Appendix D
Capital Improvement Projects—
Summaries and Cost Opinions

PROJECT SUMMARY SHEET

Project Title: Woodin Creek CIP

Project Location: 140th Ave NE and NE 171st St., Woodin Creek Basin

Problem Description: Along Woodin Creek approximately between 133rd Ave NE to 140th Ave NE along NE 171st St. there is sediment accumulation that has blocked culverts and other stormwater conveyance infrastructure causing flooding of NE 171st street along the creek. Area along NE 171st Street and southern downtown area does not have water quality treatment prior to discharge to Woodin Creek. The City has not been able to identify the source of the sedimentation; however the creek is very flat along the stretch identified in the project sketch which could cause sediment to accumulate. The City often experiences lane closures on NE 171st St. during the 5 to 10-year storm event due to flooding of the roadway from Woodin Creek.

Design Considerations: This drainage complaint involves both public and private stormwater. In the upper reaches of the Woodin Creek tributaries, within both the City and King County, there are erosion issues as a result of development on steep hillside slopes. There are two existing stormwater ponds on the northern tributary along Woodinville-Duvall Way at NE 178th Street that outlet through a conveyance on the north side of the Albertsons commercial complex. The southern tributary crosses NE 171st Street (near 143rd Place NE) and runs north and then west along the south side of the Albertsons commercial complex. Just upstream of the Albertsons commercial complex there is an existing stormwater pond located at NE 178th St and NE Woodinville-Duvall Road. The two systems join and outlet to the open channel portion of Woodin Creek at 140th Ave NE about 250-feet north of NE 171st Street.

Project Description: There is a long standing reoccurring problem of excessive sediment accumulation in Woodin Creek. Complete a detailed survey of the stormwater system that drains to Woodin Creek in the study area along NE 171st. Solution 1: Raise the road up one foot in elevation and construct a separate storm system (~3000 LF (1000 LF of 42" stormwater pipe and 2000 LF of 24" stormwater pipe) to convey the roadway drainage to and outlet within Woodin Park. Add a water quality vault in Woodin Park. Solution 2: Add berms between the creek and roadway at critical locations. Add a high flow diversion system within the roadway.

Note: If redevelopment occurs north of NE 171st St. (existing Mobile Home Park) some issues on Woodin Creek may be solved during the redevelopment.

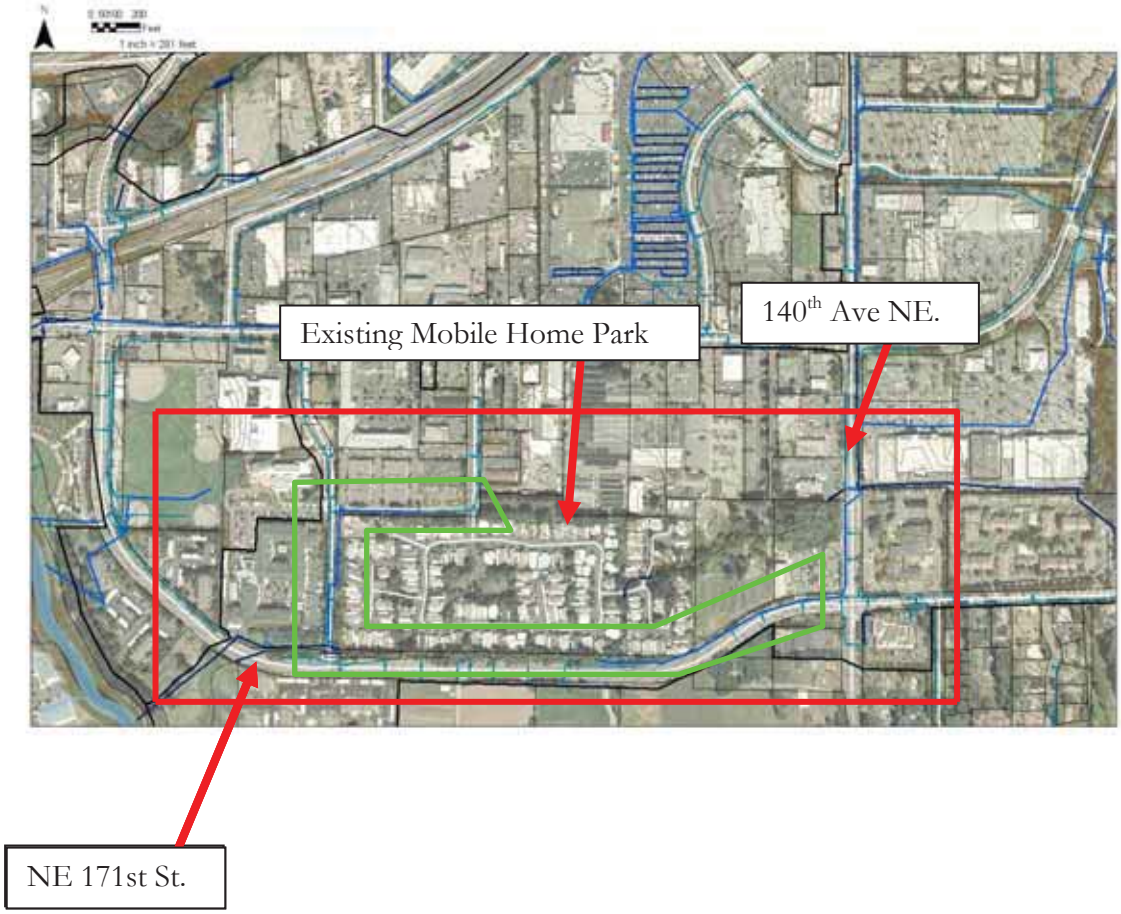
Estimated Project Cost: $2,993,000

Photos:


Photos of Woodin Creek sedimentation problem.


Photos of detention ponds upstream of Woodin Creek's sedimentation problem.

PROJECT SKETCH



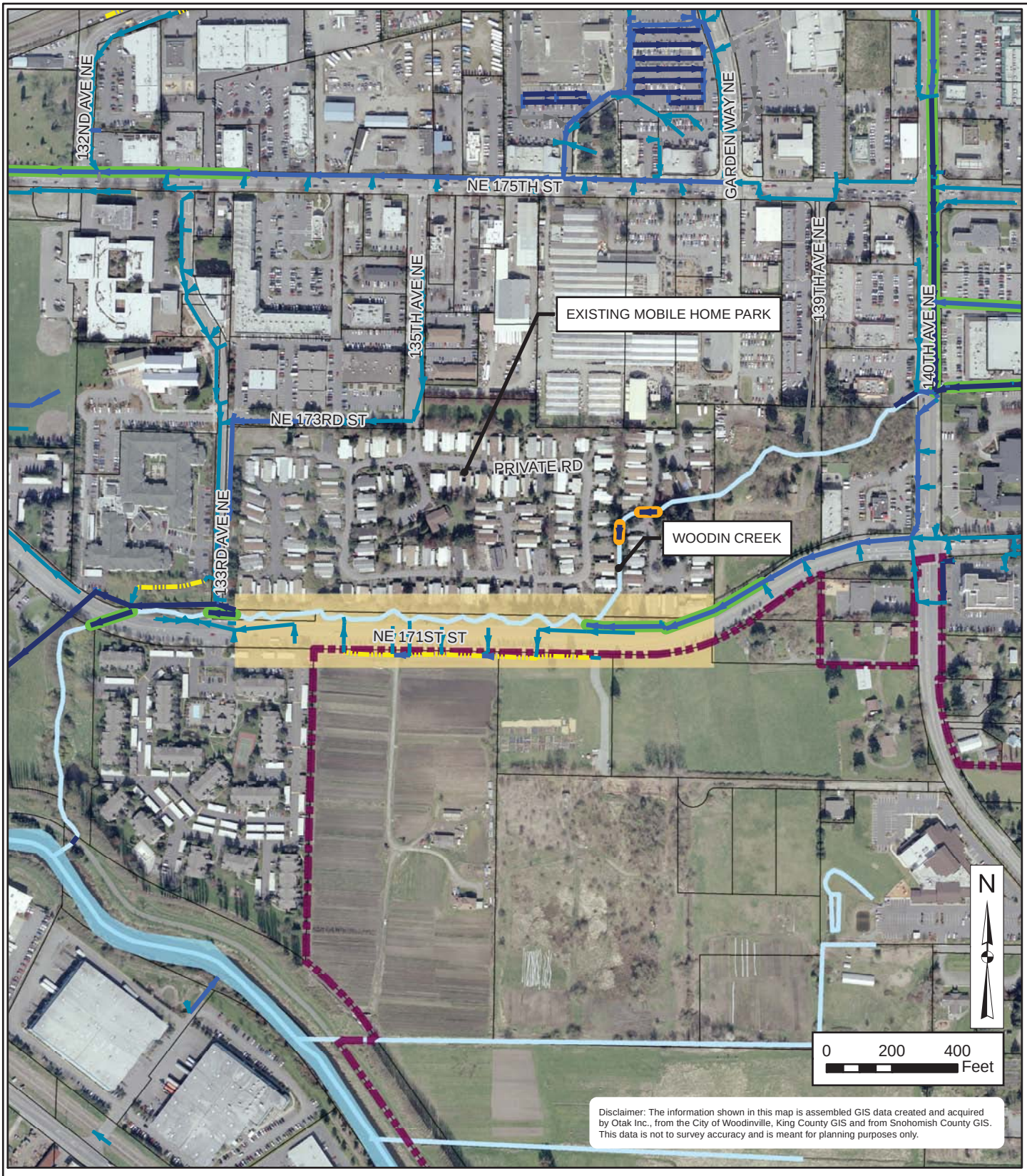
PLANNING LEVEL CONSTRUCTION COST OPINION

PROJECT: Woodin Creek CIP: Solution #1 **CHECKED BY:** AMM/LM
BY: JLC **DATE:** 12/21/2010

ITEM NO.	BID ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	CATCH BASIN TYPE 1L	10	EA	$ 1,500.00	$ 15,000
2	CATCH BASIN, TYPE 2, 48 IN DIA	6	EA	$ 3,500.00	$ 21,000
3	CONNECT TO EXISTING STRUCTURE	2	EA	$ 1,000.00	$ 2,000
4	EXTRUDED CURB	700	LF	$ 17.00	$ 11,900
5	FILL AND COMPACT, COMMON BORROW	1,500	CY	$ 35.00	$ 52,500
6	LANDSCAPE RESTORATION	1	LS	$ 2,500.00	$ 2,500
7	PAVEMENT RESTORATION	34,500	SF	$ 5.60	$ 193,200
8	REMOVE PAVEMENT	1,500	SY	$ 22.00	$ 33,000
9	SIDEWALK RESTORATION	3,500	SF	$ 13.00	$ 45,500
10	STORM SEWER PIPE, 24 IN DIA	2,000	LF	$ 85.00	$ 170,000
11	STORM SEWER PIPE, 42 IN DIA	1,000	LF	$ 175.00	$ 175,000
12	STORM SYSTEM SURVEY	1	LS	$ 25,000.00	$ 25,000
13	UTILITY RELOCATIONS (NO COST TO THE CITY)	1	LS	$ -	$ -
14	WATER QUALITY TREATMENT VAULT	1.0	AC-FT	$ 350,000.00	$ 350,000
				Subtotal	$ 1,096,600
	EROSION & SEDIMENTATION CONTROL	10%	(See Note 3)		$ 109,660
	TRAFFIC CONTROL	15%	(See Note 4)		$ 164,490
	MISC BID ITEMS	30%			$ 328,980
				Subtotal	$ 1,699,730
	MOBILIZATION (GENERAL REQUIREMENT)	5%			$ 84,987
				Construction Subtotal (Rounded)	$ 1,785,000
	CONTINGENCY	10%			$ 178,500
	STATE SALES TAX	10%	(see Note 5)		$ 169,575
	ENGINEERING/LEGAL/ADMIN	20%			$ 357,000
	CONSTRUCTION MANAGEMENT	5%			$ 89,250
	PERMITTING	3%			$ 53,550
				Project Subtotal (Rounded)	$ 2,633,000
	LAND ACQUISITION (see note 6)		AC		
2010 Dollars				**Total Estimated Project Cost (Rounded)**	**$ 2,633,000**

Notes:

1. The above cost opinion is in 2010 dollars and does not include future escalation, financing, or O&M costs.
2. The order-of-magnitude cost opinion has been prepared for guidance in project evaluation from the information available at the time of preparation and for the assumptions stated. The final costs of the project will depend on actual labor and material costs, actual site conditions, productivity, competitive market conditions, final project scope and schedule, and other variable factors. As a result, the final project costs will vary from those presented above. Because of these factors, funding needs for individual projects must be scrutinized prior to establishing the final project budgets.
3. Increase percentage markup if work is in or immediately adjacent to flowing or standing water, steep slope, and/or other erosion-prone conditions.
4. Increase percentage markup if work is in or immediately adjacent to secondary, arterial, or other high-volume road or temporarily closes a roadway.
5. Sales tax is not always required on municipal roadway projects. However, tax is included in planning level estimates, as not all stormwater work is directly related to roadway drainage.
6. Land Acquisition unit costs include Administrative Costs and Condemnation.



LEGEND

CITY OF WOODINVILLE STORMWATER PIPES 02/16/10

SIZE

- unknown size
- <= 12"
- <= 24"
- > 24"

PIPES ANALYZED (25YR % CAPACITY)

- 0% - 100%
- 101% - 150%
- 151% - 300%
- > 300%

- Stormwater Open Channel
- Approximate Location of CIP
- City Limits
- County Boundary
- Parcel Boundary
- Streams
- Contour 2 ft

STORMWATER MANAGEMENT PLAN

FIGURE D.1

WOODIN CREEK CIP

CITY OF WOODINVILLE

JUNE 2010

PROJECT SUMMARY SHEET

Project Title: Chateau Reach CIP

Project Location: 15600 Woodinville-Redmond Road (SR 202), Sammamish River Watershed

Problem Description: Erosion and excess silt deposit problems in channel causes flooding of SR 202 and near-by commercial area. This is a recurring problem that has been on the City's CIP list for years. A previous project concept was contingent on private property owners granting the City an easement during redevelopment of the surrounding property.

Design Considerations: This drainage complaint involves both public and private stormwater. Right-of-way constraints and required easements may affect the design of this project. Installation of an on-line stormwater facility may require permitting of a Hydraulic Project Approval (HPA).

Project Description: Identify sources of sediment and install erosion control measures where City has right-of-way. Retrofit existing upstream sediment facility upstream of SR202. This facility is currently on private property. This would require the purchase of the property containing the private facility or obtaining a stormwater easement from the owner. Upsize the driveway culverts along SR202 (12-inch upsize to 18-inch) to the SR 202 crossing (24-inch). Upsize the SR202 culvert crossing to 42-inch (or as determined by the designer). The new 42-inch pipe will require boring under SR202.

Estimated Project Cost: $608,000

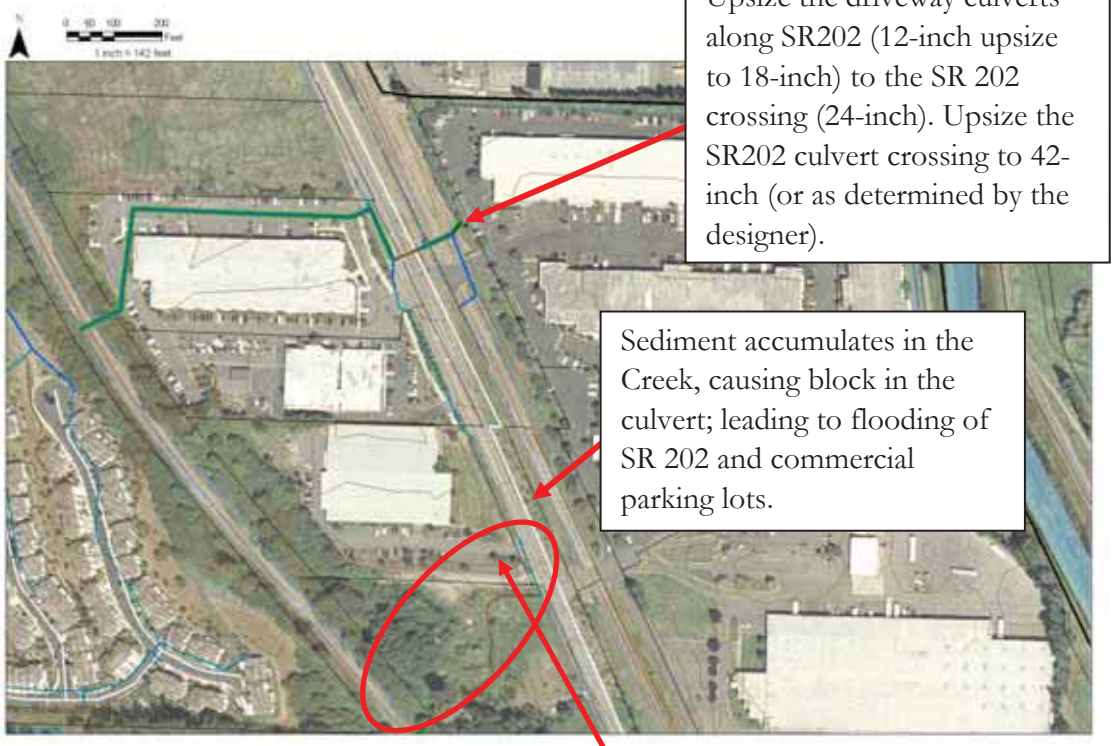
Photos:

Creek flowing to the north along SR 202.

