Lindon 2000 West Plan, 1-15 to 200 South

On September 4, 2001, the Lindon City Council officially adopted the Lindon 2000 West Plan, 1-15 to 200 South.

2000 West Street & Drainage Cross Section

The cross sections shown on the attached Figure 1 illustrate the 2000 West Street and Drainage Cross Section.

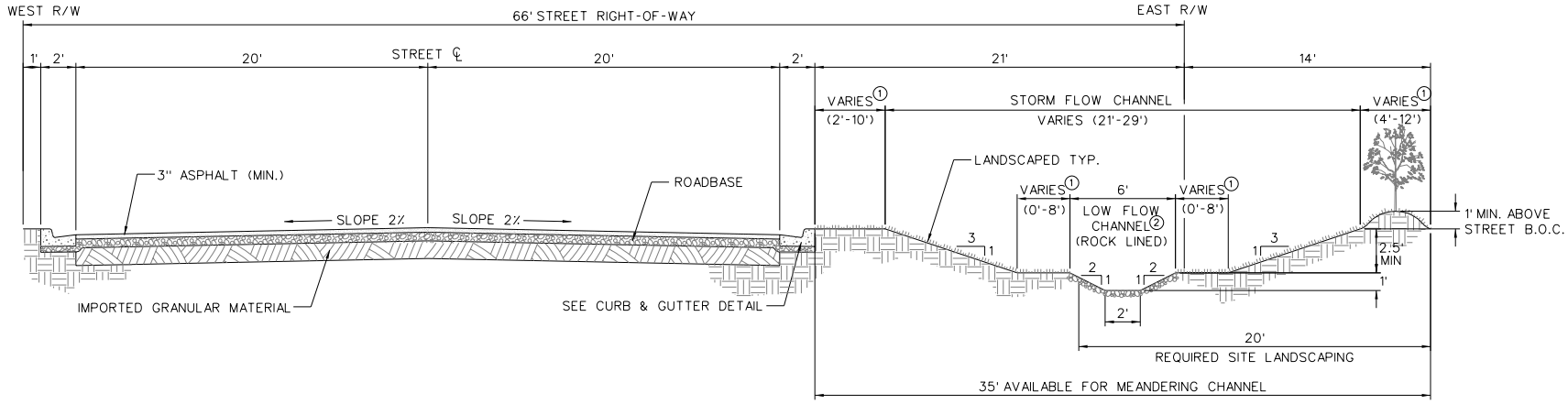
The street is to be a 66-foot wide right-of-way, with 40 feet of asphalt, and no sidewalks. The drainage will consist of a channel that meanders through a 35-foot wide area to the east of the road. Of the 35 feet, 21 feet is in the street right-of-way; the remaining 14 feet is beyond the right-of-way, on the lots. The 14-foot width corresponds to the amount of landscaping normally required beyond the street right-of-way line in areas where there are no sidewalks.

The 35 feet of meandering channel is to consist of a 6-foot wide rock lined low flow channel, and a wider landscaped storm flow channel. The low flow channel can meander in the storm flow channel, and the storm flow channel can meander in the 35 feet of available width. Exact measurements of the various cross sectional features are illustrated on Figure 1. The purpose of the storm flow channel is to provide linear detention of storm water. It can also serve as a water amenity to development adjacent to 2000 West Street.

