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Job No.
Sheet No. 1
Job Name Vernonia TSP
Date 01/31/2011
Subject OoM Estimates
Computed By DAH
Checked By

High Build#3: Widen OR-47

L = 1,800 ft = 0.34 mi

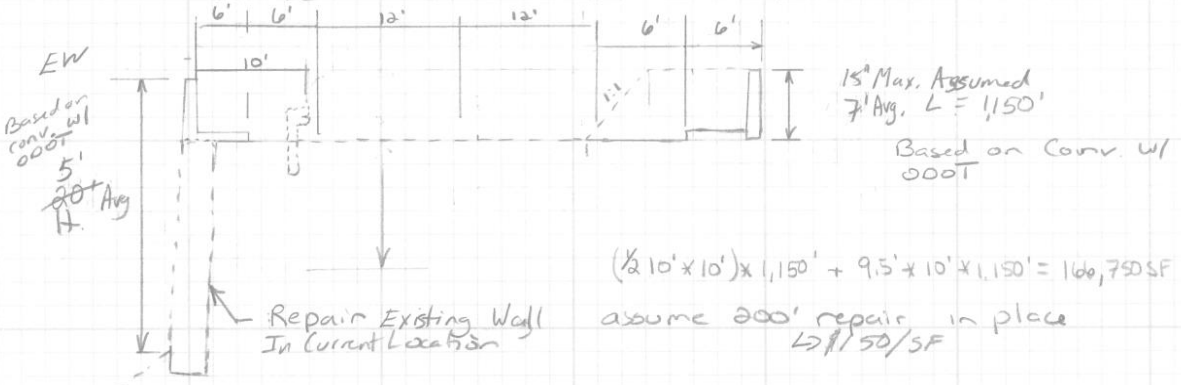
W = 63 ft 6' S/W, 6' bike, 12' Lane, ~~14' turn~~, 12' Lane, 6' bike, 6' S/W, 0.5' curbs x 2 = ~~63'~~ = 49'

existing width: 10' shoulder/walk, 12' lane, 12' lane = 34'
assume 24' usable
15' widening N. 13' sidwalk/curb, 36' AC c-c

Sidewalk 6' per side, 0.5" curb per side

New Pavement ~~Widening~~
16 AC = 12' lane = 1.33 lanes assumes 20' exlg, rehabbed
lane mile = 0.34 mi * 1.33 lanes = 0.44 lane-mi

Existing Pavement Rehab
20' = 1.67 lanes
lane mile = 0.34 mi * 1.67 = 0.57 lane mi



(½ 10' x 10') x 1,150' + 9.5' x 10' x 1,150' = 166,750 SF

assume 200' repair in place @ $1,150/SF

~~Fill: 9.5' * 15' * 1,200 = 171,000~~

~~171,000~~ + 166,750 SF = ~~337,750 SF~~ = ~~12,510 CY~~ 6250 CY Earthwork

Wall

Fill Wall Repair	~~20'~~ 5' Avg. height,	L = 200' =	~~2,000 SF~~ 1,000 SF
CUT Wall	~~7'~~ 5' Avg. height,	L = 1,150' =	~~5,750 SF~~ 8,050 SF
			~~12,750~~ 9,050 SF

Barrier retrofit
1,200' CIP Moment Slab @ $1,750 LF

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High Build #2 : Realign OR 47 ! Deleted 3/2/11