SR 202 (60' of Right-of-Way)

Sediment accumulates in the Creek, causing block in the culvert; leading to flooding of SR 202 and commercial parking lot.

PROJECT SKETCH



PLANNING LEVEL CONSTRUCTION COST OPINION

PROJECT: Chateau Reach CIP — **CHECKED BY:** AMM/LM
BY: JLC — **DATE:** 12/21/2010

ITEM NO.	BID ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	ADJUST FLOW CONTROL STRUCTURE	1	EA	$ 850.00	$ 850
2	CATCH BASIN TYPE 1L	2	EA	$ 1,500.00	$ 3,000
3	CATCH BASIN, TYPE 2, 48 IN DIA	1	EA	$ 3,500.00	$ 3,500
4	CLEARING AND GRUBBING	1	LS	$ 1,500.00	$ 1,500
5	HYDROSEEDING	1,400	SY	$ 2.50	$ 3,500
6	PAVEMENT RESTORATION	1,750	SF	$ 5.60	$ 9,800
7	POND EXCAVATION (includes fine grading)	950	CY	$ 20.00	$ 19,000
8	RIPARIAN PLANTING	1	LS	$ 5,000.00	$ 5,000
9	STORM SEWER PIPE, 18 IN DIA	350	LF	$75.00	$ 26,250
10	STORM SEWER PIPE, 42 IN DIA (BORED UNDER ROAD and RR)	175	LF	$ 750.00	$ 131,250
				Subtotal	$ 203,650
	EROSION & SEDIMENTATION CONTROL	10%	(See Note 3)		$ 20,365
	TRAFFIC CONTROL	15%	(See Note 4)		$ 30,548
	MISC BID ITEMS	30%			$ 61,095
				Subtotal	$ 315,658
	MOBILIZATION (GENERAL REQUIREMENT)	10%			$ 31,566
				Construction Subtotal (Rounded)	$ 347,000
	CONTINGENCY	10%			$ 34,700
	STATE SALES TAX	9.5%	(see Note 5)		$ 32,965
	ENGINEERING/LEGAL/ADMIN	25%			$ 86,750
	CONSTRUCTION MANAGEMENT	10%			$ 34,700
	PERMITTING	15%			$ 52,050
				Project Subtotal (Rounded)	$ 588,000
	LAND EASEMENT ACQUISITION (see note 6)		EASEMENT		$ 20,000
2010 Dollars				**Total Estimated Project Cost (Rounded)**	**$ 608,000**

Notes:

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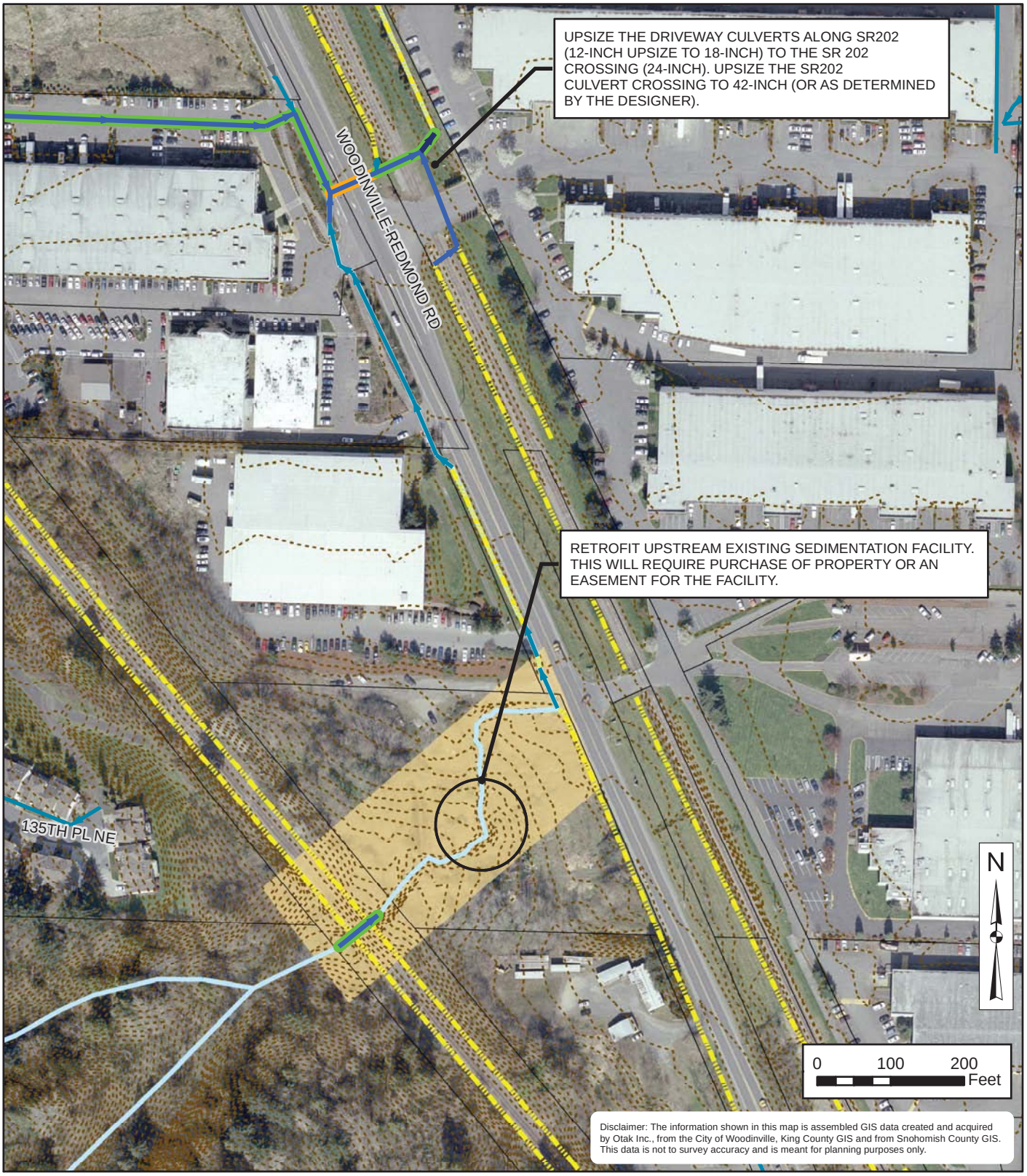
3. Increase percentage markup if work is in or immediately adjacent to flowing or standing water, steep slope, and/or other erosion-prone conditions.
4. Increase percentage markup if work is in or immediately adjacent to secondary, arterial, or other high-volume road or temporarily closes a roadway.
5. Sales tax is not always required on municipal roadway projects. However, tax is included in planning level estimates, as not all stormwater work is directly related to roadway drainage.
6. Land Acquisition unit costs include Administrative Costs and Condemnation.



LEGEND

CITY OF WOODINVILLE STORMWATER PIPES 02/16/10

SIZE	PIPES ANALYZED (25YR % CAPACITY)
unknown size	0% - 100%
<= 12"	101% - 150%
<= 24"	151% - 300%
> 24"	> 300%

Stormwater Open Channel

Approximate Location of CIP

City Limits

County Boundary

Parcel Boundary

Streams

Contour 2 ft

STORMWATER MANAGEMENT PLAN

FIGURE D.2

CHATEAU REACH CIP

CITY OF WOODINVILLE

JUNE 2010

PS28, PS29, CS58

PROJECT SUMMARY SHEET

Project Title: Lake Leota and NE 180th Street CIP

Project Location: 16200 NE 180th Street near Lake Leota (south side of Lake)

Problem Description: Stormwater runoff from NE 180th Street and private property on the upstream (south) hillside of NE 180th Street is not being treated before entering Lake Leota. During storm events there are an insufficient number of inlets to collect stormwater from the roadway and water flows toward private residences.

Design Considerations: This drainage complaint involves both public and private stormwater. There is an existing frop-tee in a catch basin (picture below) to help minimize sediment entering Lake Leota; however the public still expresses concern regarding sedimentation entering Lake Leota and the flooding of homes on NE 180th Street. The bioretention units need to be installed within the right-of-way (total right-of-way width of ~60'). The existing discharge point is on private property, so the City may need to work with the property owner to obtain a stormwater easement. Potential conflicts with existing power poles that may conflict with one of the locations of the proposed bioretention stormwater quality facility. Moving the utility poles would not be an additional cost for the City.

Project Description: Install 5 additional catch basin inlets, 3 new manholes and 500 LF stormwater conveyance pipe on NE 180th Street. Install two bioretention stormwater quality treatment facilities (120 LF and 60 LF) within the right of way of NE 180th Street to treat the stormwater before it enters Lake Leota; retrofit of existing ditch (LID demonstration project). Install a water quality treatment vault in the City's right-of-way. In addition design and construction of a five Bioretention/Rain Gardens and a water quality vault with media filters throughout the Lake Leota Basin.

Estimated Project Cost: $1,150,000

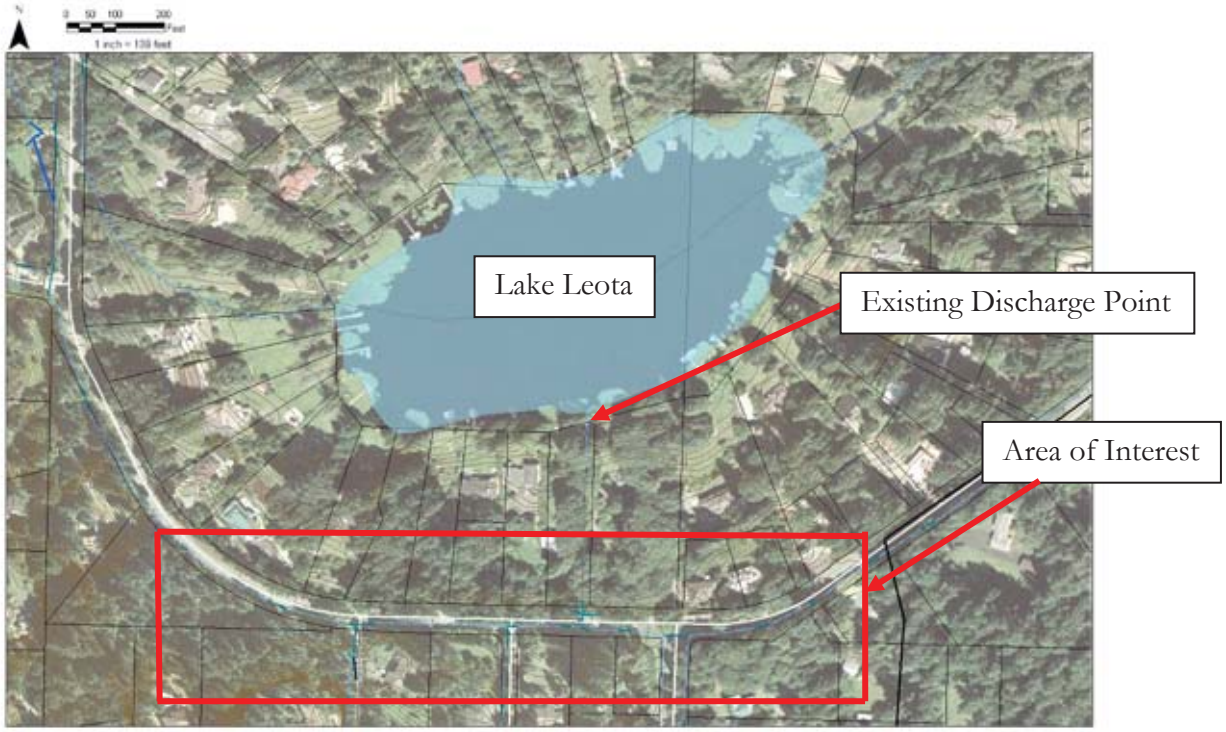
Photos:

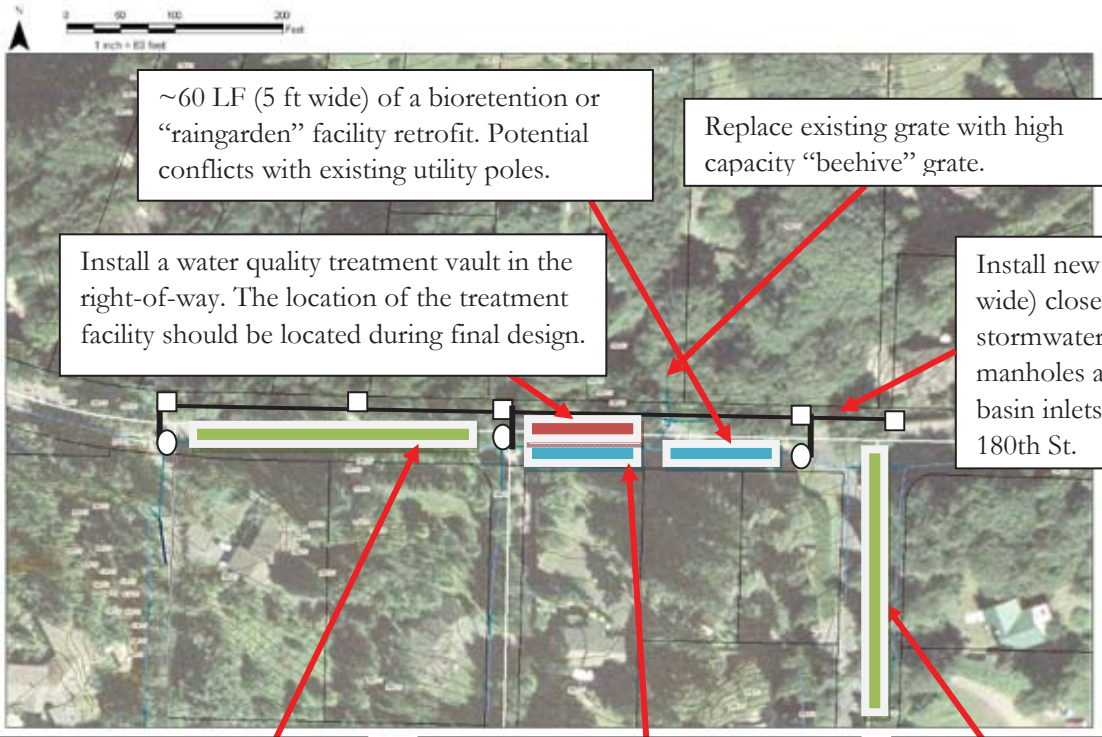

Existing Grate. (Same Structure Pictured)
Existing Catch Basin (Same Structure Pictured)


Utility Pole
~60 LF of a bioretention or "raingarden" facility retrofit.

~120 LF of a bioretention or "raingarden" facility retrofit of existing ditch.