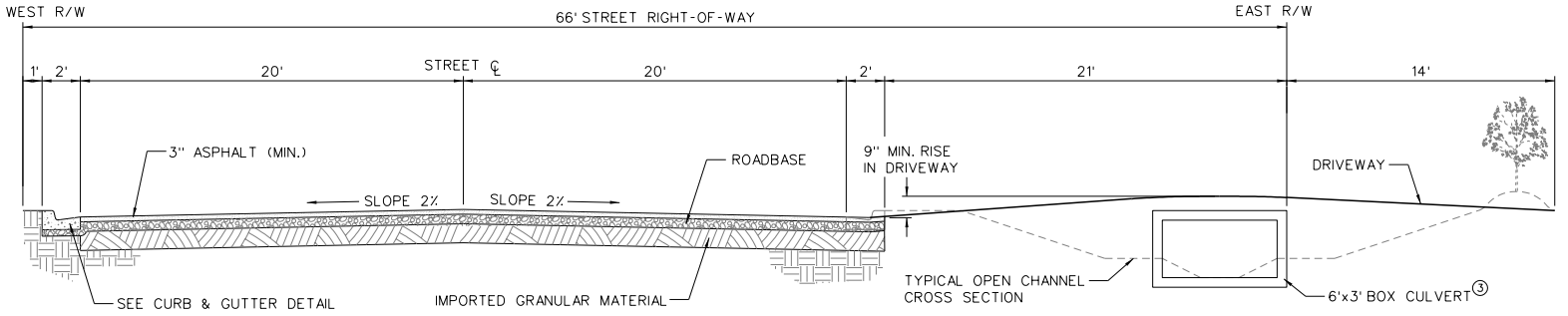
A berm must exist on the east side of the channel, with the top of berm being 1 foot above the top back of curb at the street. This will force flows greater than the storm flow channel's capacity to spill over into the street, rather than onto the adjacent lots.

Crossings of the channel should be minimized, with recommended locations as described in the 2000 West Access Spacing section of this document. Crossings shall be accomplished using a 6-foot wide x 3-foot high box culvert, placed at the flowline of the channel, with the east edge of the box culvert on the right-of-way line, as shown on Figure 1. Driveways over the channel shall slope uphill from 2000 West such that there is a rise of 9" in the driveway, as illustrated on Figure 1. This will keep excess storm water in the street from running onto the lots via the driveways.

The channel is to be graded at a uniform slope of 0.16%, sloping uphill to the north. The elevation at any given location can be obtained from J-U-B Engineers, who established the design as part of the Storm Drain Master Plan Update in 2001/2002.



CROSS SECTION AT OPEN CHANNEL LOCATION



CROSS SECTION AT CHANNEL CROSSING LOCATION

① THE TOTAL WIDTH AVAILABLE FOR THE MEANDERING CHANNEL IS 35 FEET. THE WIDTHS OF THE FLAT PORTIONS AT THE TOP OF THE LOW FLOW CHANNEL AND AT THE TOP OF THE STORM FLOW CHANNEL WILL VARY. THEIR WIDTHS AT ANY GIVEN LOCATION WILL DEPEND ON THE MEANDERING OF THE CHANNEL AND THE ELEVATION OF THE CHANNEL RELATIVE TO THE ROAD.

② THE CHANNEL PROFILE HAS BEEN DESIGNED BY J-U-B ENGINEERS. CONTACT J-U-B FOR FLOW LINE ELEVATIONS.

③ WHERE CROSSINGS ARE ALLOWED, A 6'x3' BOX CULVERT SHALL BE USED, WITH THE CULVERT FLOWLINE MATCHING THE DITCH FLOWLINE. IT SHALL BE PLACED WITH THE EAST EDGE OF THE BOX CULVERT ON THE RIGHT-OF-WAY LINE.

0 5' 10'

SCALE 1"=10'

REVISION

NO.	DESCRIPTION	BY	APR.	DATE

J-U-B Engineers • Surveyors • Planners

2000 WEST STREET AND CHANNEL CROSS SECTION

LINDON CITY
LINDON, UTAH

CAD DWG:	..\2000West_X-sec.dgn
PLOT SCALE:	1.000
DRAWN BY:	DHC
DESIGN BY:	DCT
CHECKED BY:	MLC

FIGURE 1

2000 West Access Spacing

There are already a number of existing or committed accesses onto 2000 West between I-15 and 200 South (see Figure 2). They are spaced at intervals ranging from about 350 feet to about 750 feet.

Transportation and Land Development published by the Institute of Transportation Engineers gives some guidance regarding access spacing. The access spacing recommendations are based on criteria of roadway functional classification and roadway operating speed.

Transportation and Land Development identifies characteristics of arterials and collectors. What Lindon City desires 2000 West Street to become would possess some characteristics of both secondary arterials and major collectors. The characteristics of connecting Vineyard with I-15, as well as operating speeds of 30-35 or higher are those of a secondary arterial. The collector classification characteristics possessed by 2000 West include transferring traffic from local streets (or directly from businesses) to arterial streets, as well as the posted speed limit of 25 mph.

