



6163 E. County Road 16, Loveland, CO 80537

p:970/613/1447 www.tait.com

December 1, 2014

Mr. Jon Rabas
City of Dacono
P.O. Box 186
Dacono, CO 80514

Subject: City of Dacono Rate Study CO1299B

Dear Jon,

Tait & Associates has prepared the following feasibility report which outlines the process used to determine transportation, irrigation and drainage impact fees. This report includes the following: introduction, background and assumptions, roadway and drainage improvements, cost analysis, and an impact fee summary. There are several appendices containing the impact fee summary, roadway inventory, drainage inventory, roadway cross sections, cost estimates and maps.

If you have any questions, please do not hesitate to contact me.

Sincerely,

Gary Odehnl, P.E. TAIT & Associates, Inc.
Senior Project Manager
6163 East County Road 16, Loveland CO 80537
Phone: (970) 613-1447
godehnl@tait.com

City of Dacono

Field Inventory, Regional Transportation and Drainage Impact Fees Analysis

November 2014

Prepared by:

Tait & Associates, Inc.

6163 East County Road 16

Loveland, CO 80537

phn: 970-613-1447

fax: 970-613-1897



Table of Contents

- Introduction.....1
- Background and Assumptions1
 - Field Inventory1
 - Roadway Inventory1
 - Drainage Inventory3
- Roadway Improvements.....3
- Drainage Improvements.....7
- Irrigation Improvements.....7
- Cost Analysis.....7
 - Cost Analysis – Roadways.....9
 - Cost Analysis- Irrigation.....10
 - Concrete Box Culverts.....10
 - Culverts11
 - Bridges11
 - Ditches11
 - Cost Analysis – Drainage11
 - Culverts11
 - Concrete Box Culverts.....11
 - Bridges12
 - Ditches12
 - Drainage Ponds12
- Impact Fee12
 - Land Use.....12
 - Roadways14
 - Irrigation.....14
 - Drainage.....14
 - Summary of Impact Fees.....15

Attachments:

- Appendix A: Roadway Inventory**
- Appendix B: Drainage Inventory**
- Appendix C: Transportation Cost Estimates**
- Appendix D: Irrigation & Drainage Cost Estimates**

Introduction

Over the next several years it is predicted that the City of Dacono's residential, commercial and industrial population will grow. To accommodate this predicted growth, the city will need to expand and improve its roadway, drainage, and irrigation systems. This rate study was prepared for the City of Dacono to determine the impact fees for roadway and drainage improvements throughout the city.

Background and Assumptions

Field Inventory

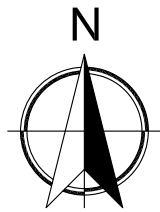
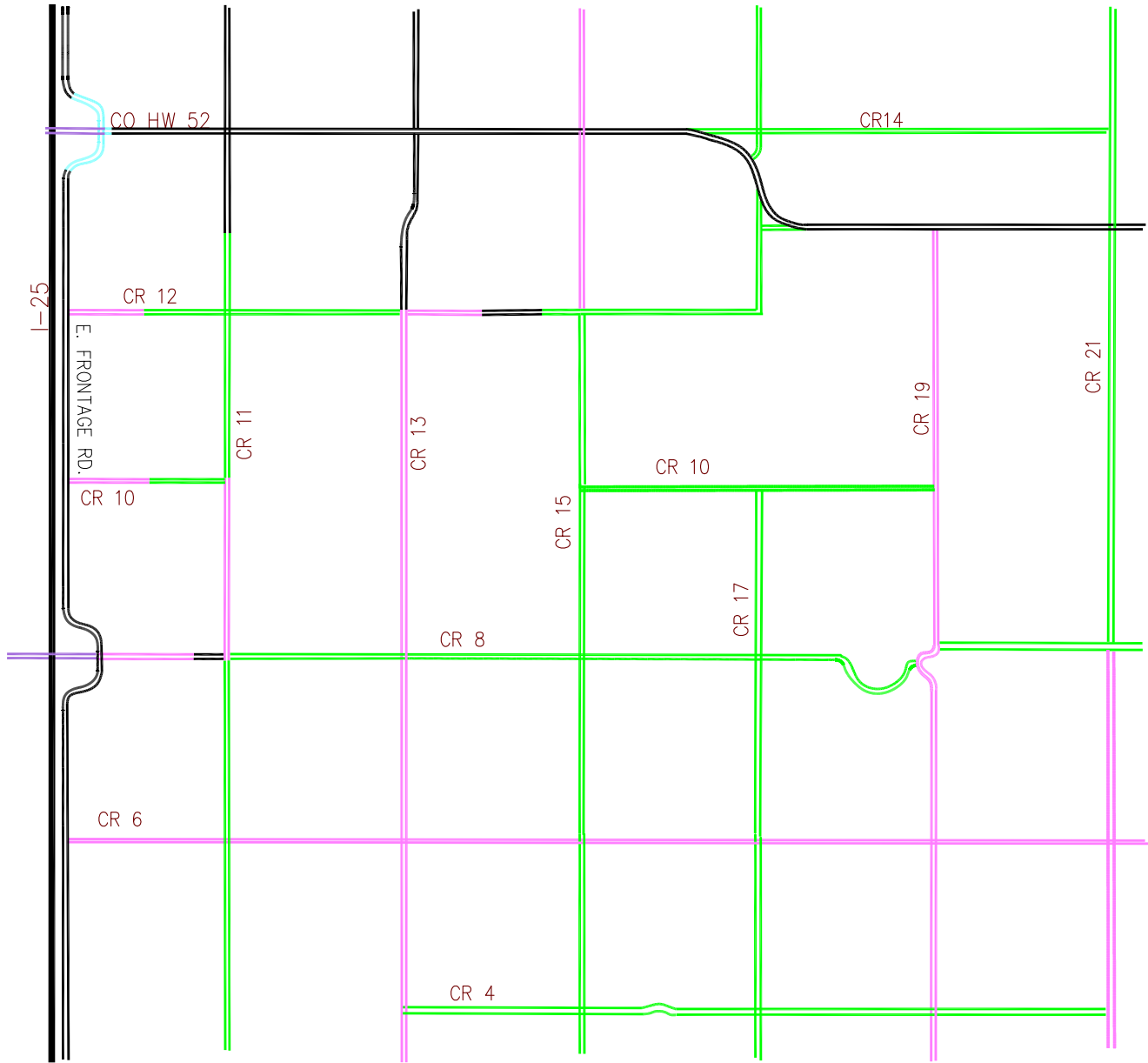
Tait and Associates prepared a two field inventories for the City of Dacono. The first is a roadway inventory which consists of pictures and details about each major roadway section within city limits. The other field inventory is of the drainage and irrigation structures which cross under City of Dacono's roadways. This inventory includes pictures as well as the size, skew, and distance from the EOP of each crossing.