PROJECT SKETCH



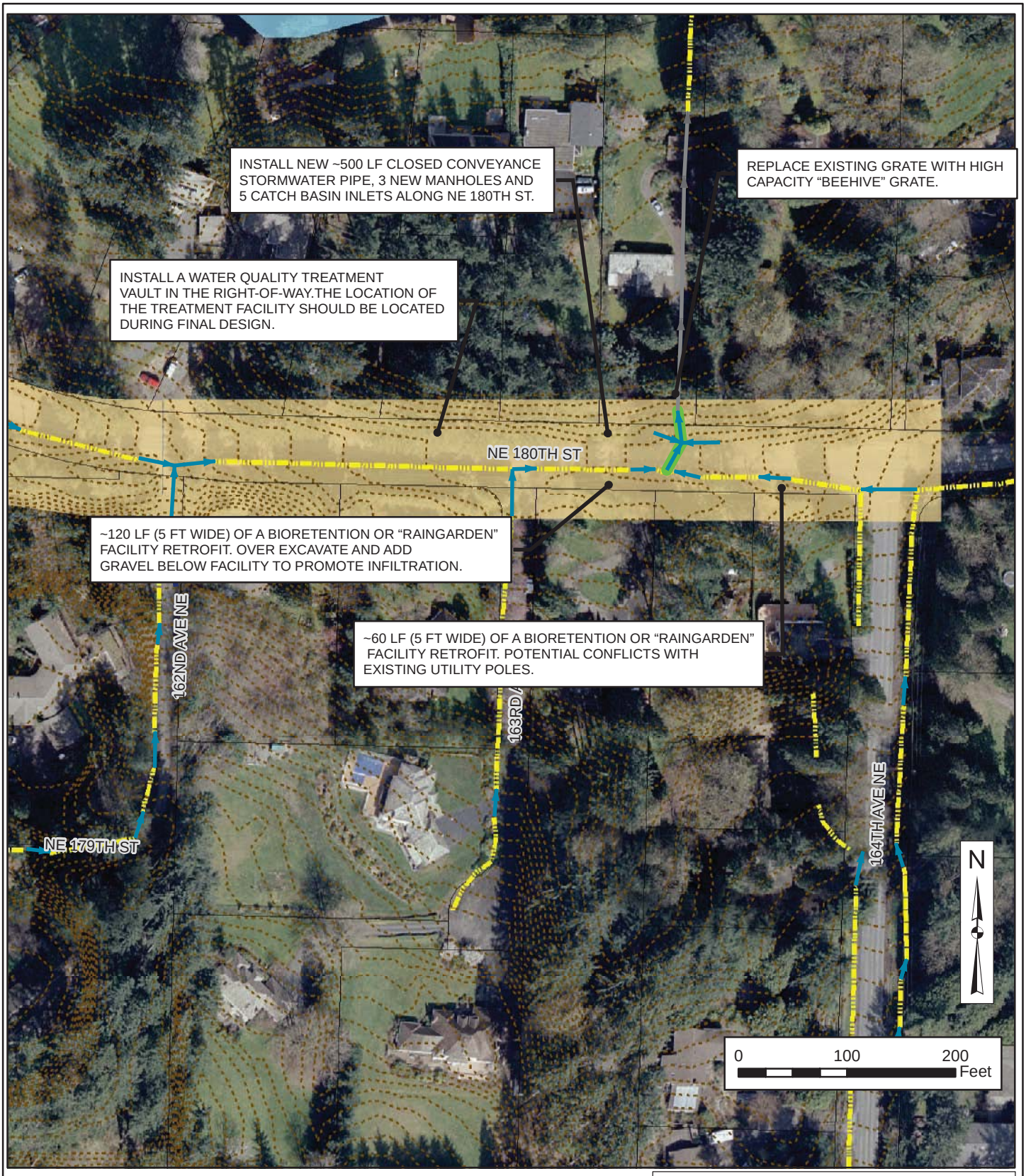

~60 LF (5 ft wide) of a bioretention or "raingarden" facility retrofit. Potential conflicts with existing utility poles.
Replace existing grate with high capacity "beehive" grate.
Install a water quality treatment vault in the right-of-way. The location of the treatment facility should be located during final design.
Install new ~500 LF (5 ft wide) closed conveyance stormwater pipe, 3 new manholes and 5 catch basin inlets along NE 180th St.
240 LF (5 ft wide) potential roadway surface area for treatment. Consider grade of
~120 LF (5 ft wide) of a bioretention or "raingarden" facility retrofit. Over excavate and add gravel below facility to promote infiltration.
~1,500 LF (5 ft wide) potential roadway surface area for treatment. Consider grade of road. (extends further south to NE 175th St., not shown here)

PLANNING LEVEL CONSTRUCTION COST OPINION

PROJECT: Lake Leota and NE 180th Street CIP — **CHECKED BY:** AMM/LM
BY: JLC — **DATE:** 12/21/2010

ITEM NO.	BID ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	BIORETENTION FACILITY	3,825	SF	$ 17.00	$ 65,025
2	CATCH BASIN TYPE 1L	5	EA	$ 1,500.00	$ 7,500
3	CATCH BASIN, TYPE 2, 48 IN DIA	3	EA	$ 3,500.00	$ 10,500
4	CLEARING AND GRUBBING	1	LS	$ 5,000.00	$ 5,000
5	CONNECT TO EXISTING STRUCTURE	4	EA	$ 1,000.00	$ 4,000
6	DITCH EXCAVATION INCL. HAUL	250	CY	$ 95.00	$ 23,750
7	FILL AND COMPACT, COMMON BORROW	110	CY	$ 35.00	$ 3,850
8	HYDROSEEDING	250	SY	$ 2.50	$ 625
9	LANDSCAPE RESTORATION	1	LS	$ 3,000.00	$ 3,000
10	PAVEMENT RESTORATION	1,500	SF	$ 5.60	$ 8,400
11	RIPARIAN PLANTING	1	LS	$ 5,000.00	$ 5,000
12	STORM SEWER PIPE, 12 IN DIA	500	LF	$ 60.00	$ 30,000
13	TRASH RACK	10	EA	$ 650.00	$ 6,500
14	UTILITY RELOCATIONS (NO COST TO THE CITY)	2	LS	$ -	$ -
15	WATER QUALITY TREATMENT VAULT	0.50	AC-FT	$ 350,000.00	$ 175,000
				Subtotal	$ 348,150
	EROSION & SEDIMENTATION CONTROL	10%	(See Note 3)		$ 34,815
	TRAFFIC CONTROL	15%	(See Note 4)		$ 52,223
	MISC BID ITEMS	30%			$ 104,445
				Subtotal	$ 539,633
	MOBILIZATION (GENERAL REQUIREMENT)	10%			$ 53,963
				Construction Subtotal (Rounded)	$ 594,000
	CONTINGENCY	10%			$ 59,400
	STATE SALES TAX	9.5%	(see Note 5)		$ 56,430
	ENGINEERING/LEGAL/ADMIN	25%			$ 148,500
	CONSTRUCTION MANAGEMENT	10%			$ 59,400
	PERMITTING	5%			$ 29,700
				Project Subtotal (Rounded)	$ 947,000
	LAND ACQUISITION (see note 6)		AC		$ -
2010 Dollars				**Total Estimated Project Cost (Rounded)**	**$ 947,000**

Notes:
1. The above cost opinion is in 2010 dollars and does not include future escalation, financing, or O&M costs.
2. The order-of-magnitude cost opinion has been prepared for guidance in project evaluation from the information available at the time of preparation and for the assumptions stated. The final costs of the
3. Increase percentage markup if work is in or immediately adjacent to flowing or standing water, steep slope, and/or other erosion-prone conditions.
4. Increase percentage markup if work is in or immediately adjacent to secondary, arterial, or other high-volume road or temporarily closes a roadway.
5. Sales tax is not always required on municipal roadway projects. However, tax is included in planning level estimates, as not all stormwater work is directly related to roadway drainage.
6. Land Acquisition unit costs include Administrative Costs and Condemnation.



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LEGEND

CITY OF WOODINVILLE STORMWATER PIPES 02/16/10

SIZE	PIPES ANALYZED (25YR % CAPACITY)
unknown size	0% - 100%
<= 12"	101% - 150%
<= 24"	151% - 300%
> 24"	> 300%

- Stormwater Open Channel
- Approximate Location of CIP
- Contour 2 ft
- City Limits
- County Boundary
- Parcel Boundary
- Streams

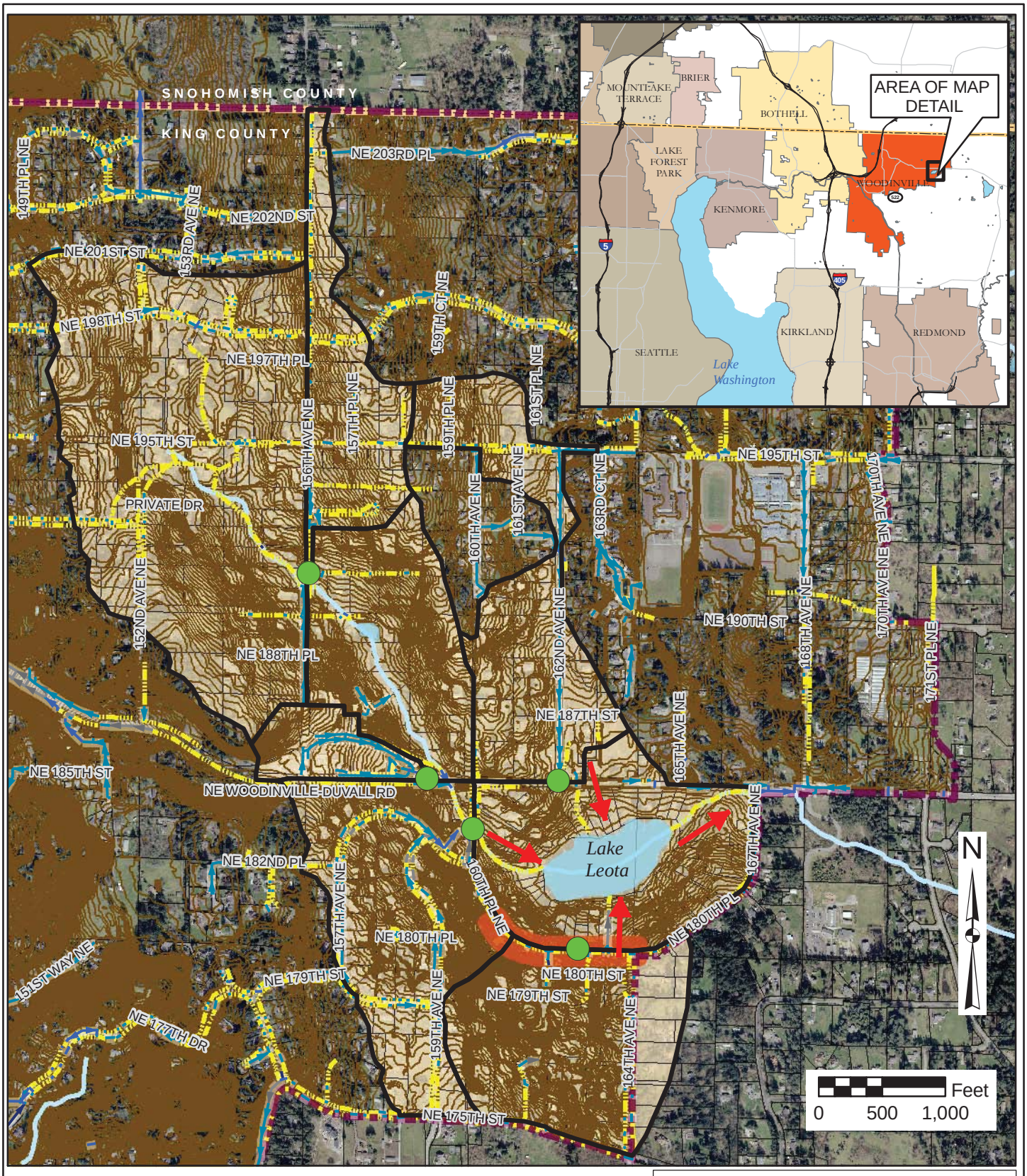
STORMWATER MANAGEMENT PLAN

FIGURE D.3.A

LAKE LEOTA AND NE 180TH ST. CIP

CITY OF WOODINVILLE

OCTOBER 2010



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LEGEND

CITY OF WOODINVILLE - STORMWATER PIPES 02/16/10

SIZE

- unknown size
- <= 12"
- <= 24"
- > 24"

- Potential Raingarden Location
- Approximate Location of Water Quality Vault *
- City Limits
- County Boundary
- Parcel Boundary
- Lake Leota Watershed
- Stormwater Open Channel
- Streams
- Subbasin Boundary
- Contour 2ft

* The raingardens locations are to be determined within the Lake Leota watershed.

STORMWATER MANAGEMENT PLAN

FIGURE D.3.B

LAKE LEOTA AND NE 180TH ST. CIP

CITY OF WOODINVILLE

OCTOBER 2010

PROJECT SUMMARY SHEET

Project Title: NE Woodinville Duvall Road CIP

Project Location: 100 feet east of 140th Ave NE and 175th St NE intersection along NE Woodinville Duvall Road

Problem Description: A primary conveyance line (12-inch) along NW Woodinville Duvall Road takes a 90 degree direction change in a catch basin and then crosses to the center of the road as an 8-inch stormwater pipe. At this point it turns 90-degrees in a second structure and continues as a 12-inch stormwater pipe. The lid of the catch basin upstream of the 8-inch pipe blows off during heavy rainfall. Water flows along the gutter to the 140th Ave NE and 175th St NE intersection where it temporarily ponds due to the lack of inlet capacity. This causes traffic disruption.

Design Considerations: None

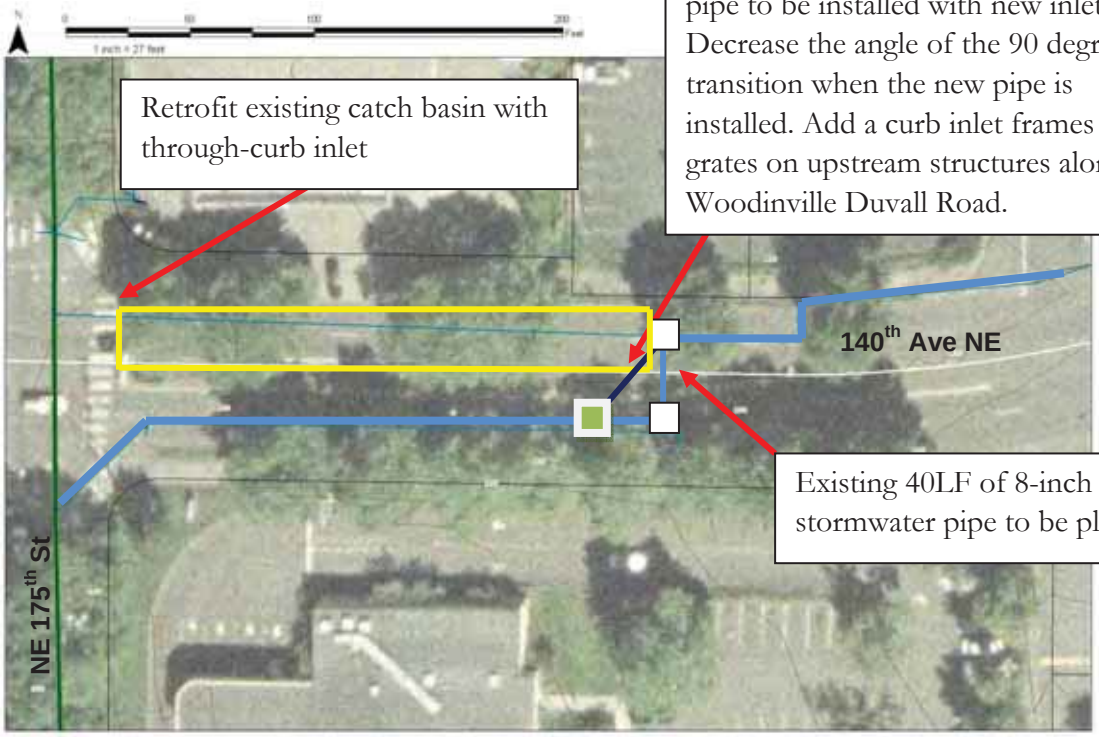
Project Description: Upsize approximately 40 LF of 8-inch stormwater pipe to a 12-inch stormwater pipe and replace the existing catch basin(s) to decrease the angle of the 90 degree transition when the new pipe is installed. Add a curb cut inlet frames and grates on upstream structures along NE Woodinville Duvall Road to minimize clogging due to street tree leaf litter.

Estimated Project Cost: $102,000

Photos:

Location of 90 degree bend in stormwater conveyance system.