L = 0.34 mi

W = ~~59'~~ 45' 20.5' shared use north, 12' lanes, ~~14' center~~, 0.5' curb

12 + 12 + 14 = ~~38~~ 24' AC

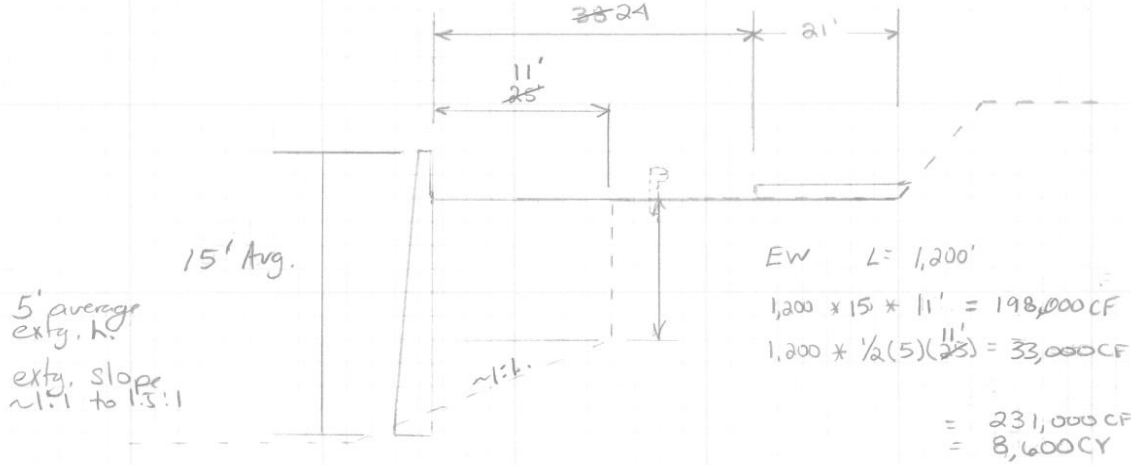
20.5' sidewalk

0.5' curb

New Pavement

~~38~~ 24' AC = 12' Lane = ~~3.17~~ 2 lanes

lane mi = ~~3.17~~ 2.0 lane * 0.34 mi = ~~1.08~~ 0.68 ln-mi



EW L = 1,200'

1,200 * 15 * 11' = 198,000 CF

1,200 * ½(5)(~~25~~ 11') = 33,000 CF

= 231,000 CF

= 8,600 CY

Tied WALL ~~20~~ 15' * 1,200 = ~~24,000 SF~~ 18,000 SF

@ $200/SF for tied wall

OPTION DELETED

02/23/2011

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Sheet No. 3

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Rev 3/2/11

High Build #3:

L = 3,600ft = 0.69 mi (sidewalk & drainage only)

W = 60' 12' shared use both sides, 10' lanes, 8' parking
8' swale
Local Road

New Roadway Assumed
AC Width 28'
28'/12 = 2.33 lanes

Lane-mi
0.69 mi * 2.33 lanes 1.61 lane-mi

EW: 5' depth Fill to raise grade out of flood plain
½ L 3:1 fill slope
$2 * \frac{1}{2}(15)(5) * 1900ft + 60 * 5 * 1900 = 675,000 CF$
$= 25,000 CY$

Revised to Bike/Ped Path

Length - 1150
Max grade = 5%
Path from end of California to OR47/Missouri intx.
Path Width 12'

EW 2' avg cut/fill assumed. grade not raised out of flood plain,
3:1 side slopes
$\frac{1}{2} * 2 * (6')(2') * 1150 + 12' * 2' * 1150 = 41,400 SF$
$1533 CY$

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Sheet No. 4

Job Name Vernonia TSP

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Rev. 3/2/11

High Build #4: New Bridge Street Bridge

Approximate limits: Spencer Ave - Mist Dr - OR47

L= 1,500'. Bridge L= ~~250'~~ 300' AC L= 1250'

W= 75' 12' S/W, 12' lanes, 14' center, 6' bikes (6' S/W @ bridge)

New AC Width = 51'

lanes 51' AC = 12' Lanes = 4.25 lanes

Ln-mi 4.25 * 0.24 mi = 1.01 ln·mi

EW -

At bridge raise grade 5', 200' each side

3:1 side slope

75' * 5' + ½(15')(5')*2 = 450 SF @ bridge

0-5' depth over 200'

$\frac{450+0}{2} * \frac{200}{27} = 1,700$ CY

* 2

3,400 CY

Walls at Bridge

5' Max height

under bridge:

75' w * 5' h = 375 SF * 2 = 750 SF

Approaches:

½(100')(5') = 250 SF * 4 = 1,000 SF

Bridge SF

L= ~~250'~~ 300'

W= 67' (adds 2' each side for barrier)

~~16,750~~ SF 20,100 SF

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High Build #4: cont'd

Bridge replacement revised to HB#3, Bike/Ped bridge/path

Length - 550' (200' clear span bridge, 350' path)
Max grade 5%
Path from Alabama to Cherry St., width 12'

EW - 5' avg fill to raise bridge.
3:1 side slopes

$1/2 * 2 * (15')(5')(350') + (12')(5')(350') = 47,250\ CF$
$1,750\ CY$

Bridge - 200' clear span across river
12' path width + 1.5' width rails = 15' width
= 3,000 SF

Walls - Assume 10' height at abutments 15' wide each side
= 150SF * 2 = 300SF
+ 5' Avg height wings @ 3:1 slope each quadrant

4 * 5' * 30' = 600SF
total = 900SF

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High Build #~~6~~ 5: Mist Dr. Intersection Improvements