Desirable access spacing based on roadway functional classification is shown below:

Major Collector:	300 feet
Secondary Arterial:	1,300 feet

Desirable access spacing based on vehicle operating speeds is shown below. This is based on the results of studies that evaluate the effect of access spacing on the flow of the main through traffic stream. It is a function of the time necessary for vehicles entering the through traffic stream to get up to speed without causing delay, conflicts and increased hazard:

30 mph:	585 feet
35 mph:	825 feet
40 mph:	1,140 feet
45 mph:	1,575 feet

Minimum recommended access spacing based on the minimum distance to reduce collision potential resulting from right turning vehicles turning into the through traffic stream is shown below (as a function of operating speed). It is based on drivers in the through traffic stream only having to monitor vehicles entering from one access at a time:

30 mph:	185 feet
35 mph:	245 feet
40 mph:	300 feet
45 mph:	350 feet

Note that the minimum spacing based on the last of the three criteria is not the limiting factor.

Based on the other two criteria, and the location of existing and committed accesses, a reasonable spacing of accesses works out to about 600 feet to 750 feet. This is probably a little closer than the ideally desirable spacing, but it is reasonable, and should not have much of a detrimental effect on operation of 2000 West in the future.

Figure 2 shows the number and approximate spacing of accesses that will be allowed on 2000 West.

Accesses to the west side are to be located directly across from accesses on the east side, and no accesses will be permitted on the west side at locations where there is not, or will not be, an access on the east side.

Allowed access should be shared by developments, so that access to all developed land adjacent to 2000 West is provided by the allowed accesses.

Modifications of Plan

In 2004 the Lindon City Planning Commission and Council approved the Utah County Animal Shelter development with an access on the west side of 2000 West.

In 2007, the Lindon City Planning Commission authorized a relocation of a planned access. They authorized relocating the future business access from the south side of Lot 4, Ostler Industrial Park to the north side of Lot 4.

In preparation for City Council adoption of the plan in January 2008, Figure 2 was modified to reflect previously approved access location changes. It was also updated to accurately reflect the removal of unofficial accesses and the installation of approved accesses that had occurred since the plan was adopted in 2001.

On January 15, 2008, the Lindon City Council adopted the modified plan.

REVISION

NO.	DESCRIPTION	BY	APR.	DATE
1	UPDATED ACCESS LOCATIONS	MLC	MLC	1/14/08

J-U-B Engineers • Surveyors • Planners

2000 WEST ACCESS PLAN
I-15 TO 200 SOUTH

LINDON CITY
UTAH

CAD DWG:	2000westaccessspacing.dgn
PLOT SCALE:	1"=60'
DRAWN BY:	CAJ/MLC
DESIGN BY:	
CHECKED BY:	MLC

FIGURE 2

700 North Access Plan

2000 West to State Street

In 2003, Lindon City representatives and a committee made up of property owners along 700 North between Geneva Road and State Street worked to develop an access plan for that segment of 700 North. The 700 North Access Plan, Geneva Road to State Street, shown as Figure 1 on the following page, was the result of their work. On January 20, 2004, the Lindon City Council officially adopted the 700 North Access Plan, Geneva Road to State Street.

In 2005, Lindon City representatives and a committee made up of property owners along 700 North between 2000 West and Geneva Road worked to develop an access plan for that segment of 700 North. The 700 North Access Plan, 2000 West to Geneva Road, shown as Figure 2 and Figure 3 on the following pages, was the result of their work. On May 3, 2005, the Lindon City Council officially adopted the 700 North Access Plan, 2000 West to Geneva Road.

The three figures comprising the 700 North Access Plan identify how many and generally where future accesses will be allowed, and establishes whether they will be limited movement or full movement accesses. It also contains access placement guidelines that are to be used when determining the exact location of future accesses.