PROJECT SKETCH



PLANNING LEVEL CONSTRUCTION COST OPINION

PROJECT: NE Woodinville Duvall Road Stormwater Conveyance CIP
BY: JLC
CHECKED BY: AMM/LM
DATE: 12/21/2010

ITEM NO.	BID ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	CATCH BASIN TYPE 1L	2	EA	$ 1,500.00	$ 3,000
2	CATCH BASIN, TYPE 2, 48 IN DIA	2	EA	$ 3,500.00	$ 7,000
3	CONNECT TO EXISTING STRUCTURE	2	EA	$ 1,000.00	$ 2,000
4	PAVEMENT RESTORATION	250	SF	$ 5.60	$ 1,400
5	REMOVE PAVEMENT	30	SY	$ 22.00	$ 660
6	SIDEWALK RESTORATION	150	SF	$ 13.00	$ 1,950
7	STORM SEWER PIPE, 12 IN DIA	120	LF	$ 60.00	$ 7,200
8	CURB INLET	6	EA	$ 2,000.00	$ 12,000
9	PLUG EXISTING STRUCTURE	1	LS	$ 250.00	$ 250
				Subtotal	$ 35,460
	EROSION & SEDIMENTATION CONTROL	10%	(See Note 3)		$ 3,546
	TRAFFIC CONTROL	15%	(See Note 4)		$ 5,319
	MISC BID ITEMS	30%			$ 10,638
				Subtotal	$ 54,963
	MOBILIZATION (GENERAL REQUIREMENT)	10%			$ 5,496
				Construction Subtotal (Rounded)	$ 60,000
	CONTINGENCY	10%			$ 6,000
	STATE SALES TAX	9.5%	(see Note 5)		$ 5,700
	ENGINEERING/LEGAL/ADMIN	30%			$ 18,000
	CONSTRUCTION MANAGEMENT	15%			$ 9,000
	PERMITTING	5%			$ 3,000
				Project Subtotal (Rounded)	$ 102,000
	LAND ACQUISITION (see note 6)		AC		$ -
2010 Dollars				**Total Estimated Project Cost (Rounded)**	**$ 102,000**

Notes:

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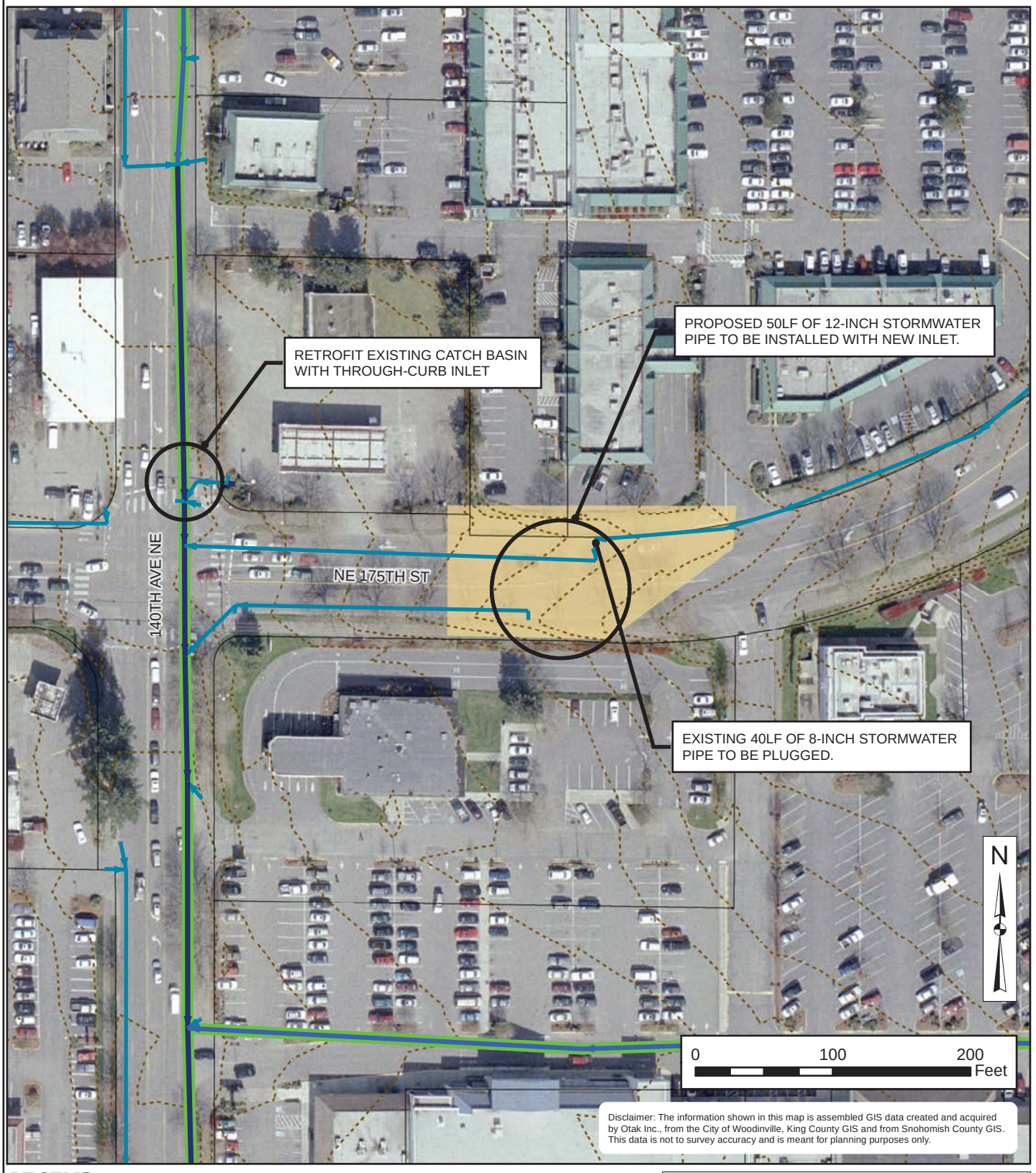
6. Land Acquisition unit costs include Administrative Costs and Condemnation.



Disclaimer: The information shown in this map is assembled GIS data created and acquired by Otak Inc., from the City of Woodinville, King County GIS and from Snohomish County GIS. This data is not to survey accuracy and is meant for planning purposes only.

LEGEND

CITY OF WOODINVILLE STORMWATER PIPES 02/16/10

SIZE	PIPES ANALYZED (25YR % CAPACITY)
unknown size	0% - 100%
<= 12"	101% - 150%
<= 24"	151% - 300%
> 24"	> 300%

Stormwater Open Channel

Approximate Location of CIP

City Limits

County Boundary

Parcel Boundary

Streams

Contour 2 ft

STORMWATER MANAGEMENT PLAN

FIGURE D.4

NE WOODINVILLE DUVALL ROAD CIP

CITY OF WOODINVILLE

JUNE 2010

PROJECT SUMMARY SHEET

Project Title: 147th PL NE CIP

Project Location: Near 17819 147th Place NE near NE 178th St.

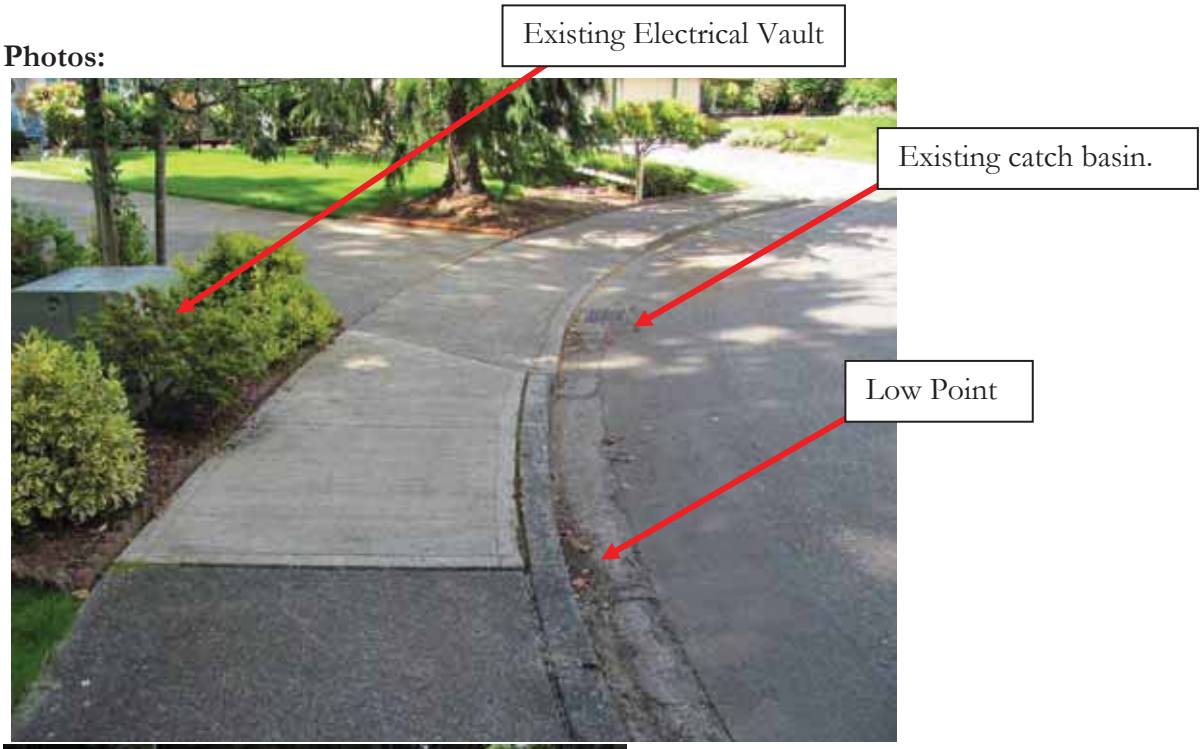
Problem Description: There are not a sufficient number of catch basin inlets at the low point of 147th Place NE. As a result, flooding of a nearby electrical vault occurs along with standing water in the roadway.

Design Considerations: Utility conflicts should be considered in the design of this CIP.

Project Description: Install a new through-curb inlet in the right-of-way at the low point in front of the existing electrical vault. Install approximately 20 LF of 12-inch stormwater pipe to connect the new catch basin with the existing stormwater conveyance system. Add another flanking catch basin and 20LF of 12-inch stormwater pipe to the northeast of the lowpoint. All grates should be vane grates. To accommodate new pipe and angle of existing pipes, the existing catch basin may need to be replaced with a larger structure.

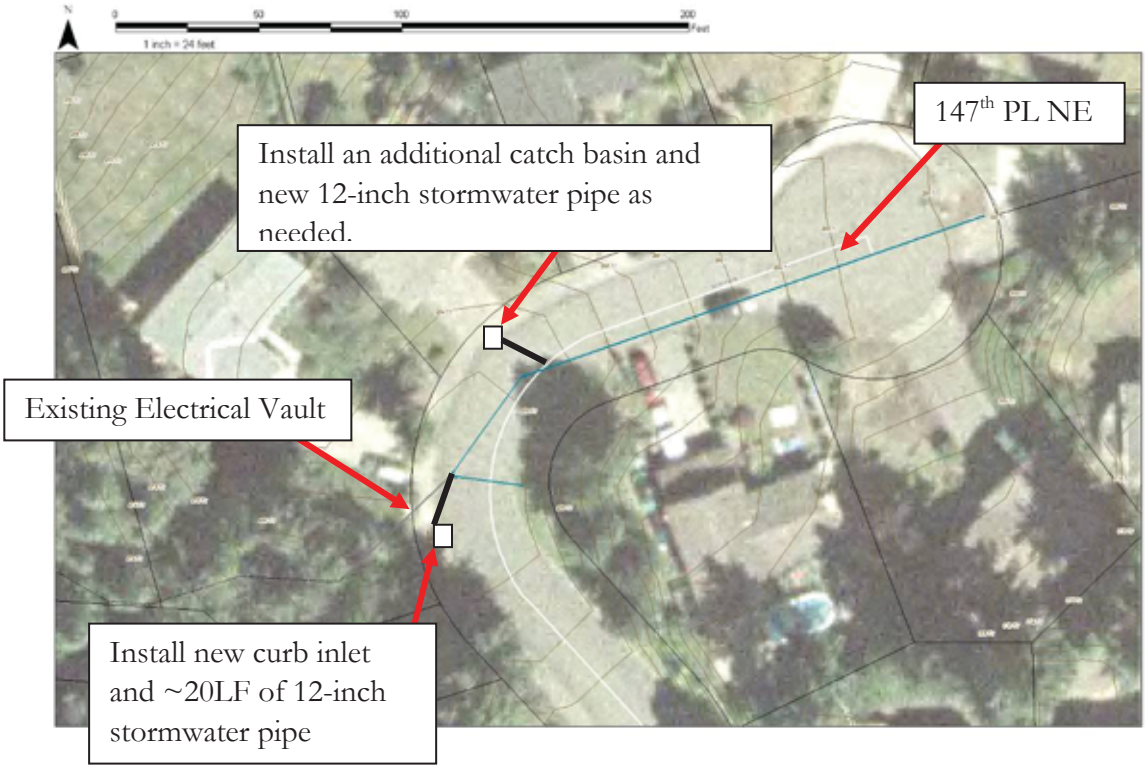
Estimated Project Cost: $40,000

Photos:


Existing Electrical Vault
Existing catch basin.
Low Point


Existing Electrical Vault

PROJECT SKETCH



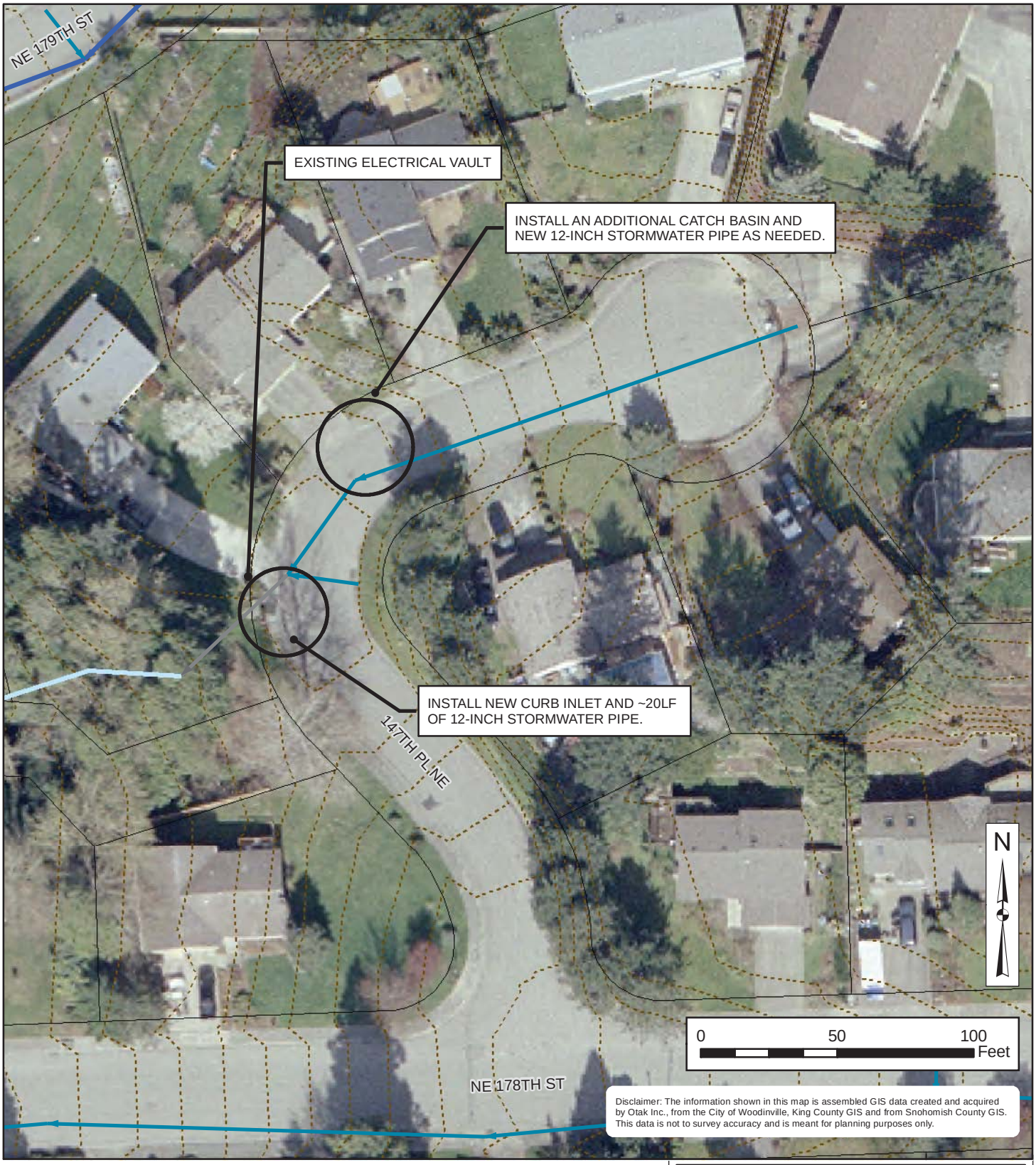
PLANNING LEVEL CONSTRUCTION COST OPINION