Roadway Inventory

The roadway inventory, found in Appendix A, contains Weld County Roads (WCR) 6, 8, 10, 12, 11, 13, 15, 17, 19, and 21 as well as State Highway 52 and East Frontage Road. The roadway inventory was taken to illustrate Dacono's current roadway conditions which were used to construct the cost estimates for the roadway improvement. The field inventory includes the road surface type, width of roadway, and classification.

In the inventory roadways with no sidewalk that had a paved width of 40' or more were classified as rural collectors and roadways with less than 40' paved width were assumed to be Rural Local paved sections. All gravel surfaced roadways were classified as rural gravel sections and were normally around 24' wide. The 4-lane section with raised medians was classified as a major arterial and the 4-lane roadway with no medians was classified as a minor arterial. These roadway classifications can be seen in Figure 1: Existing Roadway Conditions.

CITY OF DACONO EXISTING ROAD TYPES



LEGEND	
MAJOR ARTERIAL WITH RAISED MEDIANS	
MINOR ARTERIAL	
COLLECTOR (RURAL)	
LOCAL PAVED (RURAL)	
LOCAL GRAVEL (RURAL)	

DRAWN: KZ
DATE: 10/6/2014
CHECKED:
DATE:
REVISION #:
DATE:
JOB NO: CO12990

RATE STUDY
CITY OF DACONO
512 C ST, DACONO, CO 80514
ADDITIONAL INFORMATION



6163 E. Larimer County Road 16
Loveland, CO 80537
p: 970/613/1447 f: 970/613/1897
www.tait.com
Los Angeles Rancho Cucamonga Sacramento Seattle
Bole Dallas Denver North Dakota

