINAGE PATTERNS, AND AVOID PONDING IN THE FINAL CONFIGURATION.
- FLARED SIDE SLOPES MAY EXCEED 10.0% ONLY WHERE THEY ADJUT A NON-WALKABLE SURFACE, OR WHERE THE ADJACENT RAMP SURFACE IS BLOCKED TO PEDESTRIAN TRAFFIC.
- THE CHANGE IN GRADE AT THE BOTTOM OF THE CURB RAMP SHALL NOT EXCEED AN ALGEBRAIC DIFFERENCE OF 13.33% THE COUNTER SLOPE OF THE GUTTER AT THE FOOT OF A RAMP, TURNING SPACE, OR BLENDED TRANSITION SHALL NOT EXCEED 5.0%.
- GRADE BREAKS AT THE TOP AND BOTTOM OF RAMP RUNS SHALL BE PERPENDICULAR TO THE DIRECTION OF THE RAMP RUN. GRADE BREAKS SHALL NOT BE PERMITTED ON THE SURFACE OF THE RAMP RUN OR TURNING SPACE SURFACE SLOPES THAT MEET AT GRADE BREAKS SHALL BE FLUSH.
- A BRUSH FINISH, WITH SWEEPS PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAFFIC, SHALL BE APPLIED TO ALL RAMP AND TURNING SPACE SURFACES.
- IN ALTERATIONS, WHERE A RAMP OR TURNING SPACE MEET INTO AN EXISTING GRADE THAT CANNOT BE ALTERED, THE RAMP OR TURNING SPACE MAY BE WARRD TO TRANSITION TO THE REQUIRED CROSS SLOPE. THE TRANSITION TO THE REQUIRED CROSS SLOPE SHALL BE SPREAD EVENLY OVER THE LENGTH OF THE RAMP OR TURNING SPACE TO MINIMIZE THE DEGREE OF WARPING. THE RATE OF CHANGE ON A RAMP OR TURNING SPACE SHALL NOT EXCEED 3% PER LINEAR FOOT.
- DESIGN AND CONSTRUCT CURB RAMPS, TURNING SPACES, AND FLARE SLOPES WITH THE FLATTEST SLOPES POSSIBLE. THE SLOPES INDICATED IN THESE DETAILS SHOW THE MAXIMUM SLOPES ALLOWABLE. PREFERRED VALUES TO BE USED DURING DESIGN, LAYOUT, AND CONSTRUCTION ARE:
  - RAMP RUNNING SLOPE 7.5%
  - RAMP CROSS SLOPE 1.5%
  - TURNING SPACE RUNNING SLOPE 1.5%
  - TURNING SPACE CROSS SLOPE 1.5%
  - FLARE SLOPE 8.0-9.0%

**GENERAL NOTES & PAY AREAS**

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CAO Ver: MicroStation V8 Scale: Not to Scale Units: English			