ACCESS PLACEMENT GUIDELINES

1. 700 North design speed is 45 mph in this area; functional classification is Arterial
2. Ideally accesses/streets should not be located within the functional area of adjacent accesses/streets (functional area is the perception, reaction, deceleration, taper and queuing areas).
3. As a minimum accesses/streets should be located outside the deceleration, taper & queuing areas of adjacent accesses/streets
4. Perception & reaction length = 165' (2.5 seconds x 45 mph)
5. Deceleration length + taper length = 280' (35 mph to 0 mph)
6. Queuing length is a function of congestion; assumed values vary from 20' for free right turns, to 100' for left turns, to more at signalized intersections.

ADOPTED JANUARY 20, 2004 BY THE LINDON CITY COUNCIL

REVISION

NO.	DESCRIPTION	BY	APR.	DATE

J·U·B Engineers • Surveyors • Planners

700 NORTH ACCESS PLAN
GENEVA ROAD TO STATE STREET

LINDON CITY
UTAH

CAD DWG:	...\700 N-GR to State.dgn
PLOT SCALE:	1"=300'
DRAWN BY:	CJF/MLC
DESIGN BY:	CJF/MLC
CHECKED BY:	MLC

FIGURE 1

Lindon_C\50827\CADD\700 N-GR to State.dgn

1" = 300'
SCALE

ACCESS PLACEMENT GUIDELINES

1. 700 North design speed is 55 mph west of the railroad tracks; functional classification is Arterial
2. Ideally accesses/streets should not be located within the functional area of adjacent accesses/streets (functional area is the perception, reaction, deceleration, taper and queuing areas).
3. As a minimum accesses/streets should be located outside the deceleration, taper & queuing areas of adjacent accesses/streets
4. Perception & reaction length = 200' (2.5 seconds x 55 mph)
5. Deceleration length + taper length = 430' (45 mph to 0 mph)
6. Queing length is a function of congestion; assumed values vary from 20' for free right turns, to 100' for left turns, to more at signalized intersections.

MATCHLINE, SEE FIGURE 3

Lindon C:\50827\CAD\700 N-GR to 2000 West.dgn

ADOPTED MAY 3, 2005 BY THE LINDON CITY COUNCIL

REVISION

NO.	DESCRIPTION	BY	APR.	DATE

J-U-B
Engineers • Surveyors • Planners

700 NORTH ACCESS PLAN
2000 WEST TO GENEVA ROAD

LINDON CITY
UTAH

PLOT DATE:	1/23/2006
DAB-GR to 2000 West.dgn	
PLOT SCALE:	1"=300'
DRAWN BY:	CJF
DESIGN BY:	CJF
CHECKED BY:	MLC

FIGURE 2

MATCHLINE, SEE FIGURE 2

1 " =300'
SCALE

ACCESS PLACEMENT GUIDELINES

1. 700 North design speed is 55 mph west of the railroad tracks; functional classification is Arterial
2. Ideally accesses/streets should not be located within the functional area of adjacent accesses/streets (functional area is the perception, reaction, deceleration, taper and queuing areas).
3. As a minimum accesses/streets should be located outside the deceleration, taper & queuing areas of adjacent accesses/streets
4. Perception & reaction length = 200' (2.5 seconds x 55 mph)
5. Deceleration length + taper length = 430' (45 mph to 0 mph)
6. Queing length is a function of congestion; assumed values vary from 20' for free right turns, to 100' for left turns, to more at signalized intersections.

ORIGINALLY ADOPTED MAY 3, 2005 BY THE LINDON CITY COUNCIL
REVISION ADOPTED JANUARY 16, 2007 BY THE LINDON CITY COUNCIL

Lindon C:\50827\CAD\700 N-GR to 2000 West_2.dgn

REVISION

NO.	DESCRIPTION	BY	APR.	DATE
1	MODIFY THE LOCATION OF 1700 WEST STREET	MLC	MLC	1/16/07

J-U-B
Engineers • Surveyors • Planners

700 NORTH ACCESS PLAN
2000 WEST TO GENEVA ROAD

LINDON CITY
UTAH

PLOT DATE:	1/15/2007
700 CADR DWG	2000 West_2.dgn
PLOT SCALE:	1"=300'
DRAWN BY:	CJF
DESIGN BY:	CJF
CHECKED BY:	MLC

FIGURE 3