FIGURE
1

Drainage Inventory

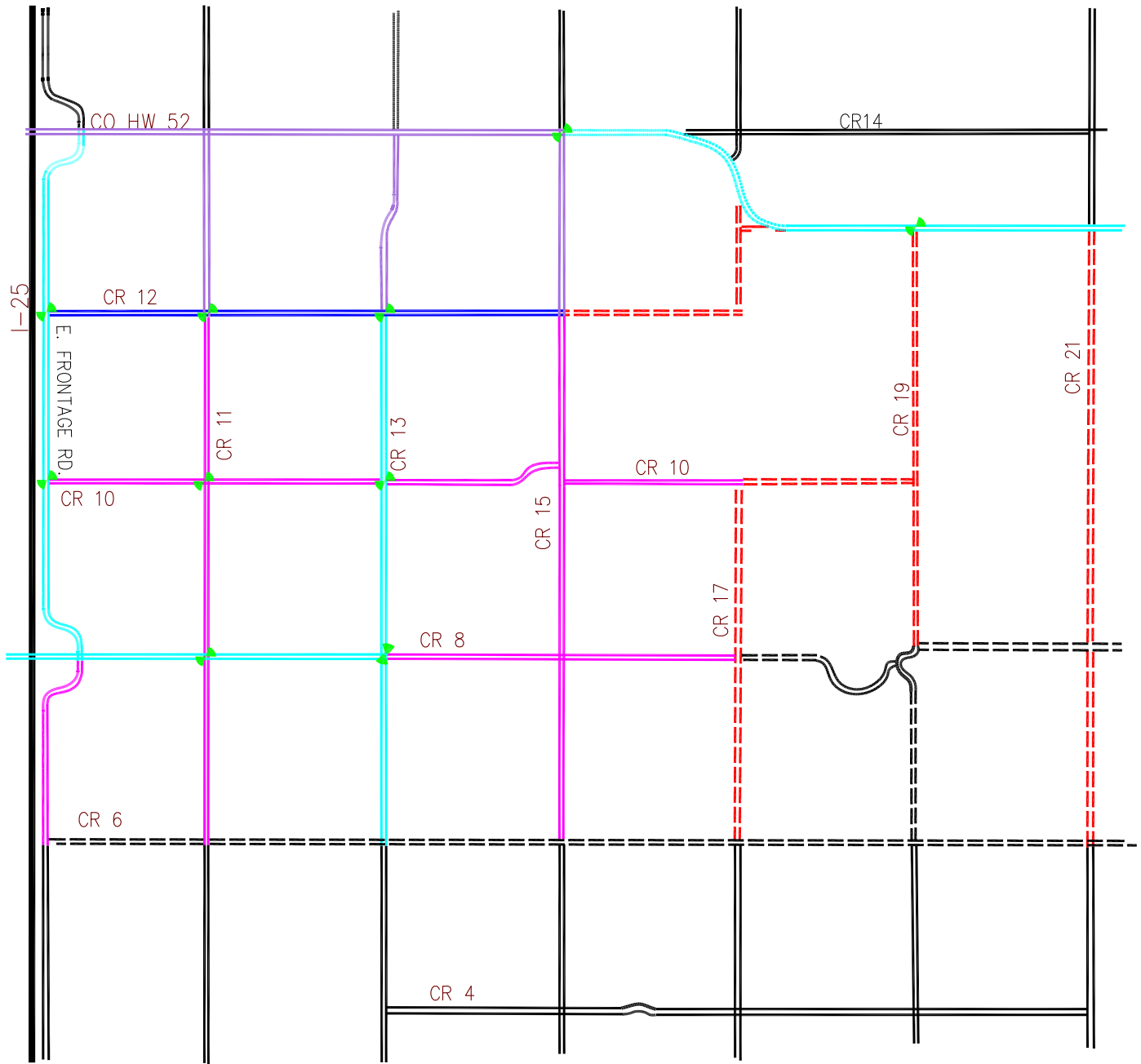
The drainage inventory, seen in Appendix A, includes all irrigation and drainage structures that cross under Weld County Roads 6, 8, 10, 12, 11, 13, 15, 17, 19, and 21, as well as East Frontage Road and State Highway 52 in the rate study area. The drainage structures range from small CMP pipes to a 90' span bridge. The drainage inventory includes a picture of the inlet and outlets of every drainage structure in the study area, as well as a description of its size, material, skew, condition, and distance from the edge of roadway. The conditions of these drainage structures varied from poor, highly damaged culverts to structures in excellent conditions.

Roadway Improvements

In order to accommodate the traffic demands of the future, the City of Dacono These roadway types were decided upon based off of the projected traffic flows through the City of Dacono found in Figure 8 of the City of Dacono's 2003 Transportation Plan.

In general, roadways located in a rural setting with projected average daily traffic (ADT) volumes below 3,000 were classified as Rural Local roadway sections, roadways with a higher ADT in a rural setting were classified as Rural Collectors. In the urban areas of the city, roadways were projected to be either major or minor collectors or major or minor arterials. These roadways were classified based on a combination of their projected traffic flows and requests made by the city of Dacono. A map of the proposed roadway types is located in Figure 2: Proposed Roadway Types. With the City of Dacono's permission, Tait & Associates updated roadway cross sections for all rural sections and Urban Minor Collector. The updates section for Major Collectors is located in Figure 3, and the updates rural sections can be seen in Figure 4.

CITY OF DACONO PROPOSED ROAD TYPES



<u>LEGEND</u>		
COLLECTOR (RURAL)	=====	MAJOR ARTERIAL WITH RAISED MEDIAN, 4 LANES (URBAN)
LOCAL (RURAL)	- - - - -	MINOR ARTERIAL, 4 LANES (URBAN)
TRAFFIC SIGNAL	▲ ▲	MAJOR COLLECTOR (URBAN)
		MINOR COLLECTOR (URBAN)
		OUTSIDE OF STUDY AREA

DRAWN: KZ
DATE: 10/6/2014
CHECKED:
DATE:
REVISION #:
DATE:
JOB NO: CO12990

RATE STUDY
CITY OF DACONO
512 C ST, DACONO, CO 80514
ADDITIONAL INFORMATION



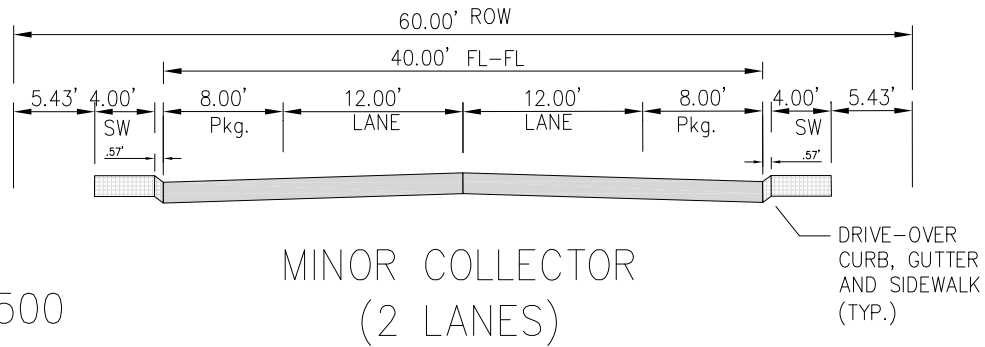
6163 E. Larimer County Road 16
Loveland, CO 80537
p: 970/613/1447 f: 970/613/1897
www.tait.com