PROJECT: 147th PL NE CIP **CHECKED BY:** AMM/LM
BY: JLC **DATE:** 12/21/2010

ITEM NO.	BID ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	CATCH BASIN, TYPE 2, 48 IN DIA	1	EA	$ 3,500.00	$ 3,500
2	CONNECT TO EXISTING STRUCTURE	2	EA	$ 1,000.00	$ 2,000
3	FILL AND COMPACT, COMMON BORROW	10	CY	$ 35.00	$ 350
4	PAVEMENT RESTORATION	120	SF	$ 5.60	$ 672
5	REMOVE PAVEMENT	15	SY	$ 22.00	$ 330
6	SIDEWALK RESTORATION	100	SF	$ 13.00	$ 1,300
7	STORM SEWER PIPE, 12 IN DIA	50	LF	$ 60.00	$ 3,000
8	CURB INLET	2	EA	$ 2,000.00	$ 4,000
				Subtotal	$ 15,152
	EROSION & SEDIMENTATION CONTROL	10%	(See Note 3)		$ 1,515
	TRAFFIC CONTROL	10%	(See Note 4)		$ 1,515
	MISC BID ITEMS	30%			$ 4,546
				Subtotal	$ 22,728
	MOBILIZATION (GENERAL REQUIREMENT)	10%			$ 2,273
				Construction Subtotal (Rounded)	$ 25,000
	CONTINGENCY	10%			$ 2,500
	STATE SALES TAX	9.5%	(see Note 5)		$ 2,375
	ENGINEERING/LEGAL/ADMIN	25%			$ 6,250
	CONSTRUCTION MANAGEMENT	10%			$ 2,500
	PERMITTING	5%			$ 1,250
				Project Subtotal (Rounded)	$ 40,000
	LAND ACQUISITION (see note 6)		AC		$ -
2010 Dollars				**Total Estimated Project Cost (Rounded)**	**$ 40,000**

Notes:

1. The above cost opinion is in 2010 dollars and does not include future escalation, financing, or O&M costs.
2. The order-of-magnitude cost opinion has been prepared for guidance in project evaluation from the information available at the time of preparation and for the assumptions stated. The final costs of the project will depend on actual labor and material costs, actual site conditions, productivity, competitive market conditions, final project scope and schedule, and other variable factors. As a result, the final project costs will vary from those presented above. Because of these factors, funding needs for individual projects must be scrutinized prior to establishing the final project budgets.
3. Increase percentage markup if work is in or immediately adjacent to flowing or standing water, steep slope, and/or other erosion-prone conditions.
4. Increase percentage markup if work is in or immediately adjacent to secondary, arterial, or other high-volume road or temporarily closes a roadway.
5. Sales tax is not always required on municipal roadway projects. However, tax is included in planning level estimates, as not all stormwater work is directly related to roadway drainage.
6. Land Acquisition unit costs include Administrative Costs and Condemnation.



K:\project\31324\GIS\mxds\SWM Plan June 2010\FinalPlanFigures_Oct2010

LEGEND

CITY OF WOODINVILLE STORMWATER PIPES 02/16/10

SIZE	PIPES ANALYZED (25YR % CAPACITY)
unknown size	0% - 100%
<= 12"	101% - 150%
<= 24"	151% - 300%
> 24"	> 300%

Stormwater Open Channel

City Limits

County Boundary

Parcel Boundary

Streams

Contour 2 ft

STORMWATER MANAGEMENT PLAN

FIGURE D.5

147TH PL NE CIP

CITY OF WOODINVILLE

OCTOBER 2010

PROJECT SUMMARY SHEET

Project Title: Cottonwood Trees at 14300 NE Wood-Duvall Road CIP

Project Location: 14300 NE Wood-Duvall Road near the Westview Garden Apartments

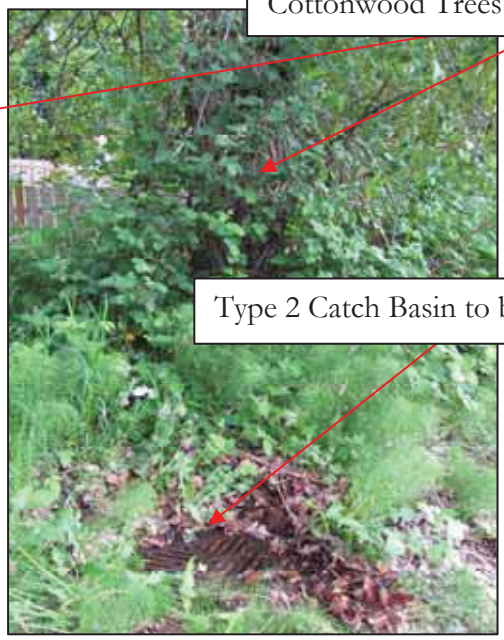
Problem Description: There are two large cottonwood trees whose root systems are intruding on a nearby Type 2 catch basin and conveyance pipe. The roots have caused extensive stormwater infrastructure damage and require frequent maintenance.

Design Considerations: The trees are located within public right-of-way.

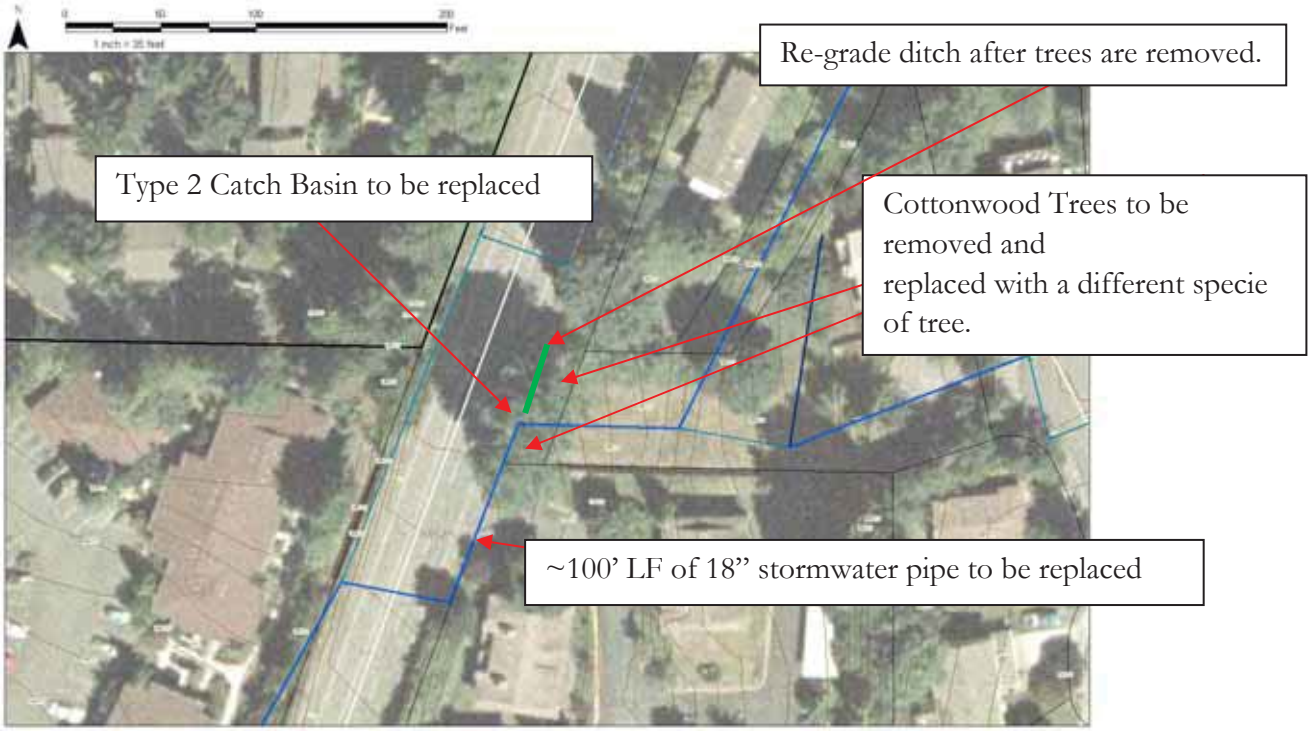
Project Description: Remove two cottonwood trees per Woodinville Municipal Code 2.24.170. Replace existing Type 2 catch basin and approximately 100-feet of stormwater conveyance pipe that has been damaged by the tree roots. Regrade 50-feet of roadside ditch and replant area with appropriate street trees per the City's Tree Ordinance No. 478.

Estimated Project Cost: $57,000

Photos:


Cottonwood Trees for Removal
Type 2 Catch Basin to be replaced

PROJECT SKETCH



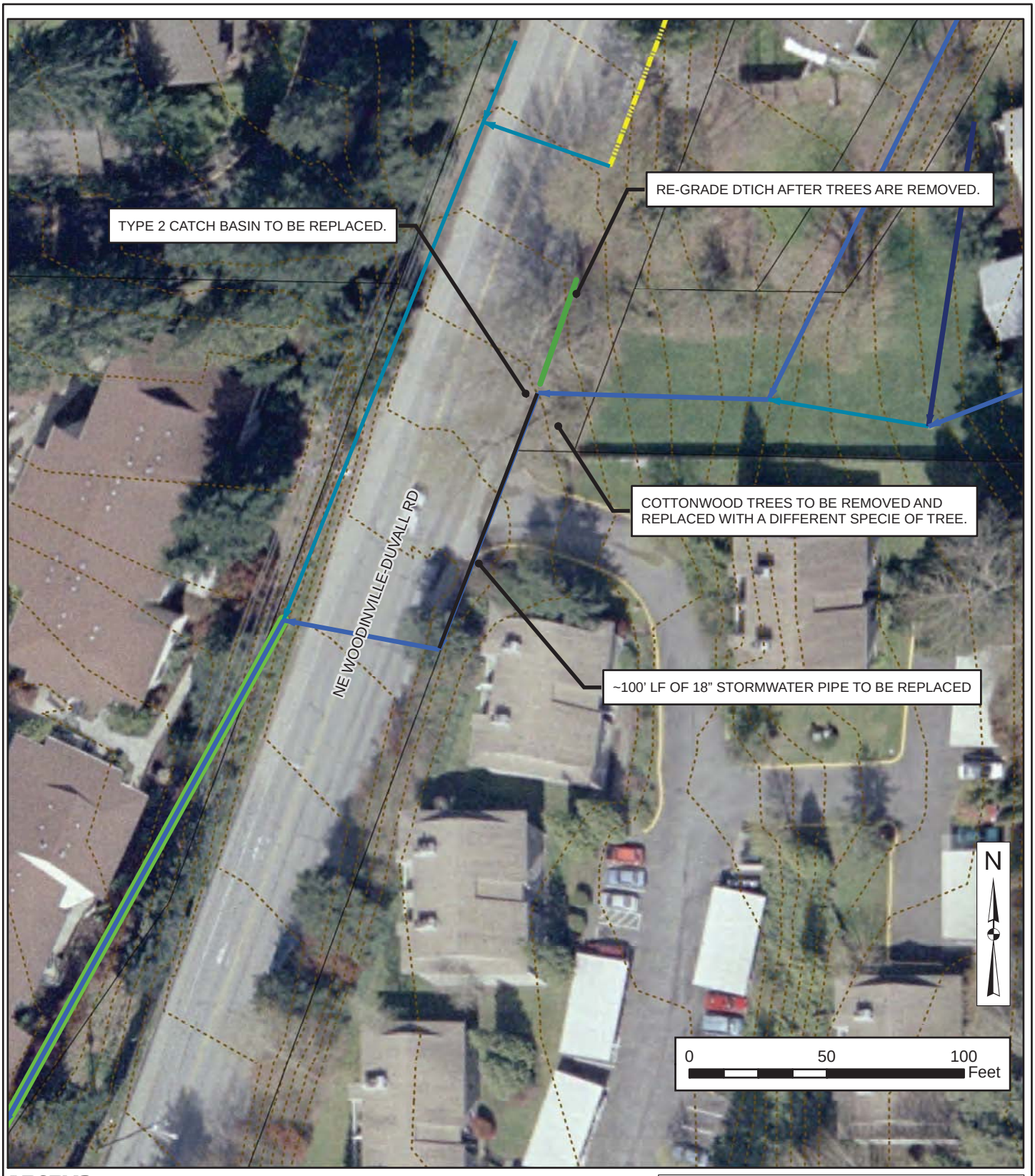
PLANNING LEVEL CONSTRUCTION COST OPINION

PROJECT: Cottonwood Trees at 14300 NE Wood-Duvall Road CIP
CHECKED BY: AMM/LM
BY: JLC
DATE: 12/21/2010

ITEM NO.	BID ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	CATCH BASIN, TYPE 2, 48 IN DIA	1	EA	$ 3,500.00	$ 3,500
2	CONNECT TO EXISTING STRUCTURE	2	EA	$ 1,000.00	$ 2,000
3	DITCH EXCAVATION INCL. HAUL	20	CY	$ 95.00	$ 1,900
4	FILL AND COMPACT, COMMON BORROW	25	CY	$ 35.00	$ 875
5	LANDSCAPE RESTORATION	1	LS	$ 2,500.00	$ 2,500
6	STORM SEWER PIPE, 18 IN DIA	100	LF	$ 75.00	$ 7,500
7	TRASH RACK	1	EA	$ 650.00	$ 650
8	TREE REMOVAL	1	LS	$ 2,000.00	$ 2,000
				Subtotal	$ 20,925
	EROSION & SEDIMENTATION CONTROL	10%	(See Note 3)		$ 2,093
	TRAFFIC CONTROL	15%	(See Note 4)		$ 3,139
	MISC BID ITEMS	30%			$ 6,278
				Subtotal	$ 32,434
	MOBILIZATION (GENERAL REQUIREMENT)	10%			$ 3,243
				Construction Subtotal (Rounded)	$ 36,000
	CONTINGENCY	10%			$ 3,600
	STATE SALES TAX	9.5%	(see Note 5)		$ 3,420
	ENGINEERING/LEGAL/ADMIN	25%			$ 9,000
	CONSTRUCTION MANAGEMENT	10%			$ 3,600
	PERMITTING	5%			$ 1,800
				Project Subtotal (Rounded)	$ 57,000
	LAND ACQUISITION (see note 6)		AC		$ -
2010 Dollars				**Total Estimated Project Cost (Rounded)**	**$ 57,000**

Notes:

1. The above cost opinion is in 2010 dollars and does not include future escalation, financing, or O&M costs.
2. The order-of-magnitude cost opinion has been prepared for guidance in project evaluation from the information available at the time of preparation and for the assumptions stated. The final costs of the project will depend on actual labor and material costs, actual site conditions, productivity, competitive market conditions, final project scope and schedule, and other variable factors. As a result, the final project costs will vary from those presented above. Because of these factors, funding needs for individual projects must be scrutinized prior to establishing the final project budgets.
3. Increase percentage markup if work is in or immediately adjacent to flowing or standing water, steep slope, and/or other erosion-prone conditions.
4. Increase percentage markup if work is in or immediately adjacent to secondary, arterial, or other high-volume road or temporarily closes a roadway.
5. Sales tax is not always required on municipal roadway projects. However, tax is included in planning level estimates, as not all stormwater work is directly related to roadway drainage.
6. Land Acquisition unit costs include Administrative Costs and Condemnation.



