

5.5 Parcel Access Design Standards

The intent for parcel access such as driveways in Boulder County is to provide safe access to residences, businesses, or other properties for motor vehicles (including service and emergency response), pedestrians, and bicycles. They shall be designed to fit the terrain by minimizing cuts and fills, minimizing the removal of trees or other significant vegetation, and shall be finished using landscaping (softscape or hardscape) that minimizes visual impacts.

5.5.1 Design Standards

Accesses that serve up to 15 development units shall be designed according to the standards outlined on the following page. Private accesses that serve more than 15 development units shall conform to the standards for Local or Local Secondary roads. A Transportation System Impact Analysis, where required, shall be done as described in Article 4. See Table 5.5.1 Parcel Access Design Standards.

5.5.2 Additional Considerations

- Earthwork quantities for proposed access construction should be managed to minimize excessive waste or import of materials.
- Storm water management best practices are required on all disturbances.
- Access shall be designed to reasonably accommodate fire fighting and other emergency service vehicles.
- Seeding or appropriate revegetation blankets for slope stabilization are required as appropriate.
- Accesses shall be designed so that loose material does not run onto adjacent roads or migrate into drainage ways.

Table 5.5.1 Parcel Access Design Standards

	One-Lane Access		Two-Lane Access	
	Plains	Mountains	Plains	Mountains
# of units	1 - 5		6 - 15	
Travelway Width (8' turnouts 8'x 55' incl. tapers - required every 400')	10'	12'	18'	18'
Surface Course	Per geotechnical report ¹		Per geotechnical report	
ROW/Easement Width (min.)	20' 28' w/turnouts		30'	
Centerline Radius (min.)	40'		40'	
Max. Grade (%)	12	12 or up to 14 for 200' max. ²	12	12 or up to 14 for 200' max.
Max. Grade through curve	6% ³		6%	
Clearance Vertical/ Horizontal	13'-6" / 14'	13'-6" / 16'	13'-6" / 22'	
Roadside Ditches	Designed and constructed to Standard Drawings. See BCSDCM and USDCM for permanent erosion control practices.		Designed and constructed to Standard Drawings. See BCSDCM and USDCM for permanent erosion control practices.	
Slope Stability	Per geotechnical recommendations to design stability and facilitate revegetation ⁴		Per geotechnical recommendations to design stability and facilitate revegetation ⁴	
Signs and Traffic Control Devices	Required signs and traffic control devices must conform with the MUTCD, latest edition		Required signs and traffic control devices must conform with the MUTCD, latest edition	
Culverts	Min. 18" or equiv. capacity RCP or CMP in public ROW per Standard Drawing Cross-culverts outside of ROW sized to maintain historic flow		Min. 18" or equiv. capacity RCP or CMP in public ROW per Standard Drawing Cross-culverts outside of ROW sized to maintain historic flow	
Sight Distances	per AASHTO recommendations		per AASHTO recommendations	
Approach to Highway	90° to centerline of highway with max. 30° variation		90° to centerline of highway with max. 30° variation	
Standard Drawings	11, 12, 13, 14, 15, 16, 17, 18, 19		11, 12, 13, 14, 15, 16, 17, 18, 19	
Overall Design Principles	See Section 5.1		See Section 5.1	

¹ Accesses serving one dwelling unit shall use 4" ABC (Class 6) or other suitable material as approved by the Transportation Department.

² Accesses serving one dwelling unit may use 16% for 200' max.

³ Accesses serving one dwelling unit may use up to 8% w/ 2' additional width.

⁴ Accesses serving one dwelling unit may use 1 ½ : 1 max. cut and fill slopes or per geotechnical recommendations to design stability and facilitate revegetation.

Article 5 - Design Standards

5.0 Introduction - Application of Design Standards

The planning, design, and construction of all Multimodal Transportation facilities shall follow the Overall Design Principles while meeting the design standards contained in this article. The design of private development shall incorporate these principles and standards.

5.1 Overall Design Principles - General

The design principles described below and the design standards following are intended to ensure a consistent baseline level of safety, functionality, and environmental sensitivity throughout all transportation facilities in Boulder County.

5.1.1 Safety

Transportation facilities shall be designed and constructed in a manner that ensures adequate safety for multiple user types. Adequate emergency vehicle access shall be ensured through consultation with the appropriate Fire Protection District.

5.1.2 Multimodal Mobility

Transportation facilities shall be designed and constructed so as to maximize the mobility of people, goods, and services by multiple transportation modes, including motorized vehicles, bicycles, pedestrians, and transit.

5.1.3 Natural Environment and Surrounding Community

Transportation facilities shall be designed and constructed to minimize impacts to the natural environment and surrounding community. These include impacts to trees and vegetation; air, noise, and water pollution; green house gas emissions (GHG), visual and aesthetic impacts; plant and animal species impacts; riparian area and wetlands impacts; wildlife corridor and habitat fragmentation; impacts to community character; and impacts to historic and cultural resources.

5.1.4 Maintenance

Transportation facilities shall be designed to allow for maintenance operations by Boulder County or other entities responsible for maintenance activities.