**Parallel Ramp**  
**Sidewalk to Shoulder Transition**

**Parallel Ramp Notes**

- RAMP WIDTH - PROVIDE A RAMP WIDTH EQUAL TO THE ADJOINING SIDEWALK, PROVIDE 4 FT. WIDTH MINIMUM. RAMP WIDTHS SERVING SHARED USE PATHS SHALL MATCH THE WIDTH OF THE PATH.
- RAMP RUNNING SLOPE - 8.3% MAX.
- RAMP CROSS SLOPE - 2.0% MAX.
- TURNING SPACE RUNNING SLOPE - 2.0% MAX. TURNING SPACE RUNNING SLOPE IS MEASURED PERPENDICULAR TO THE BACK OF CURB.
- TURNING SPACE CROSS SLOPE - 2.0% TYPICAL. AT CROSSINGS WITHOUT YIELD OR STOP CONTROL, OR WITH A SIGNAL WHERE VEHICLES CAN PROCEED THROUGH THE INTERSECTION WITHOUT SLOWING OR STOPPING, THE CROSS SLOPE OF THE TURNING SPACE MAY EQUAL THE HIGHWAY GRADE. AT MIDBLOCK PEDESTRIAN STREET CROSSINGS THE TURNING SPACE CROSS SLOPE MAY EQUAL THE HIGHWAY GRADE. TURNING SPACE CROSS SLOPE IS MEASURED IN THE DIRECTION OF THE RAMP RUN.
- TURNING SPACE DIMENSIONS - PROVIDE A TURNING SPACE AT THE BOTTOM OF PARALLEL RAMPS WITH A WIDTH EQUAL TO THE WIDTH OF THE CURB RAMP. PROVIDE 4 FT. MINIMUM MEASURED IN THE DIRECTION OF THE RAMP RUN. IF THE TURNING SPACE IS CONSTRAINED ON TWO SIDES, PROVIDE 5 FT. MEASURED IN THE DIRECTION OF PEDESTRIAN STREET CROSSING. THE TURNING SPACE MAY CONTAIN THE DETECTABLE WARNING SURFACE.
- RAMP ALIGNMENT - RAMPS SHALL BE ALIGNED TO THE TURNING SPACE IS FULLY CONTAINED WITHIN THE CROSSWALK OR STREET CROSSING THEY SERVE. PROVIDE ONE RAMP FOR EACH CROSSING DIRECTION. IN ALTERATIONS, WHERE EXISTING PHYSICAL CONSTRAINTS PREVENT PROVIDING ONE RAMP FOR EACH CROSSING DIRECTION, A SINGLE DIAGONAL CURB RAMP ON THE APPEX OF A CORNER SHALL BE PERMITTED TO SERVE BOTH PEDESTRIAN STREET CROSSINGS. DIAGONAL RAMPS ARE NOT ACCEPTABLE IN NEW CONSTRUCTION, OR FULL-DEPTH RECONSTRUCTION.
- RAMP LENGTH - PARALLEL RAMP LENGTH IS DEPENDENT UPON THE RAMP SLOPE AND THE CHANGE OF ELEVATION FROM THE TURNING SPACE TO THE SIDEWALK. WHERE TERRAIN IS SLOPING A RAMP IS NOT REQUIRED TO CHASE GRADE MORE THAN 15 FT. REGARDLESS OF THE RESULTING RAMP SLOPE.
- GUTTER COUNTER SLOPE - 5.0% MAX.

**Parallel Ramp**  
**Sidewalk to Shoulder Transition**  
**TYPE 2 PARALLEL CURB RAMPS**

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Designer Initials: JBK	Comments:	<b>Project Development Branch</b>	<b>Standard Sheet No. 4 of 10</b>
Last Modification Date: 07/31/19		JBK	Project Sheet Numbers
Detailer Initials: LTA			
CAO Ver: MicroStation V8 Scale: Not to Scale Units: English			