Los Angeles
Rancho Cucamonga
Sacramento
Seattle

Bole
Dallas
Denver
North Dakota

FIGURE
2

URBAN STREET CROSS SECTION
CITY OF DACONO, CO



ADT > 2,500

DRAWN: KZ
DATE: 10/6/2014
CHECKED:
DATE:
REVISION #:
DATE:
JOB NO: CO12990

RATE STUDY
CITY OF DACONO
512 C ST, DACONO, CO 80514
ADDITIONAL INFORMATION



6163 E. Larimer County Road 16
Loveland, CO 80537

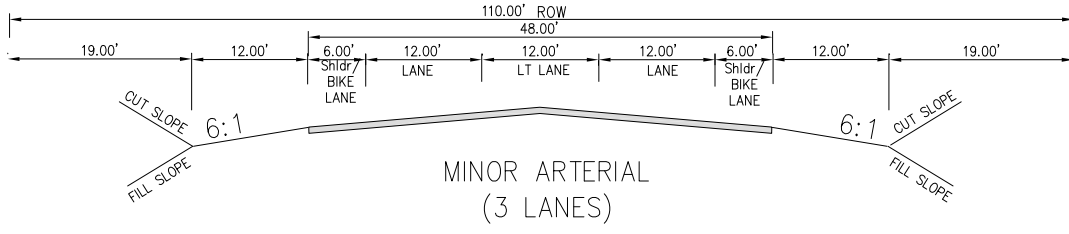
p: 970/613/1447 f: 970/613/1897
www.tait.com

Los Angeles
Rancho Cucamonga
Sacramento
Seattle

Bolton
Dallas
Denver
North Dakota

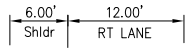
FIGURE
3

RURAL STREET CROSS SECTION
CITY OF DAcono, CO

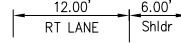


MINOR ARTERIAL
(3 LANES)

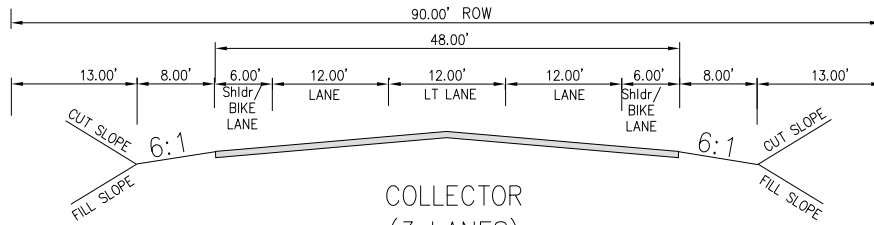
ADT > 5000



AT MAJOR
INTERSECTIONS

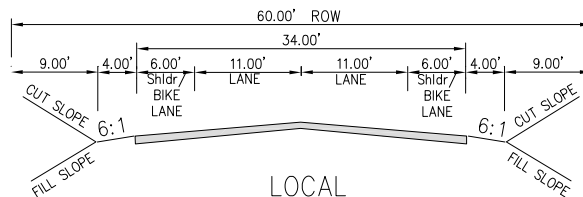


AT MAJOR
INTERSECTIONS



COLLECTOR
(3 LANES)

ADT > 1,500



LOCAL
(2 LANES)

ADT < 1,500

DRAWN: KZ
DATE: 10/6/2014
CHECKED:
DATE:
REVISION #:
DATE:
JOB NO: CO12990

RATE STUDY
CITY OF DAcono
512 C ST, DAcono, CO 80514
ADDITIONAL INFORMATION



6163 E. Larimer County Road 16
Loveland, CO 80537

p: 970/613/1447 f: 970/613/1897
www.tait.com

Los Angeles
Rancho Cucamonga
Sacramento
Seattle

Bolton
Dallas
Denver
North Dakota

FIGURE

4

Drainage Improvements

Within the rate study area there are 91 drainage structures. Each individual drainage structures was analyzed to determine if the existing structure is adequate to handle various flood return periods. Rural street sections had return periods set at the 10 year flood event, and urban sections were analyzed for their capacity to withstand a 100 year flood event. Existing rural culverts that can withstand a 10-year event and exiting urban culverts that can withstand a 100 year flood event will remain the same; however culverts that cannot handle the target capacity will be changed to the culvert size adequate for the 10 or 100 year flood event. There are a number of locations where culverts are not currently in place that are being recommended for culverts or bridges to prevent road overtopping in a major flood event. These locations can be found on the Drainage Master Cost sheet found in Appendix D.

The drainage improvements included in this study include not only updated culvert sizing, but also the drainage improvements proposed in South Weld I-25 Corridor Drainage Master Plan. This master plan, prepared in 2000 outlines drainage improvements for the Godding Hollow and Tri-Town Basins. These proposed drainage improvements have been included in the drainage improvements and cost analysis and are denoted by an asterix.