LEGEND

CITY OF WOODINVILLE STORMWATER PIPES 02/16/10

SIZE	PIPES ANALYZED (25YR % CAPACITY)
unknown size	0% - 100%
<= 12"	101% - 150%
<= 24"	151% - 300%
> 24"	> 300%

Stormwater Open Channel

City Limits

County Boundary

Parcel Boundary

Streams

Contour 2 ft

STORMWATER MANAGEMENT PLAN

FIGURE D.6

COTTONWOOD TREES AT 14300 NE WOOD-DUVALL ROAD CIP

CITY OF WOODINVILLE

JUNE 2010

PROJECT SUMMARY SHEET

Project Title: Little Bear Creek Culvert at 134th Ave NE CIP

Project Location: Little Bear Creek Culvert at 134th Ave NE

Problem Description: Downstream sections of three 60-inch pipes were damaged during December 3, 2007 flood. The culverts are perched, creating a fish barrier, and there is a continued risk of erosion and potential roadway failure. The creek alignment also shifted, eroding the upstream roadway embankment. The middle culvert is currently plugged with sediment and debris.

Design Considerations: The City is currently working on a temporary design for this CIP. Fish passage flows and depths per WDFW standards. Bank stabilization per Integrated Stream Bank Stabilization Guidelines from Washington State Aquatic Habitat Guidelines Program. City has held preliminary meetings with WDFW. The City is currently installing a temporary fix and replacing the downstream sections of the three 60-inch pipes. The City is also providing riprap energy dissipation at downstream end and bank stabilization at the upstream end to protect the roadway and to direct creek away into all three culverts.

Project Description: Replace four 60" culverts with a bridge that is one lane, 14-feet wide and has a 70' span. Deep foundations for the abutments will be necessary. Likely either drilled shaft or pile abutments will be needed.

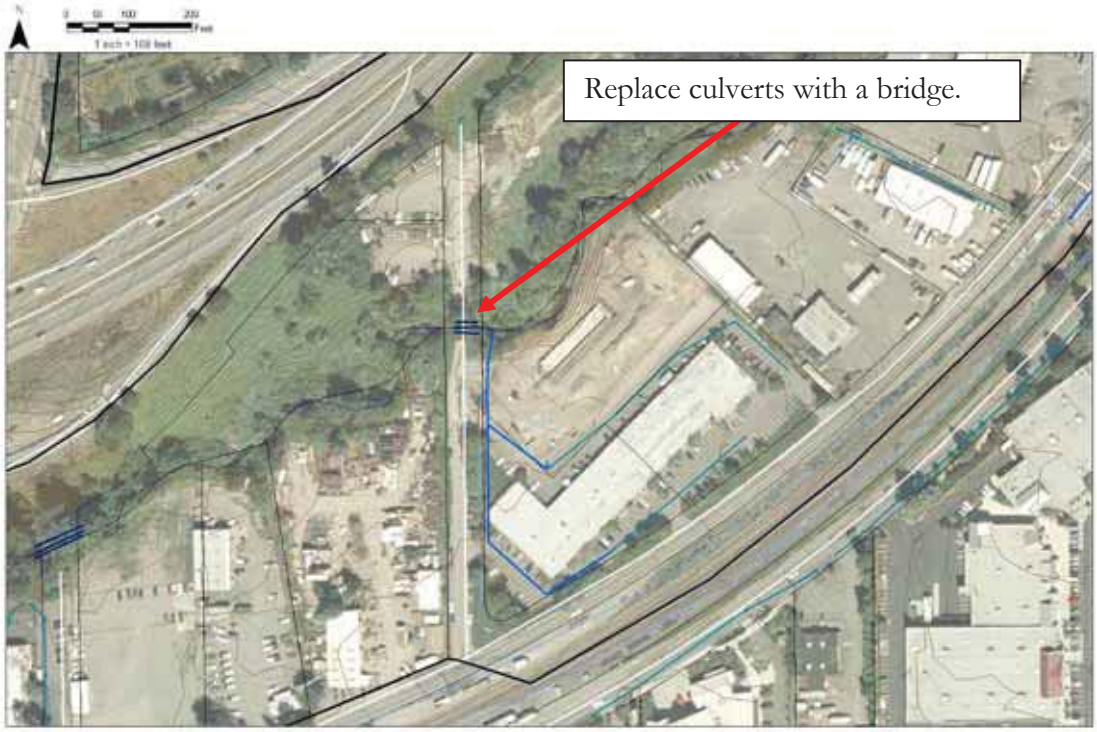
Estimated Project Cost: $1,691,155

Photos:

Most southern of the three 60-inch culverts under 134th Avenue NE

Log structure undermined with continued erosion at upstream embankment

PROJECT SKETCH



PROJECT ESTIMATING WORKSHEET

PROJECT NAME **134th culvert replacement with bridge**
DATE **21-May-07**
ESTIMATOR NAME **Tom Hansen**

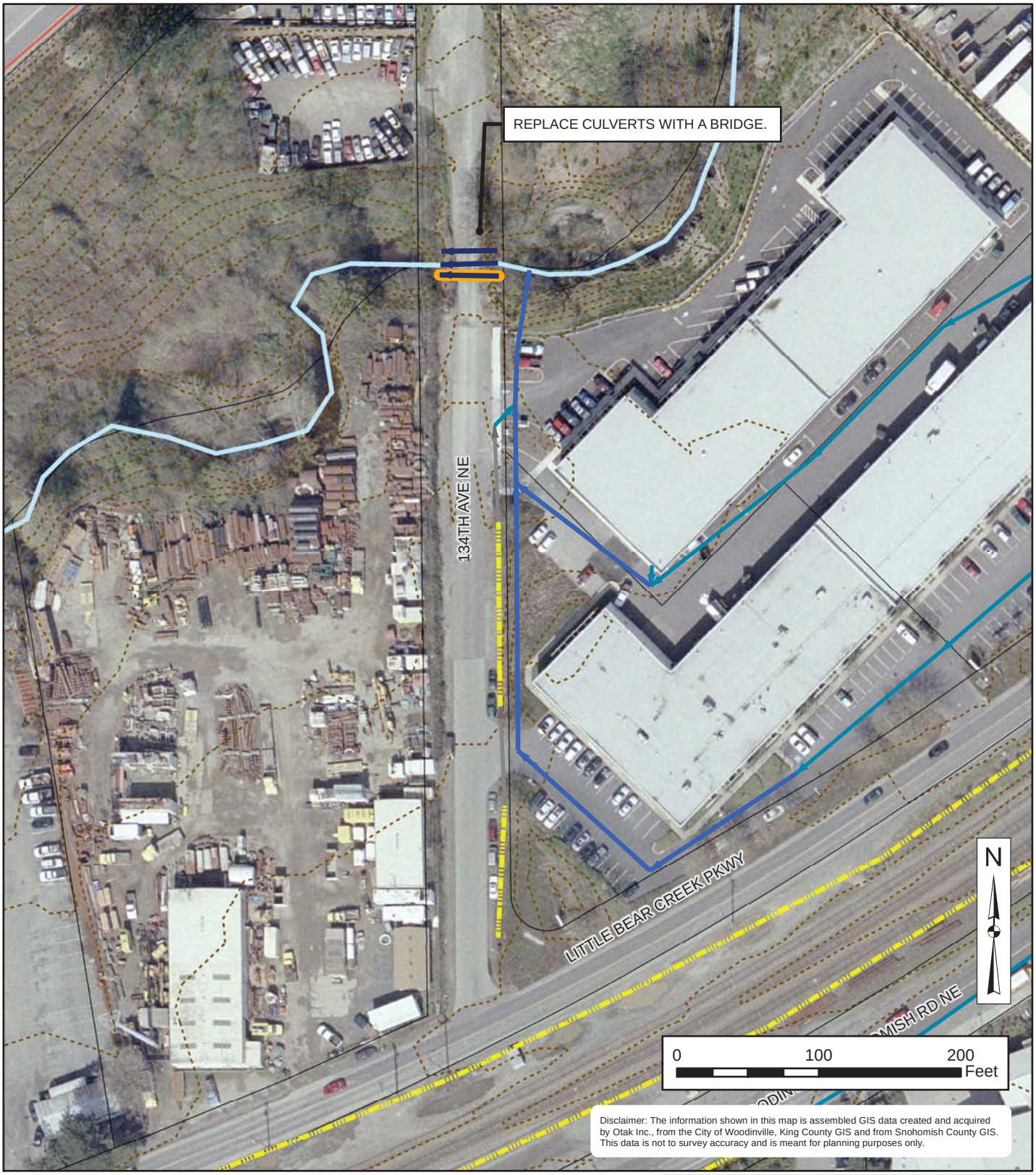
TOTAL EST PROJECT COST: **$1,691,153**

CONCEPT DESCRIPTION: *Constrct bridge at this location per previous plans*

ITEM	UNIT	LENGTH '	WIDTH '	DEPTH '	QUANTITY	UNIT PRICE	TOTAL
Clearing and Grubbing	AC				1	$10,000	$10,000
Removal of Strs and Obs	LS				1	$10,000	$10,000
Removing Asphalt pavement	SY				0	$12	$0
Removing Fence	LF				0	$3	$0
Sawcutting Asphalt Pavement	LF				500	$4	$2,000
Removing paint stripe	LF				0	$1	$0
Removing lane markers	per hundred				0	$50	$0
Removing plastic stripe	LF				0	$5	$0
Temp traffic Barrier	LF				0	$25	$0
Roadway Ex incl. Haul	CY				800	$25	$20,000
Pond Excavation incl. haul	CY				0	$15	$0
Roadway Ex incl. Haul	CY				1,000	$30	$30,000
Gravel Borrow incl haul	TON				500	$20	$10,000
Common Borrow incl Haul (till)	TON				0	$12	$0
Cement	CY				0	$190	$0
Unsuit Found. Ex incl. Haul	CY				0	$22	$0
Geotextile fabric for soil reinf	SY				711	$10	$7,110
Quarry Spalls	TON				0	$25	$0
Underdrain pipe 6 in to 8 in dia	LF				100	$15	$1,500
Drain Pipe 6 in to 8 in dia	LF				50	$15	$750
Storm Sewer Pipe 12 in dia	LF				0	$35	$0
Storm Sewer Pipe 18 in dia	LF				280	$60	$16,800
Storm Sewer Pipe 24 in dia	LF				0	$50	$0
Storm Sewer pipe 30 in dia	LF				0	$60	$0
Catch Basin Type 1	EACH				0	$1,000	$0
Catch Basin Type 1L	EACH				0	$1,100	$0
Catch Basin Type 2 - 48in dia	EACH				0	$4,500	$0
Catch Basin Type 2-54 in dia	EACH					$5,000	$0
Catch Basin Type 2 - 60 in dia	EACH					$6,000	$0
Catch Basin Type 2 - 60 w/ oil	EACH				0	$6,500	$0
Detention Pipe 72 in dia	LF				0	$120	$0
Storm Filter Vault	EACH				1	$60,000	$60,000
Shoring or Extra Ex.	LS				1	$30,000	$30,000
Control Density Fill	CY				50	$120	$6,000
Crushed Surf Top course	TON				80	$40	$3,200
Crushed Surf Top course	TON				100	$40	$4,000
Crushed Surf Base course	TON				490	$25	$12,250
Asphalt Treated Base	TON				0	$80	$0
HMA Asphalt pavement	TON				140	$105	$14,700
HMA Asphalt pavement	TON				0	$105	$0
HMA Asphalt pavement	TON				0	$85	$0
Planing Bituminous Pavement	SY				0	$8	$0
Paving driveways	EACH				0	$500	$0
Pavement Repair Ex incl Haul	SY				0	$30	$0
Temporary pavement striping	LF				0	$1	$0
Bridge Superstructure	SF				2500	$175	$437,500

PROJECT ESTIMATING WORKSHEET

Br. Foundation Conc.	CY	100	$800	$80,000
Bridge Rail	LF	0	$200	$0
Drilled shaft	LF	420	$200	$84,000
pile	LF	0	$150	$0
Str Ex. Class A incl Haul	CY	300	$15	$4,500
Underdrain pipe 6 in dia	LF	0	$15	$0
Gravel Bkfl for Drains	CY	0	$20	$0
Gravel Bkfl for walls	CY	0	$20	$0
Conc. Block Wall	SF	0	$50	$0
Rock Wall	SF	0	$20	$0
Sheet piles	SF		$10	$0
Soil Nail Retaining Wall	SF	0	$60	$0
Temporary Erosion Control	LS	1	$25,000	$25,000
Erosion Control Fabric	SY	3000	$5	$15,000
Seed, Fert and Mulch	ACRE	10	$8,000	$80,000
Topsoil Type A	CY	100	$30	$3,000
Bark Mulch	CY	100	$30	$3,000
Sod lawn	SY	0	$10	$0
Seeded lawn	SY	0	$2	$0
Landscaping Plants	LS	1	$10,000	$10,000
Street Trees	EACH	0	$350	$0
Irrigation System	LS	0	$30,000	$0
Water Meter	EA	0	$25,000	$0
Silt Fence	LF	600	$5	$3,000
CB inserts	EA	0	$65	$0
Street Cleaning	HOUR	8	$60	$480
Cem Conc. Curb and Gutter	LF	0	$20	$0
Extruded Curb	LF	400	$8	$3,200
Cem Conc. Sidewalk	SY	0	$30	$0
Pedestrian handrail	LF	220	$120	$26,400
Concrete Driveways	SY	0	$35	$0
Raised Pvmt markers	HUND	1	$400	$400
Paint Stripe	LF	0	$1	$0
Traffic Items	LS	1	$5,000	$5,000
Permanent Signing	LS	0	$40,000	$0
Traffic Signal	LS	0	$350,000	$0
Luminaire Pole	EACH	0	$8,000	$0
Conc. Traffic Barrier	LF	0	$150	$0
Guardrail	LF	220	$22	$4,840
Guardrail Terminal Section	EACH	4	$3,000	$12,000
Fence	LF	500	$15	$7,500
Traffic Control Labor	HOUR	200	$45	$9,000
Monument, Case, and Cover	EACH	1	$350	$350
Adjust Utilities	EACH	5	$350	$1,750
Roadside Cleanup	LS	1	$5,000	$5,000
Trimming and Cleaning	LS	1	$5,000	$5,000
SUBTOTAL				$1,064,230
MOBILIZATION @7%				$74,496
CONST. AMOUNT				$1,138,726
				$0
CONSTRUCTION TOTAL				$1,138,726
	PERCENT			
permitting				$ 40,000
DESIGN ENGR	15%			$170,809
CONST MGMT.	10%			$113,873
CONTINGENCY	20%			$227,745
RIGHT OF WAY	SF	0	$15.00	$0.00
TOTAL PROJECT COST				**$1,691,153**



Disclaimer: The information shown in this map is assembled GIS data created and acquired by Otak Inc., from the City of Woodinville, King County GIS and from Snohomish County GIS. This data is not to survey accuracy and is meant for planning purposes only.

LEGEND

CITY OF WOODINVILLE STORMWATER PIPES 02/16/10

SIZE	PIPES ANALYZED (25YR % CAPACITY)
unknown size	0% - 100%
<= 12"	101% - 150%
<= 24"	151% - 300%
> 24"	> 300%

Stormwater Open Channel

City Limits

County Boundary

Parcel Boundary

Streams

Contour 2 ft

STORMWATER MANAGEMENT PLAN

FIGURE D.7

LITTLE BEAR CREEK CULVERT AT 134TH AVE NE CIP

CITY OF WOODINVILLE

JUNE 2010

PROJECT SUMMARY SHEET

Project Title: 144th Ave NE CIP

Project Location: 19600 144th Ave NE near NE 195th St.

Problem Description: There have been reported problems of flooding of local businesses along 144th Ave NE. The City installed an additional catch basin to alleviate this problem; however, degraded, undersized pipes still cause problems. The ditch along 144th Ave NE needs frequent maintenance and causes surrounding ground to become saturated. The capacity analysis shows pipes in this area may be significantly undersized.

Design Considerations: Potential fish and wildlife design requirements depending on how the downstream open channel conveyances are categorized by Washington Department of Fish and Wildlife (WDFW). A sanitary sewer runs parallel to the 12-inch pipe.