5.1.5 Sustainability

Transportation facilities shall be designed and constructed to minimize the quantity of materials needed, utilize recycled materials, use local materials, reduce water use, and minimize energy consumption (initial and ongoing).

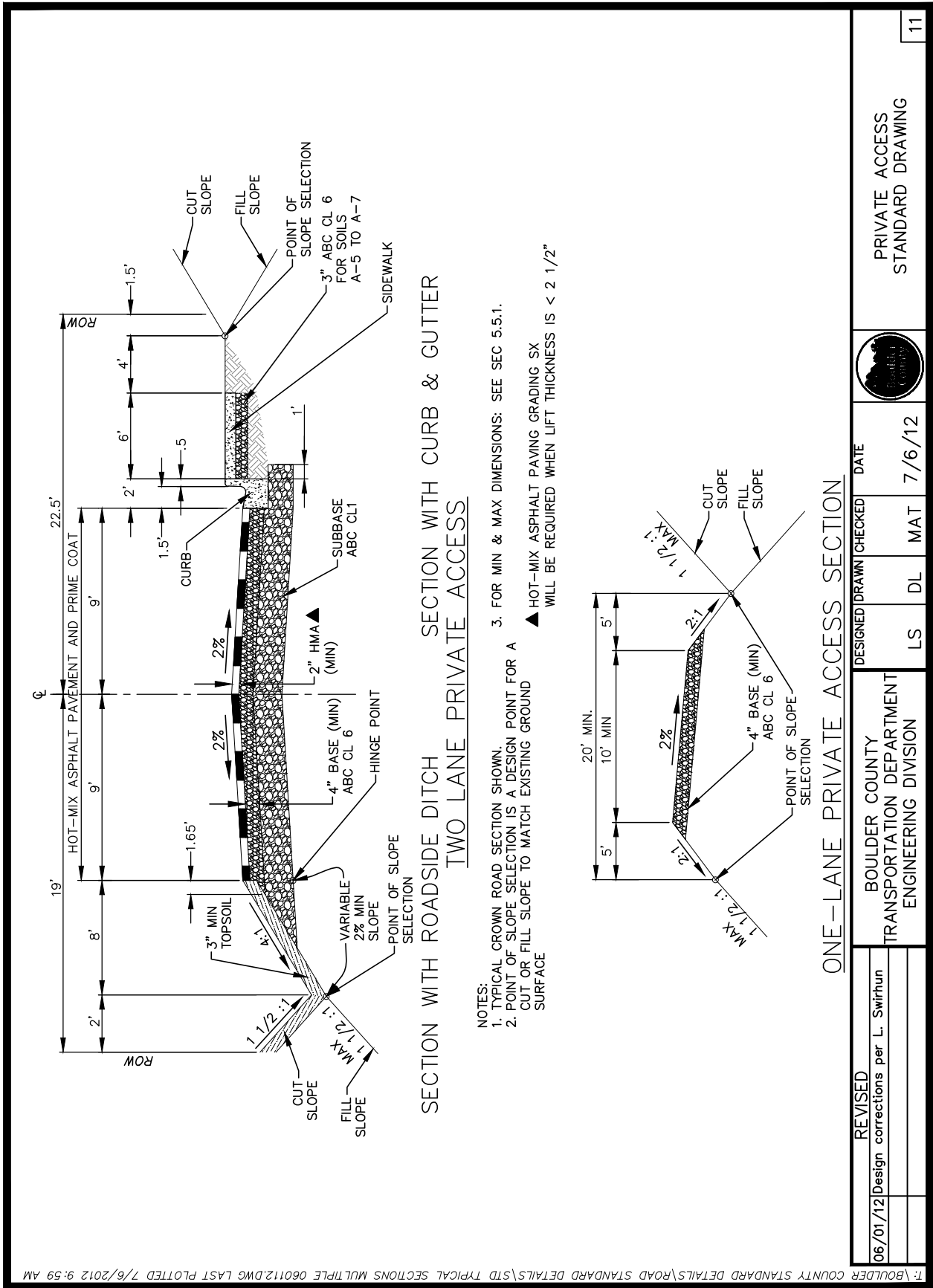
5.1.6 Cost

Public transportation facilities shall be designed to be cost-efficient and cost-effective for construction and maintenance.

5.1.7 Other Considerations and Public Agencies

Transportation facilities shall meet all applicable local, state, regional, and federal design requirements. Whenever a provision of these Standards and a provision of any other law, ordinance, resolution, rule, or regulation of any kind, including another provision of these Standards, contain any restrictions covering the same subject matter, the more restrictive shall govern.