There are a number of drainage structures along East Frontage Road which need to be expanded to prevent overtopping in the event of a 100 year flood. Since drainage structures located on East Frontage Road also cross under I-25, it was assumed that expanding these culverts was outside of the scope of this project. For these culverts, the price of expanding them length-wise, and installing guardrails was taken into account; however increasing a culvert's diameter was not taken into account.

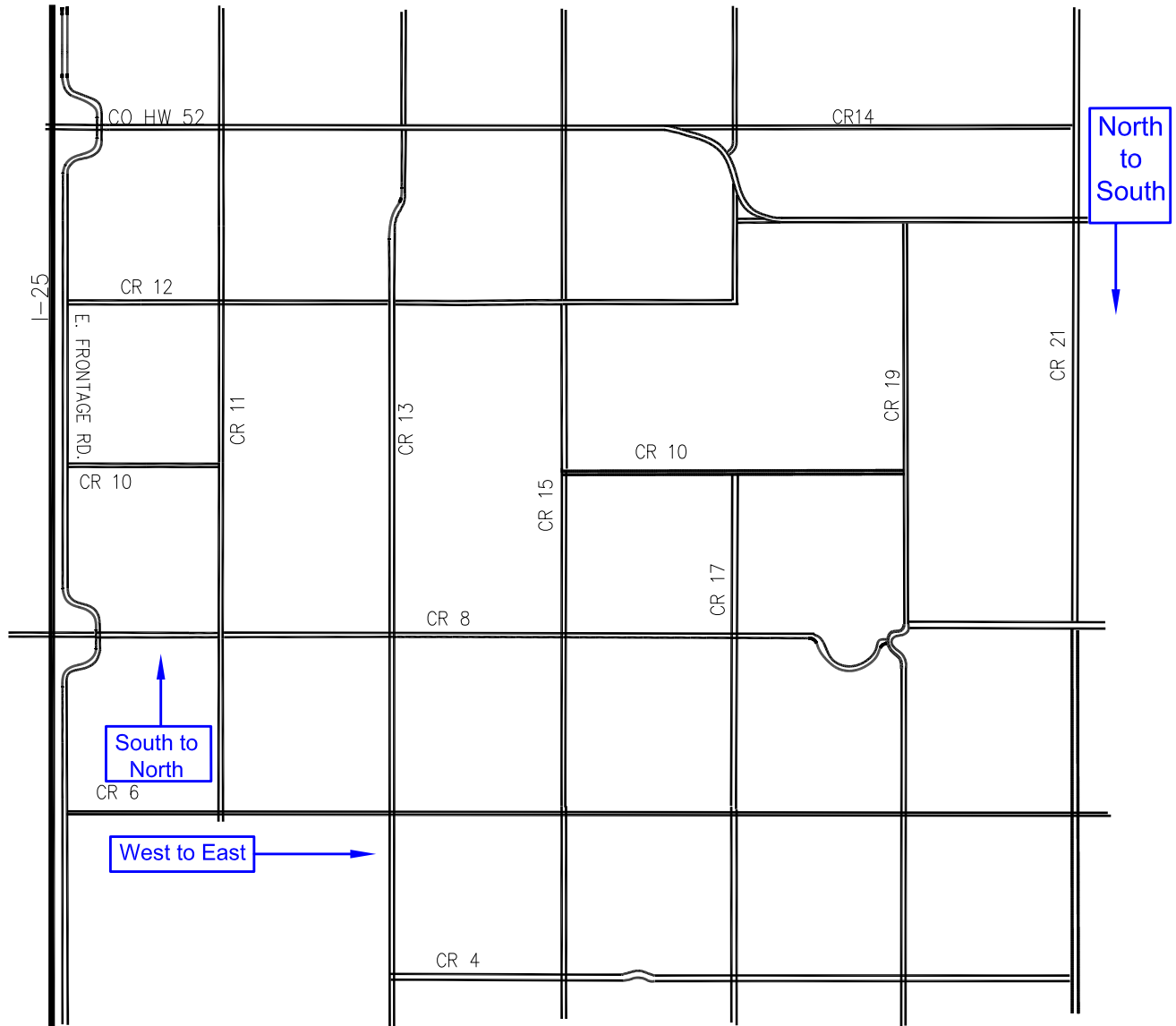
Irrigation Improvements

In the rate study area there are 41 locations where an irrigation structure crosses under a roadway. It was assumed in this study that existing irrigation culverts and crossings are adequately sized for their maximum capacity. The only irrigation improvement that was made was one which was outlined in the Drainage Master Plan on Sullivan Ditch along Highway 52. This plan rerouted the ditch to run along Highway 52 on the North side, as opposed to crossing it at HW52-FR.7 and HW52-FR.3.

Cost Analysis

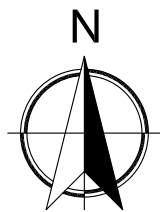
A detailed cost analysis was completed for all roadway sections, irrigation structures, and drainage structures within the project area. The location of each roadway section, drainage structure, or irrigation structure is labeled based off the road the section or structure is located on, and it's distance north or east from the previous cross street. For example, a structure at location CR8-CR11.2 is located on Weld County Road 8, 0.2 miles east of Weld County Road 11. A roadway section labeled CR 13-CR8.5 is located on County Road 13, 0.5 miles north of County Road 8. The exception to this road is on WCR 21 where the labeling goes from north to south. So a section labeled CR 21- HW52.1.5 is located 1.5 miles south of Highway 52. An exhibit of this can be found in Figure 5 on the following page.