Revised to HB#5 3/2/11

Realign Mist Drive to one location @ outside of curve

reconstruction length = 200' alogn Mist Dr.
W = 42' AC, 8' drainage swale = 50'

ln-mi 0.04 mi * 3.5 lanes = 0.14 ln-mi

no curbs

Intersection Revisions At grade, no earthwork, no walls

Approach widening along OR-47 for improvements
150' widening/reconstruction/striping

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High Build #~~8~~ 7a: North / South

L = 3,500', 0.66 mi
W = 50' width 30' AC, 8' Swale, 12' shared use (conc)

Improvements at grade, negligible cut/fill

Lanes 30' width 12'/lanes 2.5 lanes
Lane-mi
0.66 mi * 2.5 lane = 1.65 ln-mi

EW - 2' earthwork fill or cut/stabilization
3:1 slope
3500 * 50' * 2' + ½(6')(2') * 3500' * 2' = 392,000 CF

Wetland impacts - $50K Lump Sum

Revised to 12' Path
L = 3500 ft, 0.66 mi
Assume 1' earthwork cut/fill/stabilization for grading
3,500 * 12' * 1 + ½(3')(1') * 3500 * 2 = 52,500 CF
1,950 CY

illumination & landscaping excluded

High Build #~~8~~ 7b: E/W North of Knott

Industrial Connection - use state pavement section

W = 60' 12' lanes, 8' parking/swale, 6' shoulder, 14' shared use
AC width 38', 3.17 lanes
L = ~~2500 / 1300'~~ = ~~0.25 mi~~ 0.47 mi
Ln-mi ~~0.25 mi~~ 0.47 mi * 3.17 = ~~0.79 ln-mi~~ 1.49 ln-mi
Negligible cut/fill

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High Build #~~8C~~ 7: Louisiana Connection

L = 550' = 0.10 mi
W = 40' 28' AC, 11' S/W one side
lanes 28'/12 = 2.33 lanes
Ln.mi = 2.33ln * 0.10 mi = 0.23 ln.mi

~~3' Avg. height earthwork~~ assumed 1' avg. EW assumed for widening.

40' width, 3:1 sides
40' * 1'/3' * 550' + 1/2(3'/~~4~~)(1'/3') * 2 * 550 = 23,650 CF
~~30,850 CF~~
= ~~3,000 CY~~ 880 CY

no illumination

High Build #8dn: Fairway Ave Ext.

L = 1,450' = 0.28
W = 40' 28' AC, 11' S/W one side
Lanes = 2.33 lanes
ln.mi = 2.33 * 0.28 = 0.65 lane.mi

5' Average fill over creek assumed for 400'
3:1 Slope
400' * ~~500~~ 5' * 40' + 1/2 * 5' * 15' * 2 * 400 = 110,000 CF
4,075 CY

~~Culvert Structure~~
~~L = 100' over creek~~
~~40'W * 100' L = 400 SF~~

Bridge Structure out of floodway
Assume: 600' total length 40' width
max span length 100-150' (girder type)
@ $210/SF
600' * 40 = 24,000 SF

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High Build 8ds: H Street Extension

Length & topography is similar to 8dn.
includes creek crossing in large diameter culvert.

Assume OoM Est. for 8dn & 8ds approx. same.

High Build 8e: Texas Ave Extension

Length = 1650' = 0.31 mi
W = 60' = 10' lanes, 8' parking/swale both sides, 12' shared use both sides

28' AC width

lanes = 2.33 lanes
lane-mi 2.33 x 0.31 = 0.72 ln-mi

negligible cut/fill

illumination/landscaping include for school route

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Low Build A: OR47 @ Rose Signage

Rev 3/3/11

Green Informational Sign Panels

Assume 100 SF signs $25/SF

Assume 5 Posts

4"x6" x 9' Posts

4"x6"x 108"/144 = 18 BF x 5 = 90 BF

$7.00/BF

Low Build G: No Parking Signage

No parking at intersections on bridge street
1 per corner 12"x18" = 1.5 SF

~~Signs 20 x 1.5 SF = 30SF~~

~~Posts 20 x 18BF = 360 BF~~

~~Striping 20'/stall x 20 = 400 LF~~

Option: Bioswale

Costs by Alta

Area of bioswale assumed as 1 MUTCD standard length & width parking space

8'W x 20'L (20' typical for end space)

160 SF

56' LF perimeter

Curb @ $15/LF

Drainage

1 Inlet $2000/ea

20' pipe $ 80/lf

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Low Build Gra _ext: cont'd

option extension

Area of extension assumed as 1 MUTCD standard length & width ~~[illegible]~~ parking space

8'W x 20'L = 160 SF (sidewalk)

Length of Curb

8' + 20' = 28'

Drainage Rev.

1 Inlet / catch basin
20' pipe