**Perpendicular Ramp**  
**Perpendicular Ramp (with Vertical Return Curb)**

**Perpendicular Ramp Notes**

- RAMP WIDTH - PROVIDE 5 FT. OR GREATER WHERE POSSIBLE. IF SITE CONSTRAINTS DO NOT PERMIT, PROVIDE 4 FT. MINIMUM. RAMP WIDTHS SERVING SHARED USE PATHS SHALL MATCH THE WIDTH OF THE PATH.
- RAMP RUNNING SLOPE - 8.3% MAX.
- TURNING SPACE RUNNING SLOPE - 2.0% MAX. TURNING SPACE RUNNING SLOPE IS MEASURED IN THE SAME DIRECTION AS THE RAMP RUNNING SLOPE.
- RAMP AND TURNING SPACE CROSS SLOPE - 2.0% TYPICAL. AT CROSSINGS WITHOUT YIELD OR STOP CONTROL, OR WITH A SIGNAL WHERE VEHICLES CAN PROCEED THROUGH THE INTERSECTION WITHOUT SLOWING OR STOPPING, THE CROSS SLOPE OF RAMP AND TURNING SPACES MAY EQUAL THE HIGHWAY GRADE. AT MIDBLOCK PEDESTRIAN STREET CROSSINGS THE RAMP AND TURNING SPACE CROSS SLOPE MAY EQUAL THE HIGHWAY GRADE.
- TURNING SPACE DIMENSIONS - PROVIDE A TURNING SPACE AT THE TOP OF PERPENDICULAR RAMPS WITH A WIDTH EQUAL TO THE WIDTH OF THE CURB RAMP. TURNING SPACE LENGTH MUST BE 4 FT. MINIMUM MEASURED IN THE DIRECTION OF THE RAMP RUN WHEN A TURNING SPACE IS CONSTRAINED AT THE BACK OF SIDEWALK, INCREASE LENGTH TO 5 FT. MINIMUM IN THE DIRECTION OF THE RAMP RUN.
- RAMP ALIGNMENT - RAMPS SHALL BE ALIGNED TO BE FULLY CONTAINED WITHIN THE CROSSWALK OR STREET CROSSING THEY SERVE. PROVIDE ONE RAMP FOR EACH STREET CROSSING DIRECTION. IN ALTERATIONS, WHERE EXISTING PHYSICAL CONSTRAINTS PREVENT PROVIDING ONE CURB RAMP FOR EACH CROSSING DIRECTION, A SINGLE DIAGONAL CURB RAMP ON THE APPEX OF A CORNER SHALL BE PERMITTED TO SERVE BOTH PEDESTRIAN STREET CROSSINGS. IF A DIAGONAL RAMP IS USED, A CLEAR SPACE 4 FT. X 4 FT. MUST BE PROVIDED AT THE BASE OF THE RAMP. THE CLEAR SPACE MUST BE WITHIN BOTH CROSSWALKS AND WHOLLY OUTSIDE OF ANY ADJACENT VEHICULAR TRAVEL LANES. DIAGONAL RAMPS ARE NOT ACCEPTABLE IN NEW CONSTRUCTION, OR FULL-DEPTH RECONSTRUCTION.
- RAMP LENGTH - PERPENDICULAR RAMP LENGTH IS DEPENDENT UPON THE RAMP SLOPE, HEIGHT OF CURB, AND ADJACENT SIDEWALK CROSS-SLOPE WHICH MUST BE INTERCEPTED. SEE DETAIL A FOR CALCULATING RAMP LENGTH WHEN CHASING SIDEWALK CROSS-SLOPE. WHERE TERRAIN IS SLOPING A RAMP IS NOT REQUIRED TO CHASE GRADE MORE THAN 15 FT. REGARDLESS OF THE RESULTING RAMP SLOPE.
- RAMP FLARES - WHERE A RAMP EDGE ADJUTS A WALKABLE SURFACE, A FLARED SIDE SHALL BE PROVIDED. RAMP FLARE SLOPES SHALL NOT EXCEED 10.0%.
- VERTICAL CURB RETURNS - VERTICAL CURB RETURNS MAY BE USED ONLY WHERE A RAMP ADJUTS A NON-WALKABLE SURFACE, OR WHERE A RAMP IS PROTECTED FROM PEDESTRIAN CROSS TRAFFIC (FOR EXAMPLE BY A SIGNAL CABINET OR UTILITY POLE WHICH BLOCKS PASSAGE).
- GUTTER COUNTER SLOPE - 5.0% MAX.

**Perpendicular Ramp**  
**Perpendicular Ramp (with Vertical Return Curb)**  
**TYPE 1 PERPENDICULAR CURB RAMPS**

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Last Modification Date: 07/31/19		JBK	Project Sheet Numbers
Detailer Initials: LTA			
CAO Ver: MicroStation V8 Scale: Not to Scale Units: English			

NOTE: THESE DETAILS ARE FROM THE 2019 M STANDARD PLANS AND PROJECT SPECIAL DRAWINGS BY THE COLORADO DEPARTMENT OF TRANSPORTATION. THESE WERE INCLUDED WITH THESE DRAWINGS WITH THE INTENTION FOR CONVENIENCE PURPOSES ONLY. REFER TO THE ACTUAL, FULL REFERENCED PLANS AND SPECIFICATIONS FOR FULL REQUIREMENTS.