CITY OF DACONO Road Stationing



Explanation

Roadways are stationed from South to North and West to East. For example, A culvert located on Weld County Road 11, 0.2 miles north of Weld County Road 12 would be labeled: CR8-CR12.2. The exception to this rule is on Weld County Road 21, which is labeled from North to South. A culvert located 1.5 miles south of Highway 52 would be labeled CR21-HW52.1.5.



DRAWN: KZ
DATE: 10/6/2014
CHECKED:
DATE:
REVISION #:
DATE:
JOB NO: CO12990

RATE STUDY
CITY OF DACONO
512 C ST, DACONO, CO 80514
ADDITIONAL INFORMATION



6163 E. Larimer County Road 16
Loveland, CO 80537

p: 970/613/1447 f: 970/613/1897
www.tait.com

Los Angeles
Rancho Cucamonga
Sacramento
Seattle

Bole
Dallas
Denver
North Dakota

FIGURE
5

Cost Analysis – Roadways

The Per mile estimated costs for proposed roadway sections included 18 scenarios. These scenarios are based off of the existing and proposed roadway types. Each scenario as well as an overall cost sheet can be found in Appendix C, Roadway Improvement Costs. The proposed roadway cross-sections can be found on City of Dacono’s website or in Figures 2 and 3.

1. **Non-Existent Roadway to Major Collector:** It is proposed to extend Weld County Road 10 from CR 11 to CR 15. The road impact fee for this includes transforming rural land to a Major Collector Roadway. This includes 2-8’ detached walkways, a 14’ raised median, 2-11’ travel lanes with 6’ bike lanes, curb and gutter, parkway, and storm drain system.
2. **Rural Gravel to Updated Rural Local:** It is proposed to change sections of CR 15, 17, and 21 from a rural gravel section to an updated Rural Local section. The Rural gravel sections are about 22’ wide, and the updated Rural Local Sections are 34’ wide. To estimate the cost of these sections the following was taken into account: earthwork, misc. removal and replacement, erosion control, ABD, HBP, subgrade prep, and stripping and signage.
3. **Rural Gravel to Rural Collector:** A section of CR 8 will be changed from a gravel section to a Rural Collector. The costs for this include widening the roadway from 22’ to 48’, and paving.
4. **Rural Gravel to Minor Collector:** Sections of CR 12 are being constructed to a minor collector. To estimate the cost of these sections widening and paving of the roadway from 22’ to 40’ was included as well as the cost of 2- 4’ walkways, curb and gutter, and a storm drain system.
5. **Rural Gravel to Major Collector:** Sections of CR 8, 10, 12, 11, and 15 are proposed to go from rural gravel to a Major collector. To estimate the cost of these sections widening and paving of the roadway from 22’ to 48’ was included as well as the cost of 2- 8’ detached walkways, a parkway, curb and gutter, and a storm drain system.
6. **Rural Gravel to Minor Arterial:** A section of CR 8 will go from a gravel section to a Minor Arterial. The cost of this includes widening and paving of the roadway from 22’ to 74’, 2- 8’ detached walkways, a parkway, curb and gutter, and a storm drain system.
7. **Rural Gravel to Major Arterial:** A section of CR 11 will go from a gravel section to a Major Arterial. The cost of this includes widening and paving of the roadway from 22’ to 60’, a 28’ raised median, 2- 8’ detached walkways, a parkway, curb and gutter, and a storm drain system.
8. **Rural Local to Updated Rural Local:** An updated version of roadway cross sections was used in this study. Portions of CR 19, CR 10 and CR21 will be changed to the updated section which requires widening the road 4’ by adding an additional 2’ of pavement to each side.
9. **Rural Local to Rural Collector:** Weld County Road 6 will be changed from a Rural Local section to a Rural Collector Section. To estimate the per mile cost, the cost of widening the existing roadway from 30’ to 48’.
10. **Rural Local to Minor Collector:** Portions of CR 12 will turn from a 24’ paved section to 40’ paved section. The cost estimate includes widening the roadway, 2-4’ walkways, curb and gutter, and a storm drain system.
11. **Rural Local to Major Collector:** A portion of CR 11 will be updated from a Rural Local to a 48’ wide urban section. The cost estimation includes widening of the roadway from 22’ to 48’ as

well as the cost of 2- 8' detached walkways, a parkway, curb and gutter, and a storm drain system.