Standard Drawing 11




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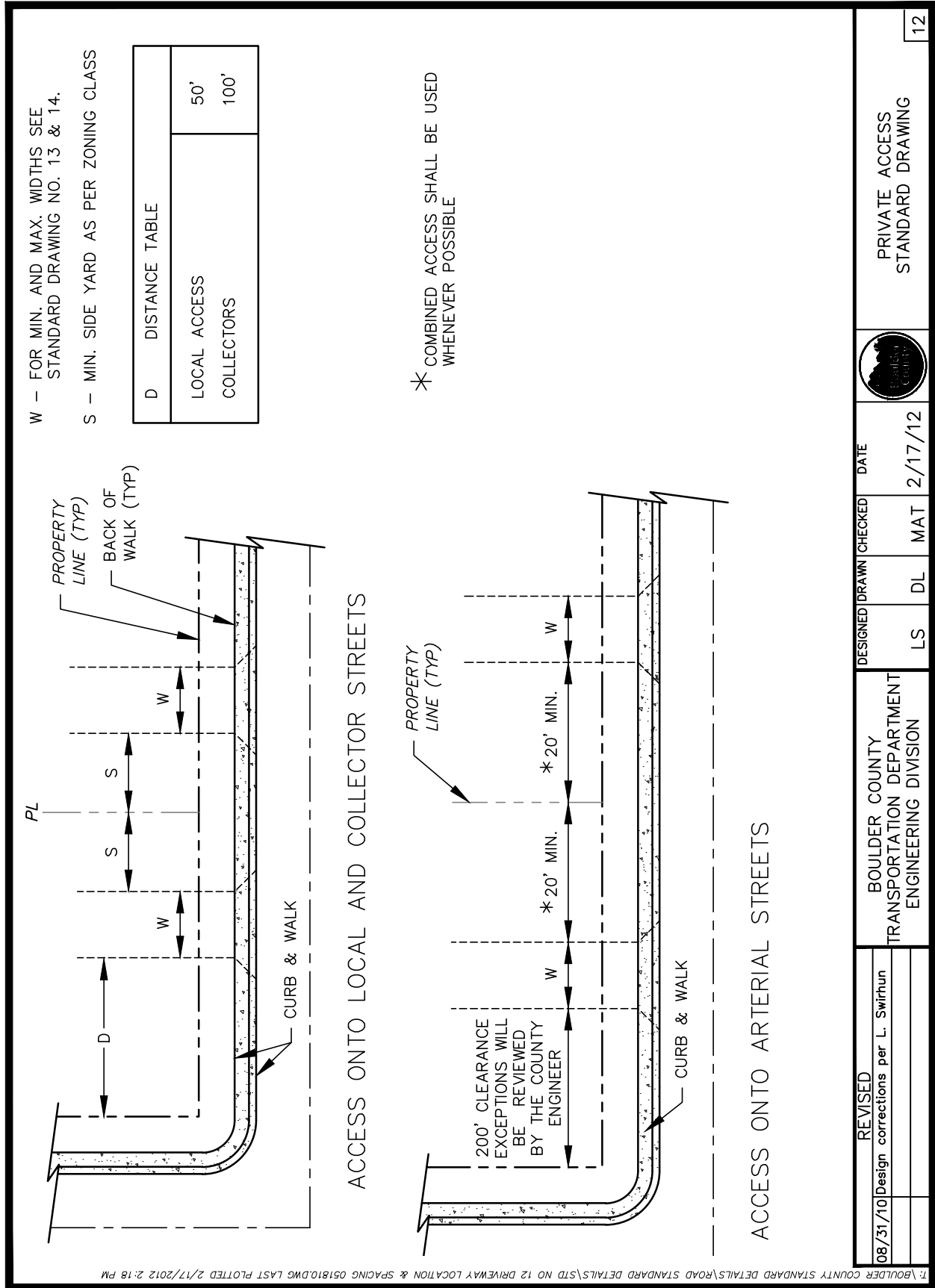
NOTES:
 1. TYPICAL CROWN ROAD SECTION SHOWN.
 2. POINT OF SLOPE SELECTION IS A DESIGN POINT FOR A CUT OR FILL SLOPE TO MATCH EXISTING GROUND SURFACE