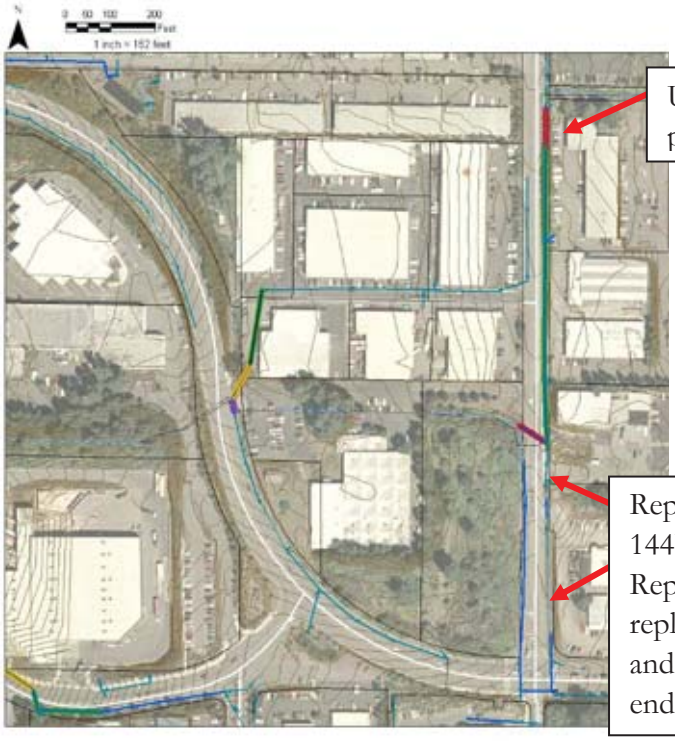
Project Description: Upsize 100LF of existing 12" stormwater conveyance line on 144th Ave NE to provide capacity for the 25-year storm event. Replace 215LF of ditch that runs along 144th Ave NE with a closed pipe system. Replace 110LF existing 12" pipe and 235LF of 18" pipe.

Estimated Project Cost: $153,000

Photos on 144th Ave NE:

Photos on Creek downstream of existing 18-inch outfall stormwater pipe:

PROJECT SKETCH



Upsize 100 LF of identified undersized 12" pipes.

Replace 215 LF of ditch along 144th Ave NE with 18-inch pipe. Replace 235 LF existing 18" pipe, replace 110 LF existing 12" pipe and add Type 2 CB on upstream end of cross culvert

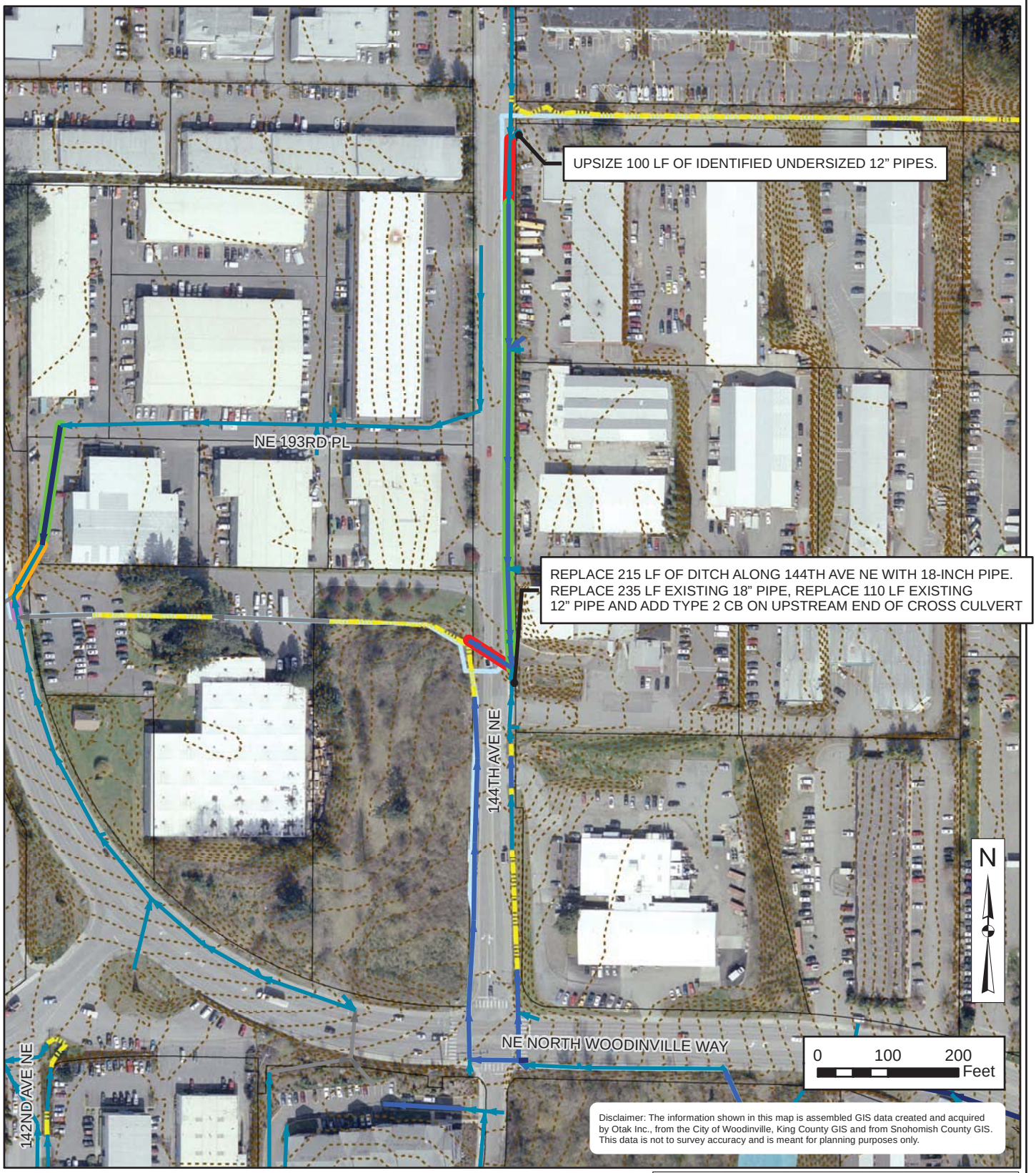
PLANNING LEVEL CONSTRUCTION COST OPINION

PROJECT: 144th Ave NE CIP **CHECKED BY:** AMM/LM
BY: JLC **DATE:** 12/21/2010

ITEM NO.	BID ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	CATCH BASIN TYPE 1L	2	EA	$ 1,500.00	$ 3,000
2	CATCH BASIN, TYPE 2, 48 IN DIA	1	EA	$ 3,500.00	$ 3,500
3	CLEARING AND GRUBBING	1	LS	$ 1,500.00	$ 1,500
4	COMMON EXCAVATION for PIPE REMOVAL	150	CY	$ 15.00	$ 2,250
5	CONNECT TO EXISTING STRUCTURE	3	EA	$ 1,000.00	$ 3,000
6	FILL AND COMPACT, COMMON BORROW	100	CY	$ 35.00	$ 3,500
7	HYDROSEEDING	75	SY	$ 2.50	$ 188
8	LANDSCAPE RESTORATION	1	LS	$ 2,500.00	$ 2,500
9	PAVEMENT RESTORATION	335	SF	$ 5.60	$ 1,876
10	REMOVE PAVEMENT	40	SY	$ 22.00	$ 880
11	STORM SEWER PIPE, 18 IN DIA	100	LF	$ 75.00	$ 7,500
12	STORM SEWER PIPE, 24 IN DIA	335	LF	$ 85.00	$ 28,475
				Subtotal	$ 58,169
	EROSION & SEDIMENTATION CONTROL	10%	(See Note 3)		$ 5,817
	TRAFFIC CONTROL	10%	(See Note 4)		$ 5,817
	MISC BID ITEMS	30%			$ 17,451
				Subtotal	$ 87,253
	MOBILIZATION (GENERAL REQUIREMENT)	10%			$ 8,725
				Construction Subtotal (Rounded)	$ 96,000
	CONTINGENCY	10%			$ 9,600
	STATE SALES TAX	9.5%	(see Note 5)		$ 9,120
	ENGINEERING/LEGAL/ADMIN	25%			$ 24,000
	CONSTRUCTION MANAGEMENT	10%			$ 9,600
	PERMITTING	5%			$ 4,800
				Project Subtotal (Rounded)	$ 153,000
	LAND ACQUISITION (see note 6)		AC		$ -
2010 Dollars				**Total Estimated Project Cost (Rounded)**	**$ 153,000**

Notes:

1. The above cost opinion is in 2010 dollars and does not include future escalation, financing, or O&M costs.
2. The order-of-magnitude cost opinion has been prepared for guidance in project evaluation from the information available at the time of preparation and for the assumptions stated. The final costs of the project will depend on actual labor and material costs, actual site conditions, productivity, competitive market conditions, final project scope and schedule, and other variable factors. As a result, the final project costs will vary from those presented above. Because of these factors, funding needs for individual projects must be scrutinized prior to establishing the final project budgets.
3. Increase percentage markup if work is in or immediately adjacent to flowing or standing water, steep slope, and/or other erosion-prone conditions.
4. Increase percentage markup if work is in or immediately adjacent to secondary, arterial, or other high-volume road or temporarily closes a roadway.
5. Sales tax is not always required on municipal roadway projects. However, tax is included in planning level estimates, as not all stormwater work is directly related to roadway drainage.
6. Land Acquisition unit costs include Administrative Costs and Condemnation.



LEGEND

CITY OF WOODINVILLE STORMWATER PIPES 02/16/10

SIZE	PIPES ANALYZED (25YR % CAPACITY)
unknown size	0% - 100%
<= 12"	101% - 150%
<= 24"	151% - 300%
> 24"	> 300%

Stormwater Open Channel

City Limits

County Boundary

Parcel Boundary

Streams

Contour 2 ft

STORMWATER MANAGEMENT PLAN

FIGURE D.8

144TH AVE NE CIP

CITY OF WOODINVILLE

JUNE 2010

PROJECT SUMMARY SHEET

Project Title: 136th Ave NE and NE 205th Street CIP

Project Location: 136th Ave NE and NE 205th Street, Little Bear Creek West Basin

Problem Description: An existing 12-inch culvert along NE 205th under 136th Ave NE becomes plugged and causes roadside flooding. The side slope of the ditch along 205th is too steep and gravel continues to cave into the culvert entrance.

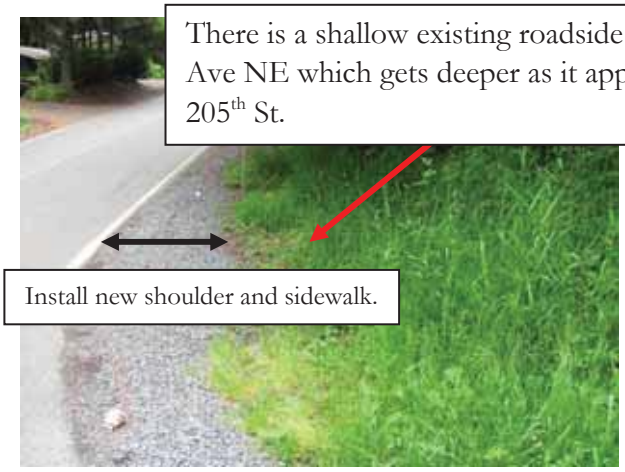
Design Considerations: This project is located within public right-of-way. Maintain adequate freeboard between structure rim and edge of roadway.

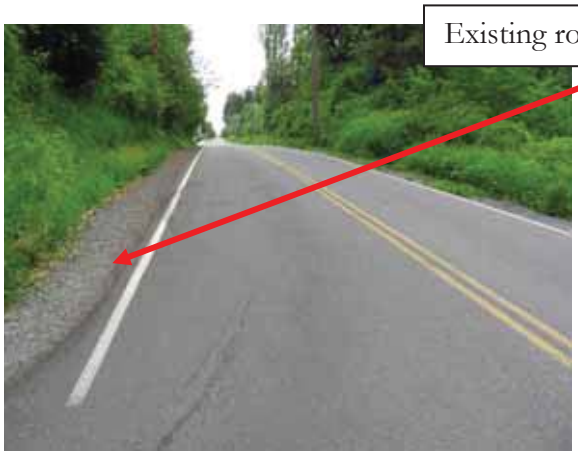
Project Description: Replace 100LF of existing 12" culvert with a new 12" culvert. Add two additional catch basins. Extend closed pipe system an additional 130 LF west along NE 205th St. Install 100 LF of new stormwater conveyance and two new catch basins along 136th Ave NE. Install new shoulder and sidewalk while making stormwater improvements.

Estimated Project Cost: $153,000

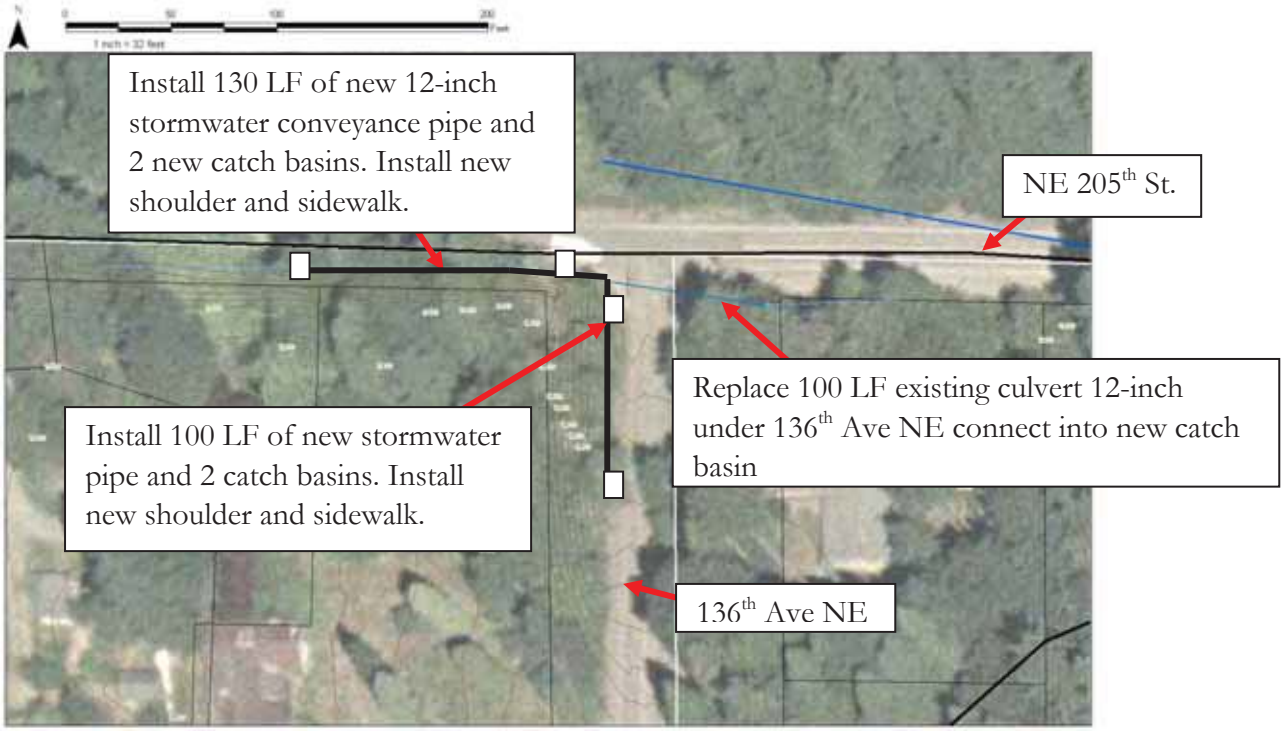
Photos:


Existing roadside ditch on NE 205th St joins shallow ditch from 136th Ave NE at 12-inch cross culvert


There is a shallow existing roadside ditch on 136th Ave NE which gets deeper as it approaches NE 205th St.
Install new shoulder and sidewalk.