12. **Rural Local to Minor Arterial:** A section of CR 8 and 13 will change from a rural local roadway to a Minor Arterial Section. The cost of this includes widening of the roadway from 24' to 74', 2- 8' detached walkways, a parkway, curb and gutter, and a storm drain system.
13. **Rural Local to Major Arterial:** A section of CR 15 will go from being a section of Rural Local to Major Arterial. The cost of this includes widening and paving of the roadway from 22' to 60', a 28' raised median, 2- 8' detached walkways, a parkway, curb and gutter, and a storm drain system.
14. **Rural Collector to Minor Collector:** A section of CR 12 will go from a Rural Collector to a Minor Collector. The cost of this includes widening of the roadway from 44' to 74', 2- 8' detached walkways, a parkway, curb and gutter, and a storm drain system.
15. **Rural Collector to Major Collector:** The section of East Frontage road between CR 8 and CR 6 will go from a Rural Collector to an Urban Major Collector. The cost estimation for this includes widening of the roadway from 44' to 48' as well as the cost of 2- 8' detached walkways, a parkway, curb and gutter, and a storm drain system.
16. **Rural Collector to Minor Arterial:** Sections of East Frontage Road, Highway 52 and WCR 8 will go from Rural Collector to Minor Arterial Sections. These section's cost estimates include widening of the roadway from 44' to 74', 2- 8' detached walkways, a parkway, curb and gutter, and a storm drain system.
17. **Rural Collector to Major Arterial:** Sections of WCR 11, WCR 13 and HW 52 are priced to go from a Rural Collector Section to a Major Arterial Section. To cost these sections the cost of widening and paving of the roadway from 44' to 60', a 28' raised median, 2- 8' detached walkways, a parkway, curb and gutter, and a storm drain system was accounted for.
18. **Minor Arterial to Major Arterial.** A small section of Highway 52 will go from a Minor Arterial Section to a Major Arterial Section. The cost includes the widening of the roadway 15' the instillation of a storm drain system, 2-8' detached walks, curb and gutter, and a raised median.

Cost Analysis- Irrigation

Most Irrigation crossings within the study area will need to be expanded, lengthwise in order to accommodate the expanding roadway above it. The cost of each Irrigation Crossing was analyzed individually and can be found in Appendix D, Drainage and Irrigation Costs.

Concrete Box Culverts

Many of the Irrigation Crossings are concrete box culverts. To cost for expanding concrete box culverts several factors were taken into consideration: earthwork, structural fill, concrete channel removal, structural concrete with rebar (headwall/wingwall and CBC extension), and guardrails. Most CBCs were expanded to end 1' from EOP, which requires instillation of a bridge rail over the culvert and a guardrail leading up to the culvert. The headwalls were designed to go to the same height as the EOP, and the wingwall sloped down with a 3:1 slope. Culverts that did not end 1' from the EOP were culverts that were deeper under the surface of the roadway. These culverts were designed to end when the top of the culvert came within 1' of the ground above it, assuming a 3:1 side slope. For these culverts a 1' tall

headwall and Wingwalls with a 3:1 slope were accounted for. All box culverts were assumed to be 4 sided culverts with a concrete bottom.

Culverts

Many smaller Irrigation crossings are made of CMP or RCP. To cost for these, it was assumed that the expansion of the culverts would end 6' from the EOP. This is to account for the depth culverts must be at under a roadway, and a 3:1 side slope from the EOP to the culvert. Cost estimates for culverts with existing flared end sections (FES), accounted for the removal and replacement of these sections. Guardrails were priced for culverts larger than 30". The cost for expanding culverts included the price of earthwork, structural fill, pipe expansions, and guardrails, headwalls, and FES's when necessary.

Bridges

Some larger ditches have bridge crossings as opposed to CBCs. To cost for these it was assumed that all new abutments and piers would be constructed of structural concrete with rebar, and the widening of the existing bridge decks would cost \$200 per square foot. The cost estimate for these bridges also included the price of earthwork, structural fill, guardrails, and headwalls. It should be noted that on rural bridge sections where the current width of the bridge is within 4' of the width of the proposed roadway section, the bridge was not priced for widening. For these sections it is assumed that the shoulders would be narrowed on both sides to fit within the width of the bridge.

Ditches

Part of the South Weld I-25 Corridor Drainage Master Plan includes the reroute of Sullivan Ditch along highway 52. To cost this improvement, the price of the necessary structural fill, concrete channel liner and concrete removal were taken into account.

Cost Analysis – Drainage

Each drainage culvert/ bridge was priced on an individual basis. Tait and Associates estimated the cost of each drainage culvert/bridge improvement and expansion.

Culverts

Several if the drainage structures which cross the roadways in this study are CMP or RCP culverts and are proposed to remain as such. Culverts whose capacity is adequate for their assigned flood event were priced for the cost of expansion only. The expansions of culverts extend 10' from the EOP of the proposed roadway to be installed above it. Culverts larger than 30" in diameter also have a guardrail installed to ensure safety of passing cars. These culverts which only needed to be expanded in length were priced for earthwork, structural fill, guardrail (if necessary), removal and replacement of FES and the price of pipe extension. Many of culverts in the study area are to be replaced with new, larger culverts. These culverts were priced for structural fill, asphalt removal, earthwork, pipe removal, guardrail (if necessary), removal and replacement of FES and the price of new pipe.

Concrete Box Culverts

Concrete Box Culverts are in use in areas which receive high flows during a flooding event. The drainage improvement master plan calls for the instillation of several CBC's along Highway 52 and one on WCR 10. There are also a handful of culverts which need to be expanded throughout the study area. To price

for new CBCs which do not currently exist the following elements were accounted for: asphalt removal, concrete removal, earthwork, structural fill, guardrails and structural concrete (headwall/wingwall and material for the CBC). For the 10' x 11' CBC to be installed on HW 52-FR.6 it was assumed that the box was pre-cast, to increase the speed of instillation which would close the highway. For the expansion of existing CBC's the price calculated accounts for the expansion of the CBC itself, the removal and replacement of Wingwalls and headwalls, as well as the structural fill around it.