3. FOR MIN & MAX DIMENSIONS: SEE SEC 5.5.1.

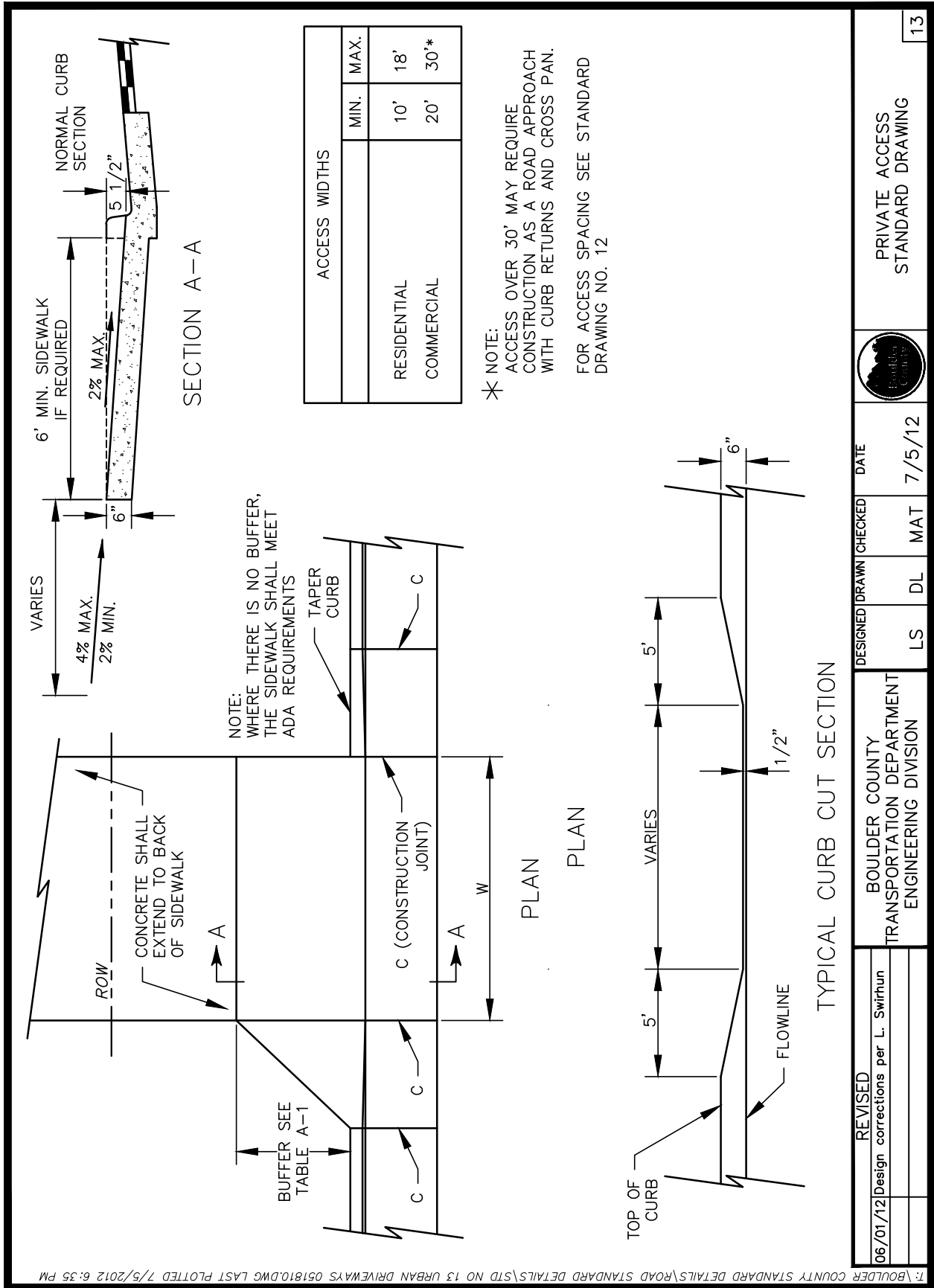
▲ HOT-MIX ASPHALT PAVING GRADING SX WILL BE REQUIRED WHEN LIFT THICKNESS IS < 2 1/2"

06/01/12	DESIGNED	DRAWN	CHECKED	DATE		PRIVATE ACCESS STANDARD DRAWING	11
Revised Design corrections per L. Swirhun	LS	DL	MAT	7/6/12			