Existing roadside ditch on NE 205th St

PROJECT SKETCH



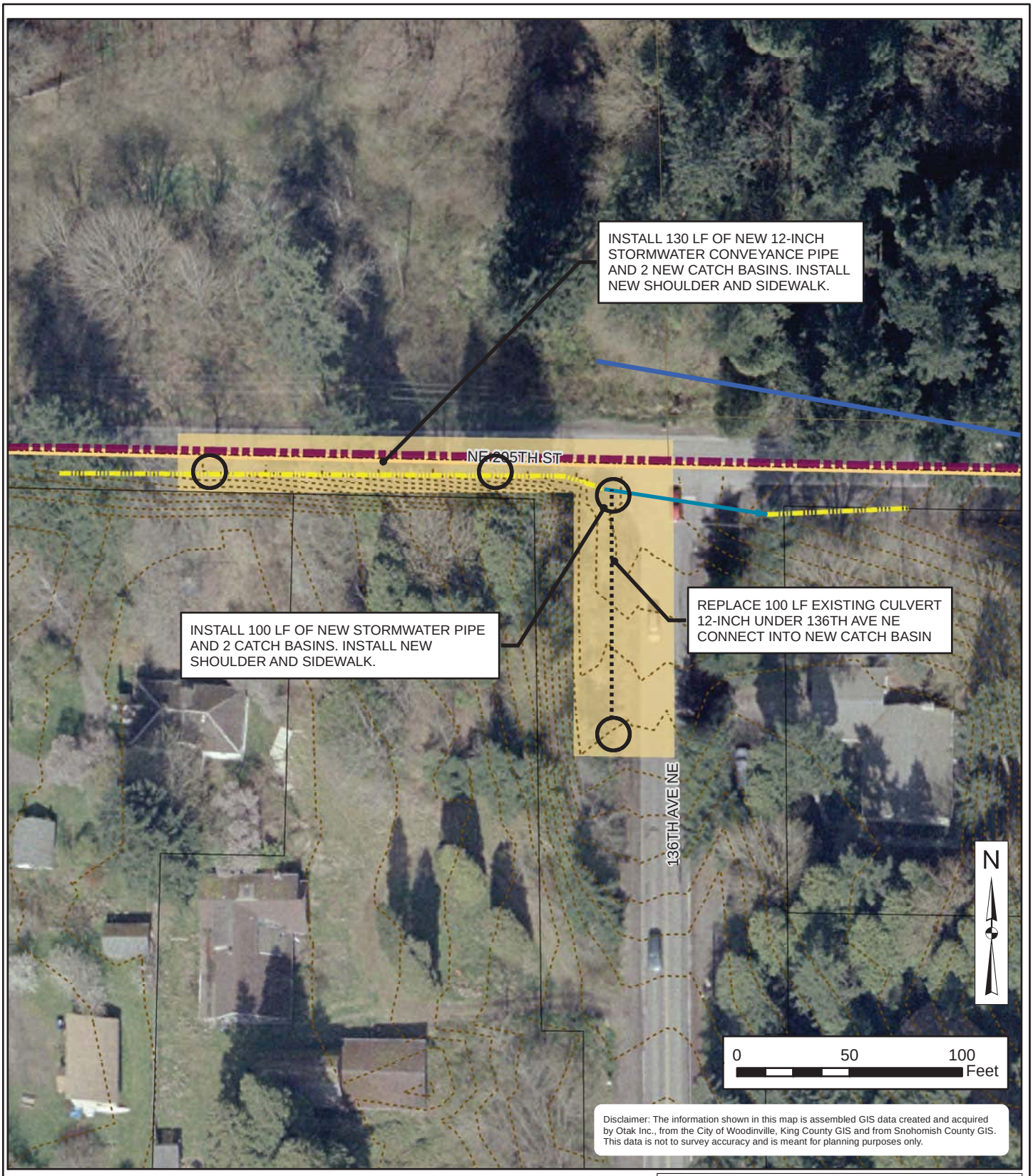
PLANNING LEVEL CONSTRUCTION COST OPINION

PROJECT: 136th Ave NE and NE 205th Street CIP **CHECKED BY:** AMM/LM
BY: JLC **DATE:** 12/21/2010

ITEM NO.	BID ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	BEEHIVE GRATE	1	EA	$ 500.00	$ 500
2	CATCH BASIN, TYPE 2, 48 IN DIA	4	EA	$ 3,500.00	$ 14,000
3	CLEARING AND GRUBBING	1	LS	$ 1,500.00	$ 1,500
4	COMMON EXCAVATION for PIPE REMOVAL	30	CY	$ 15.00	$ 450
5	CONNECT TO EXISTING STRUCTURE	1	EA	$ 1,000.00	$ 1,000
6	FILL AND COMPACT, COMMON BORROW	75	CY	$ 35.00	$ 2,625
7	HYDROSEEDING	200	SY	$ 2.50	$ 500
8	LANDSCAPE RESTORATION	1	LS	$ 1,500.00	$ 1,500
9	NEW SIDEWALK	1,100	SF	$ 13.00	$ 14,300
10	STORM SEWER PIPE, 12 IN DIA	330	LF	$ 60.00	$ 19,800
11	TRASH RACK	3	EA	$ 650.00	$ 1,950
				Subtotal	$ 58,125
	EROSION & SEDIMENTATION CONTROL	10%	(See Note 3)		$ 5,813
	TRAFFIC CONTROL	10%	(See Note 4)		$ 5,813
	MISC BID ITEMS	30%			$ 17,438
				Subtotal	$ 87,188
	MOBILIZATION (GENERAL REQUIREMENT)	10%			$ 8,719
				Construction Subtotal (Rounded)	$ 96,000
	CONTINGENCY	10%			$ 9,600
	STATE SALES TAX	9.5%	(see Note 5)		$ 9,120
	ENGINEERING/LEGAL/ADMIN	25%			$ 24,000
	CONSTRUCTION MANAGEMENT	10%			$ 9,600
	PERMITTING	5%			$ 4,800
				Project Subtotal (Rounded)	$ 153,000
	LAND ACQUISITION (see note 6)		AC		$ -
2010 Dollars				**Total Estimated Project Cost (Rounded)**	**$ 153,000**

Notes:

1. The above cost opinion is in 2010 dollars and does not include future escalation, financing, or O&M costs.
2. The order-of-magnitude cost opinion has been prepared for guidance in project evaluation from the information available at the time of preparation and for the assumptions stated. The final costs of the project will depend on actual labor and material costs, actual site conditions, productivity, competitive market conditions, final project scope and schedule, and other variable factors. As a result, the final project costs will vary from those presented above. Because of these factors, funding needs for individual projects must be scrutinized prior to establishing the final project budgets.
3. Increase percentage markup if work is in or immediately adjacent to flowing or standing water, steep slope, and/or other erosion-prone conditions.
4. Increase percentage markup if work is in or immediately adjacent to secondary, arterial, or other high-volume road or temporarily closes a roadway.
5. Sales tax is not always required on municipal roadway projects. However, tax is included in planning level estimates, as not all stormwater work is directly related to roadway drainage.
6. Land Acquisition unit costs include Administrative Costs and Condemnation.



LEGEND

CITY OF WOODINVILLE STORMWATER PIPES 02/16/10

SIZE	PIPES ANALYZED (25YR % CAPACITY)
unknown size	0% - 100%
<= 12"	101% - 150%
<= 24"	151% - 300%
> 24"	> 300%

Stormwater Open Channel

Approximate Location of CIP

City Limits

County Boundary

Parcel Boundary

Streams

Contour 2 ft

STORMWATER MANAGEMENT PLAN

FIGURE D.9

136TH AVE NE AND NE 205TH STREET CIP

CITY OF WOODINVILLE

JUNE 2010

PROJECT SUMMARY SHEET

Project Title: 137th PL NE CIP

Project Location: 137th PL NE between NE 145th St. and NE 143rd St.

Problem Description: Runoff from private property overtops an existing culvert (also on private property) and causes overflow into a public road. Runoff comes from a conveyance ditch and from seeps from adjacent steep hillside. In the winter, water on the roadway has caused icy conditions in this location where the road has a steep grade at a curve.

Design Considerations: Consider partnering with the private landowner to share the cost of upgrading the private system to better handle stormwater runoff (i.e. larger culvert, better collection system, etc).

Project Description: Abandon access road and extend the roadside ditch 220 LF through the existing access road to collect stormwater runoff before it hits the public roadway. This project will also include installing 100 LF of 12-inch culvert.

Estimated Project Cost: $48,000

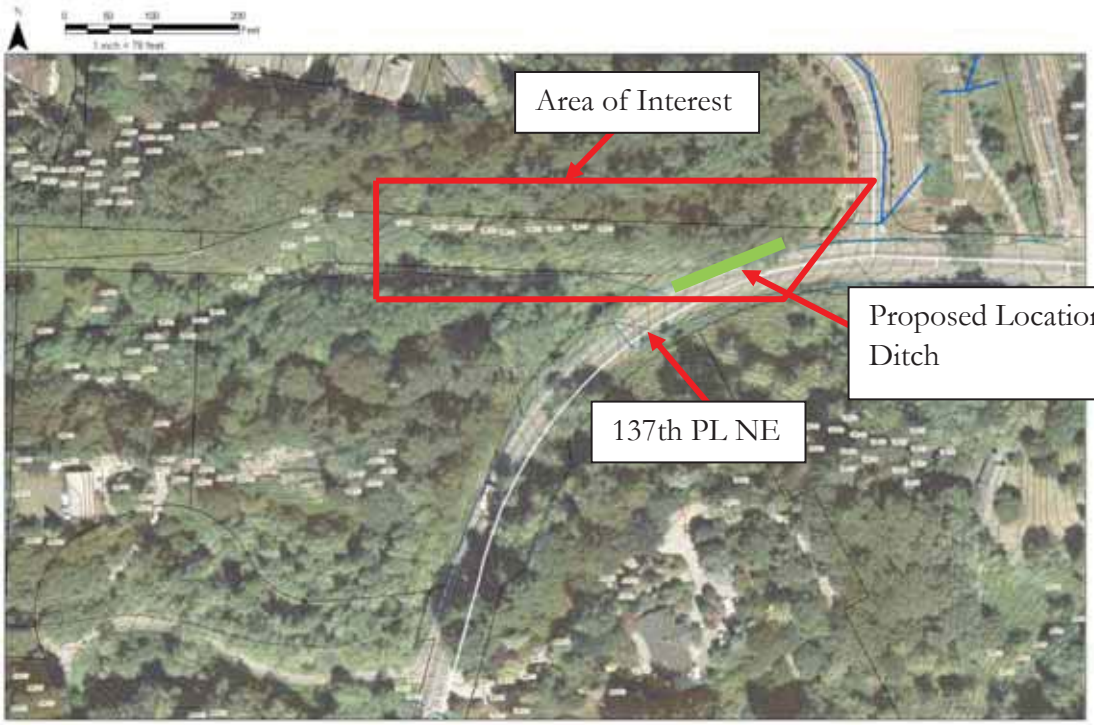
Photos:

Private Property near culvert. When the culvert is plugged, the downstream public roadway floods.

Public roadway that floods.

Public roadway that floods.

PROJECT SKETCH



PLANNING LEVEL CONSTRUCTION COST OPINION

PROJECT: **137th PL NE CIP between NE 143rd and NE 145th** **CHECKED BY:** **AMM/LM**
BY: **JLC** **DATE:** **12/21/21010**

ITEM NO.	BID ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	DITCH EXCAVATION INCL. HAUL	50	CY	$ 95.00	$ 4,750
2	HYDROSEEDING	250	SY	$ 2.50	$ 625
3	BOULDERS	5	EA	$ 85.00	$ 425
4	CULVERT, 12 IN DIA	100	LF	$ 85.00	$ 8,500
5	TRASH RACK	2	EA	$ 650.00	$ 1,300
				Subtotal	$ 15,600
	EROSION & SEDIMENTATION CONTROL	10%	(See Note 3)		$ 1,560
	TRAFFIC CONTROL	10%	(See Note 4)		$ 1,560
	MISC BID ITEMS	30%			$ 4,680
				Subtotal	$ 23,400
	MOBILIZATION (GENERAL REQUIREMENT)	10%			$ 2,340
				Construction Subtotal (Rounded)	$ 26,000
	CONTINGENCY	10%			$ 2,600
	STATE SALES TAX	9.5%	(see Note 5)		$ 2,470
	ENGINEERING/LEGAL/ADMIN (INCL. DOWNSTREAM ANALYSIS)	30%			$ 7,800
	CONSTRUCTION MANAGEMENT	10%			$ 2,600
	PERMITTING	25%			$ 6,500
				Project Subtotal (Rounded)	$ 48,000
	LAND ACQUISITION (see note 6)		AC		$ -
2010 Dollars				**Total Estimated Project Cost (Rounded)**	**$ 48,000**

Notes:

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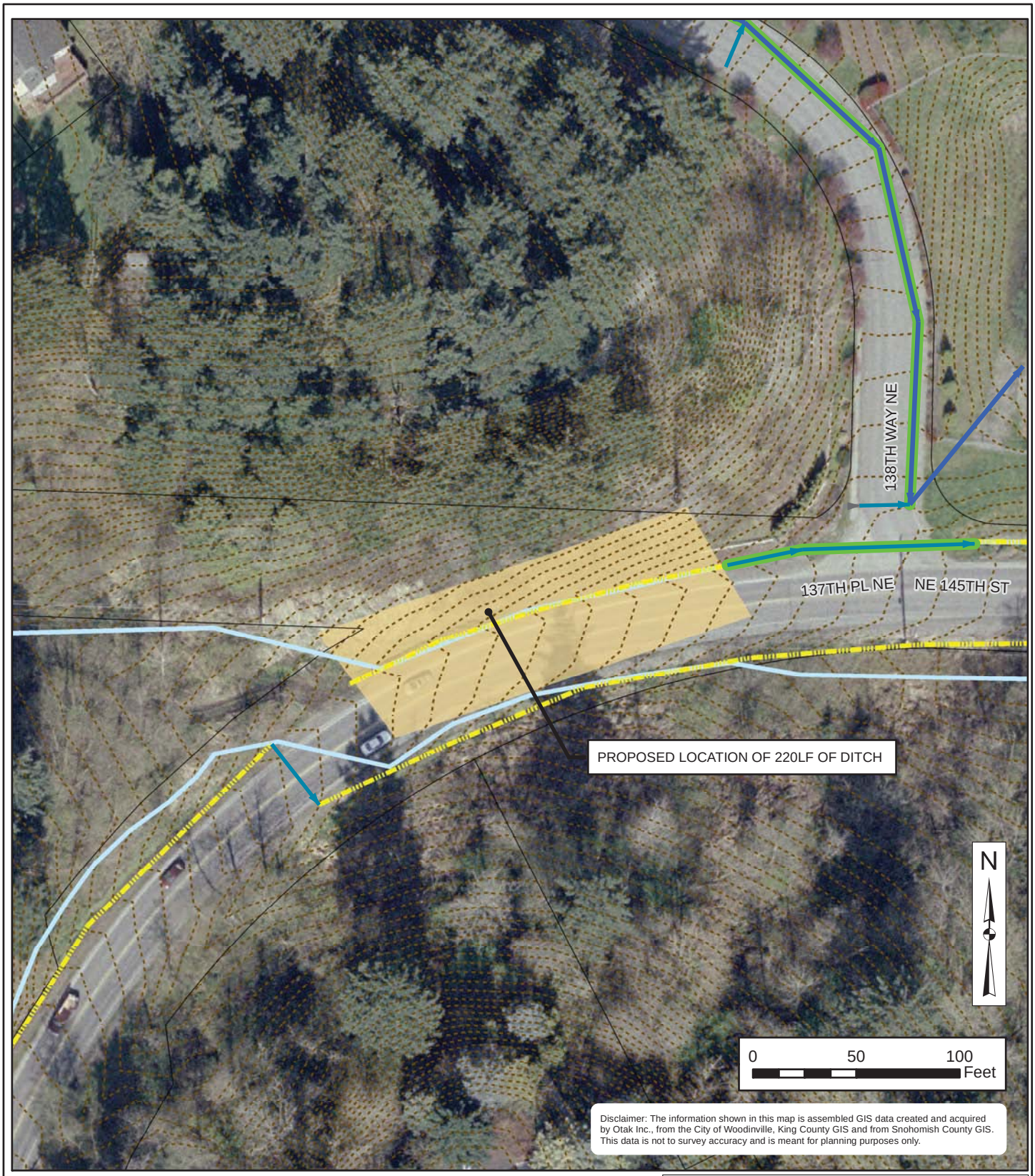

Disclaimer: The information shown in this map is assembled GIS data created and acquired by Otak Inc., from the City of Woodinville, King County GIS and from Snohomish County GIS. This data is not to survey accuracy and is meant for planning purposes only.

LEGEND

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STORMWATER MANAGEMENT PLAN

FIGURE D.10

137TH PL NE CIP

CITY OF WOODINVILLE

JUNE 2010