Standard Drawing 12



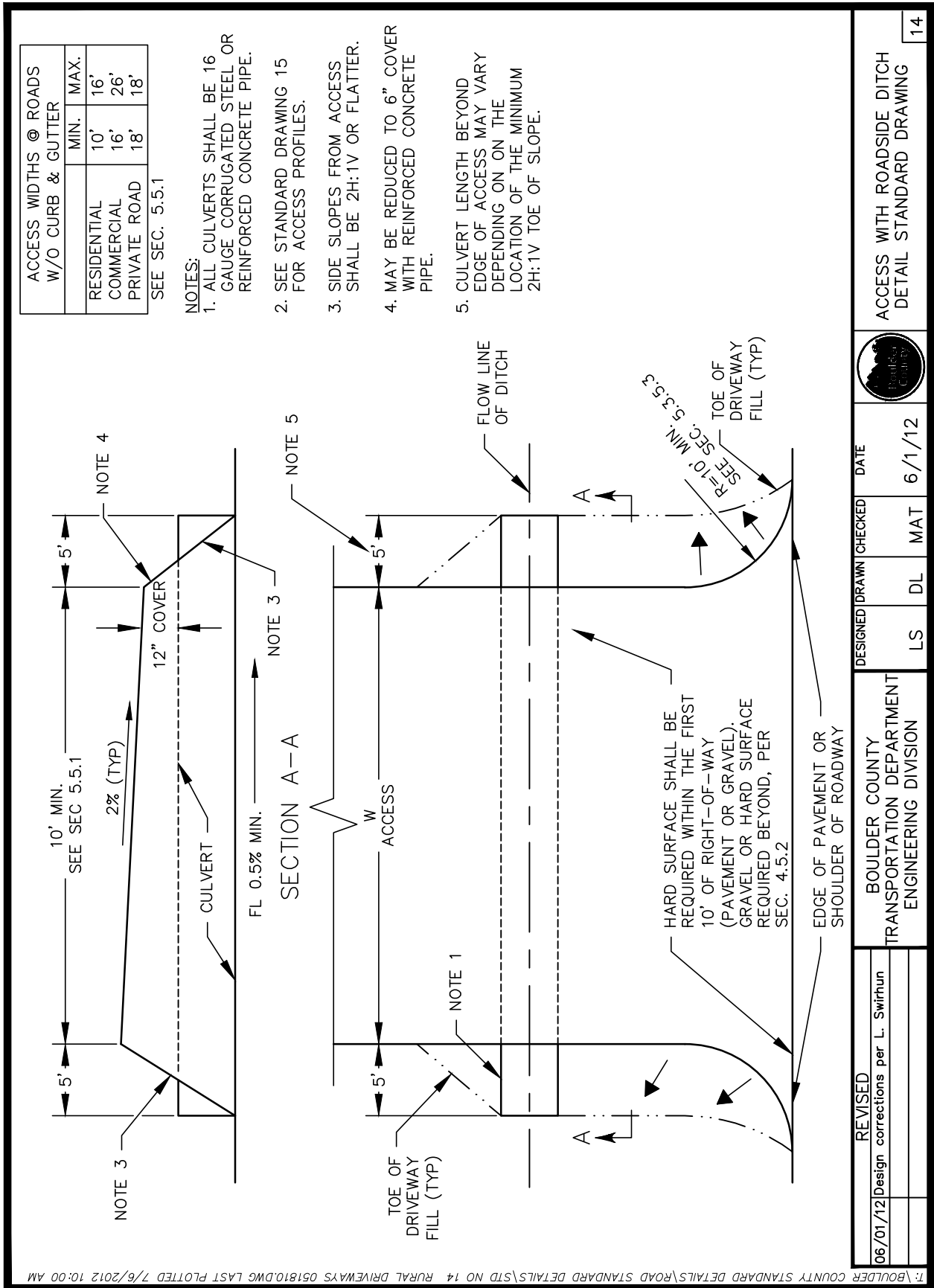
Standard Drawing 13



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REVISIONS	DESIGNED	DRAWN	CHECKED	DATE
06/01/12 Design corrections per L. Swirhun	LS	DL	MAT	7/5/12
BOULDER COUNTY TRANSPORTATION DEPARTMENT ENGINEERING DIVISION				PRIVATE ACCESS STANDARD DRAWING
				13

Standard Drawing 14



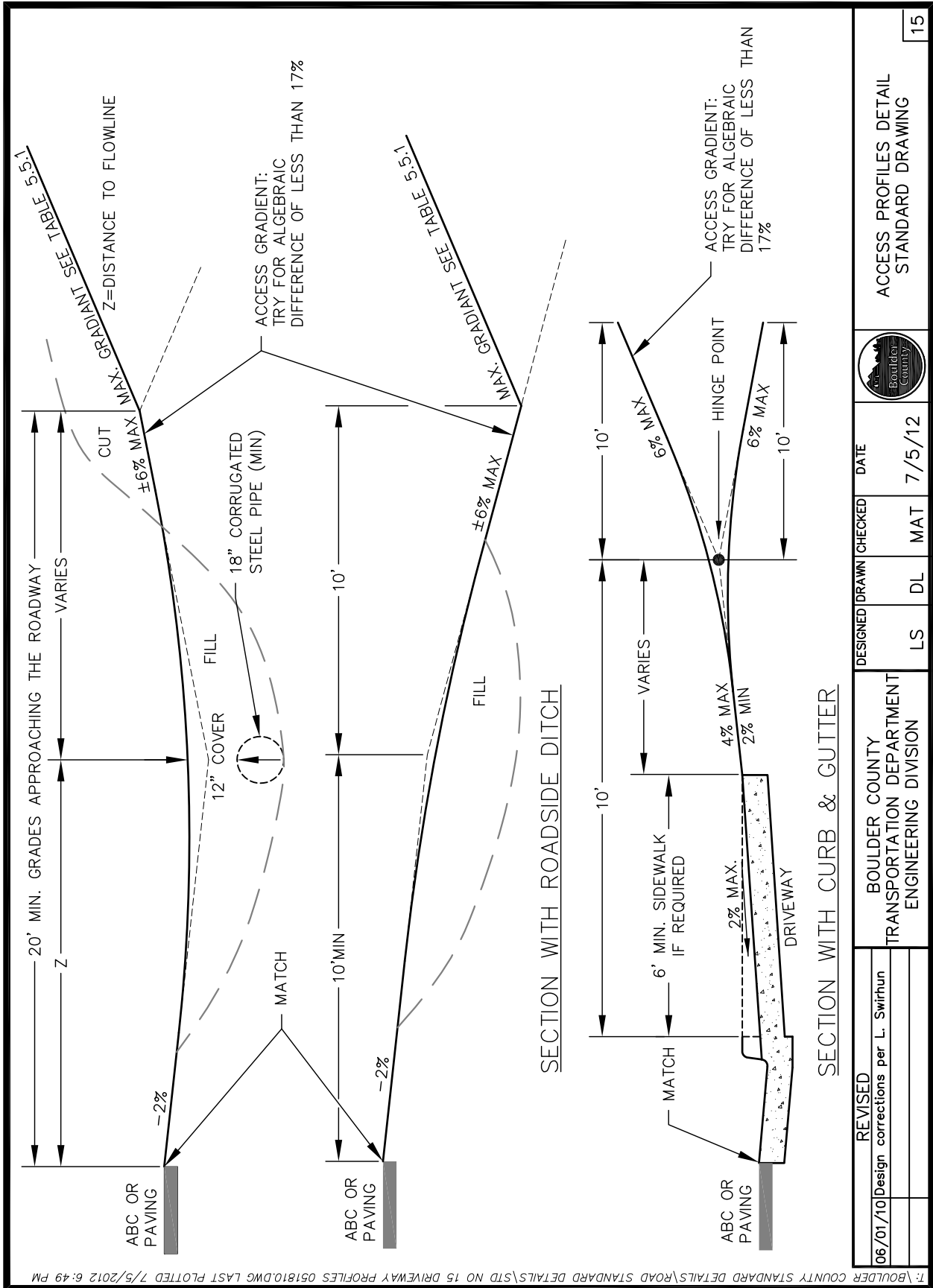
ACCESS WIDTHS @ ROADS W/O CURB & GUTTER		
	MIN.	MAX.
RESIDENTIAL	10'	16'
COMMERCIAL	16'	26'
PRIVATE ROAD	18'	18'

SEE SEC. 5.5.1

- NOTES:
- ALL CULVERTS SHALL BE 16 GAUGE CORRUGATED STEEL OR REINFORCED CONCRETE PIPE.
 - SEE STANDARD DRAWING 15 FOR ACCESS PROFILES.
 - SIDE SLOPES FROM ACCESS SHALL BE 2H:1V OR FLATTER.
 - MAY BE REDUCED TO 6" COVER WITH REINFORCED CONCRETE PIPE.
 - CULVERT LENGTH BEYOND EDGE OF ACCESS MAY VARY DEPENDING ON THE LOCATION OF THE MINIMUM 2H:1V TOE OF SLOPE.

REVISED	DESIGNED	DRAWN	CHECKED	DATE
06/01/12	LS	DL	MAT	6/1/12
BOULDER COUNTY TRANSPORTATION DEPARTMENT ENGINEERING DIVISION				
ACCESS WITH ROADSIDE DITCH DETAIL STANDARD DRAWING				
				14

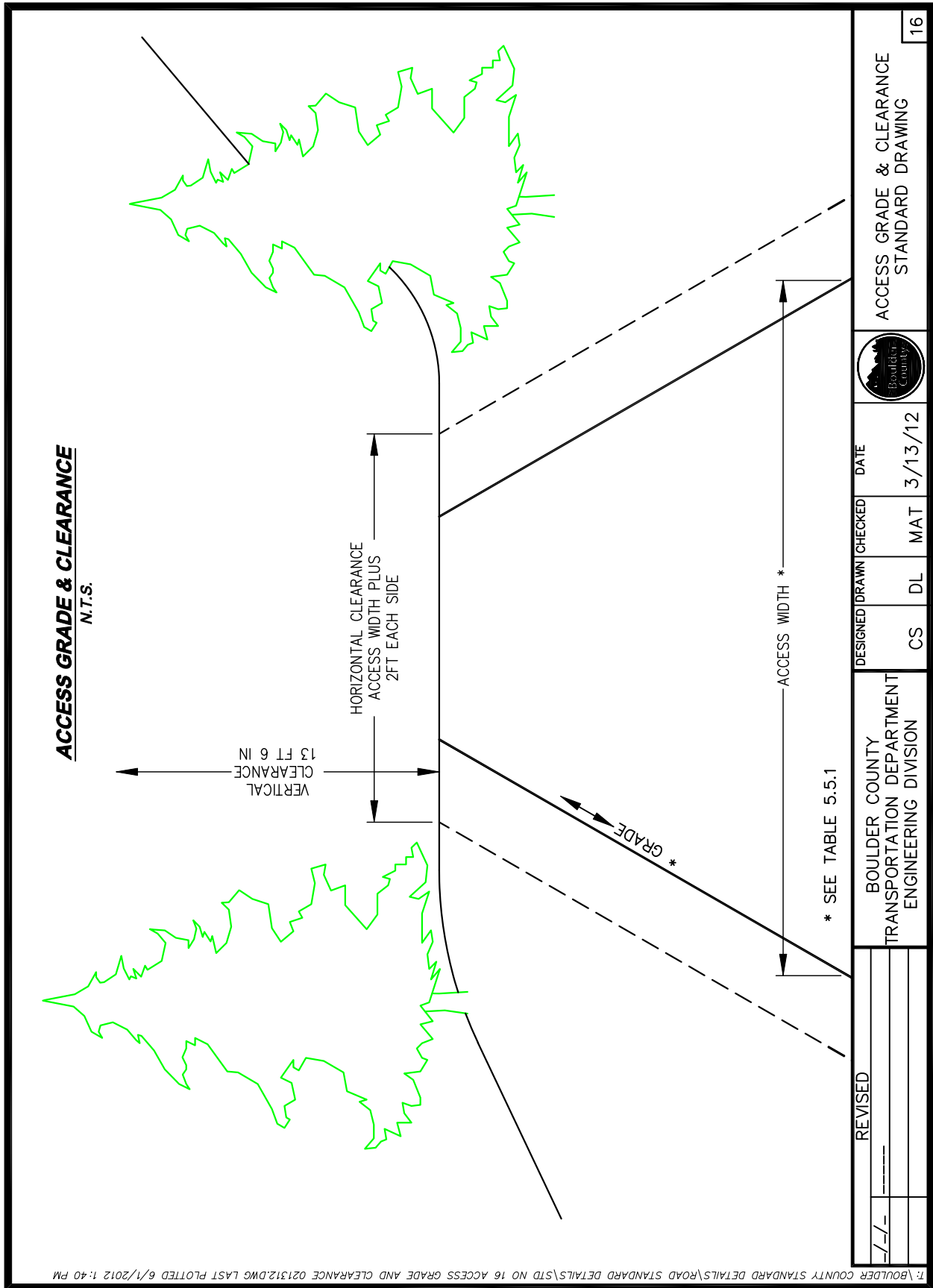
Standard Drawing 15



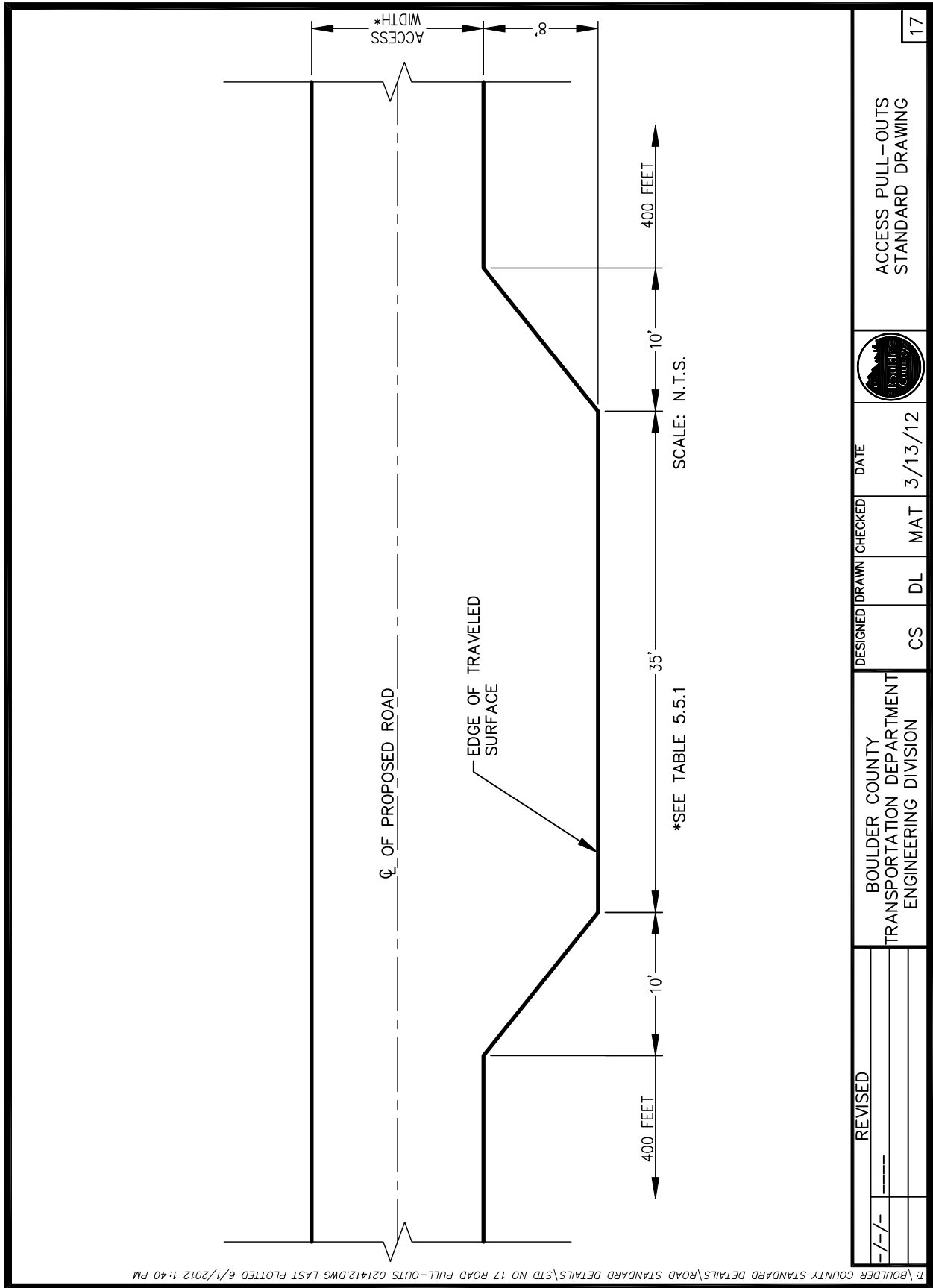
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06/01/10 Design corrections per L. Swirhun	LS	DL	MAT	7/5/12
BOULDER COUNTY TRANSPORTATION DEPARTMENT ENGINEERING DIVISION				15
ACCESS PROFILES DETAIL STANDARD DRAWING				

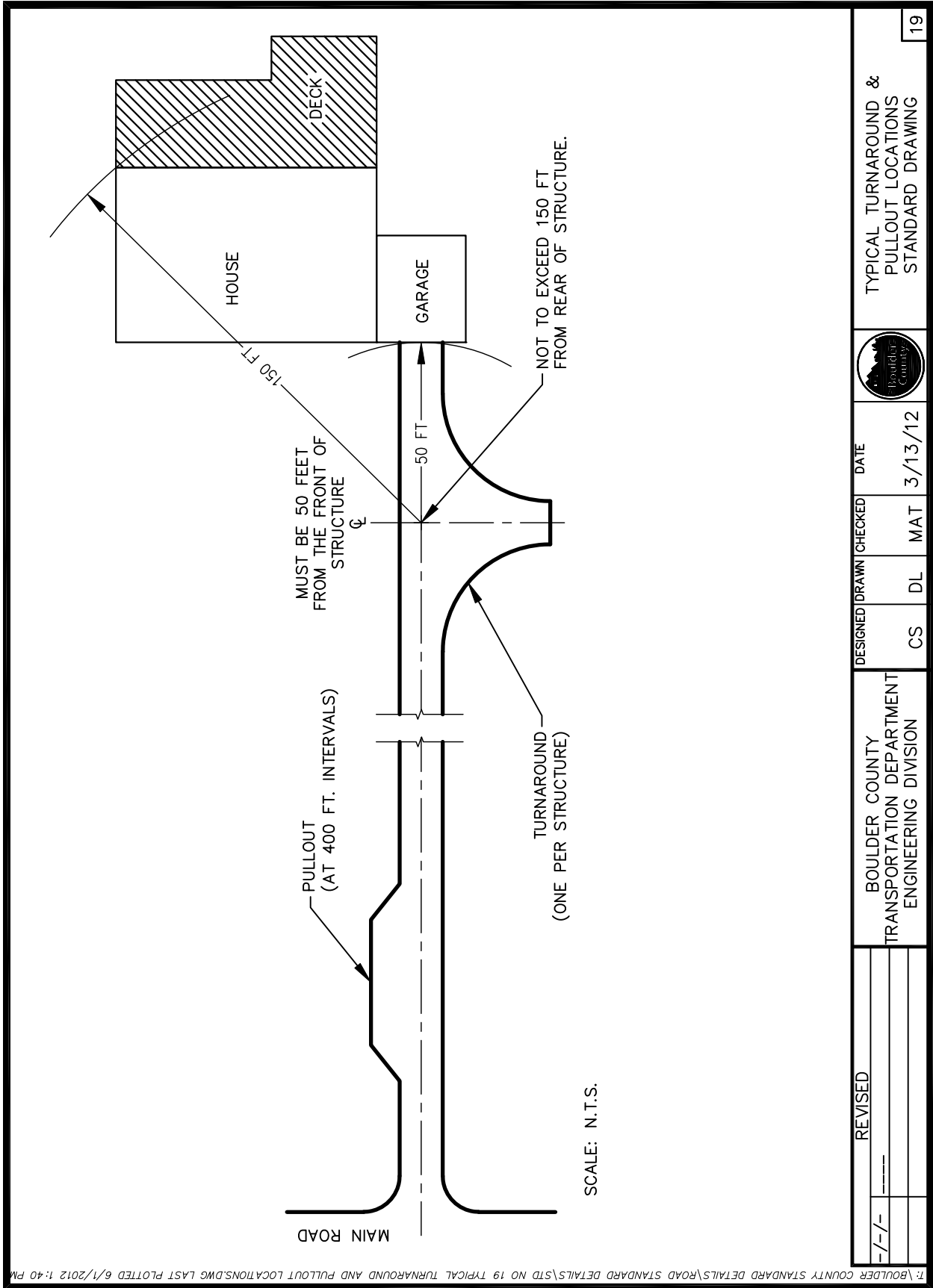
Standard Drawing 16




Standard Drawing 17



Standard Drawing 19



DESIGNED		DRAWN		CHECKED	DATE		TYPICAL TURNAROUND & PULLOUT LOCATIONS STANDARD DRAWING	19
CS	DL	MAT	3/13/12					
BOULDER COUNTY TRANSPORTATION DEPARTMENT ENGINEERING DIVISION								
REVISED								

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