Bridges

There are several bridge crossings within the study area and many locations where a bridge is recommended for replacement of an existing drainage structure. For bridges which already exist, the cost estimate includes: earthwork, structural fill, abutments, guardrails, piers and a bridge deck extension priced at \$200 per square foot. Proposed bridges that have do not currently exist are priced to include asphalt removal, removal of existing drainage structure, earthwork, structural fill, abutments, guardrail, and a bridge deck priced at \$100 per square foot.

Ditches

Part of the South Weld I-25 Corridor Drainage Master Plan includes the creation of a grass drainage ditch along highway 52. To cost this improvement, the price of the necessary earthwork and seeding and mulching was accounted for.

Drainage Ponds

The South Weld I-25 Corridor Drainage Master Plan includes the creation of a 76 acre-ft detention pond which will be located just west of WCR 11, about 0.4 miles north of WCR 12. To cost this pond the following was considered: land acquisition, seeding and mulching, structural fill, and an outlet structure.

Impact Fee

Land Use

Before the impact fees could be determined, the percentage of land use for urban, industrial, and residential sectors had to be determined. Using a land use exhibit found in Dacono's Comprehensive Plan, Tait & Associates made an exhibit to calculate the percent land use of each sector; this exhibit can be seen in Figure 6, Land Use. Using this exhibit, the acreage of the residential, industrial, and urban zoned areas was determined, and from there the percent of the total area of each sector was determined. The residential zoned area occupies 82.5% of the study area, and will therefore be responsible for 82.5% of the impact fee's cost. 7.3% of the land in the study area is industrial, and 10.2% of the land is commercial. The residential impact fee was broken down on a per dwelling unit cost, and industrial and commercial sectors were broken down on a per acre cost.

Add 11 x 17 land use map here

Roadways

The estimated total cost for roadway improvements in this study area is \$120,873,355. To determine the impact fee, the cost of road improvements for East Frontage Road was removed, 50% of the cost for HW 52 was removed and the cost of roadway improvements of CR 6 was estimated at 5 miles. After the adjustment, the cost for roadway improvements to be used in calculating the impact fee is \$101,161,464. The residential portion is 82.5% of the study area, and the residential portion of the impact fee is \$83,412,162. The minimum number of dueling units at buildout is estimated to be 23,709 and the maximum number of dueling units at buildout is estimated to be 38,647. If you assume the minimum number of residence than the Regional Transportation Impact fee is \$3,518 per dueling unit, if you assume the maximum number of dueling units than the Transportation Impact fee is \$2,158 per dueling unit. Commercial land is projected to be 10.2% of the study area and 7.3% of the land will be for industrial use. The Transportation Impact Fee for both residential and commercial is \$8,487 per acre.

Irrigation

The total estimated cost for Irrigation Improvements in the study area is \$3,188,046. The Residential area consists of 82.5% of the land, if you assume the minimum number of dueling units at buildout of 23,709 than the Regional Irrigation Fee comes to \$111 per dueling unit, if you assume maximum buildout then the Regional Irrigation Fee comes to \$68 per dueling unit. The land zoned for commercial use comes to 10.2% of the land in the study area, and the land zoned for industrial comes to 7.3% of the land. The commercial and industrial portion of the cost is \$325,415 and \$233,944 respectively. The Regional Irrigation Fee is \$267 per acre for industrial and commercial property.

Drainage

The total estimated cost for Drainage Improvements in the study area is \$14,281,873 The Residential area consists of 82.5% of the land, and the cost of the residential portion is \$11,776,044 if you assume the minimum number of dueling units at buildout of 23,709 than the Regional Drainage Fee comes to \$497 per dueling unit, if you assume maximum buildout then the Regional Irrigation Fee comes to \$305 per dueling unit. The land zoned for commercial use comes to 10.2% of the land in the study area, and the land zoned for industrial comes to 7.3% of the land. The commercial and industrial portion of the drainage cost is \$1,457,801 and \$1,048,027 respectively. The Regional Drainage Fee is \$1,198 per acre for industrial and commercial property.

Summary of Impact Fees

Table 1, below, shows a breakdown of the Regional Transportation, Irrigation, and Drainage Fees as well as the total cost per unit. Note that all costs associated with road improvements for the frontage road have been removed from this analysis, the cost for roadway improvements of HW 52 have been reduced by 50% and the cost of roadway improvements on County Road 6 were estimated at 5 miles.

Table 1: Adjusted used to calculate impact fee

	Costs
Road Improvement	\$101,161,464
Irrigation Improvement	\$3,188,046
Drainage Improvement	\$14,281,873
Total	\$118,631,382

Table 2: Impact Fee Summary

	Acres	Percent of Total	Dwelling Units Units	Unit	Road Transport Fee / Unit	Irrigation Fee / Unit	Drainage Fee / Unit	Total Fees / Unit	Total Fees
Residential	9828.36	82.5%	23709	Dwelling Unit	\$3,518	\$111	\$497	\$4,126	\$97,916,893
Industrial	874.69	7.3%	N/A	Acre	\$8,487	\$267	\$1,198	\$9,953	\$8,705,365
Commercial	1216.69	10.2%	N/A	Acre	\$8,487	\$267	\$1,198	\$9,953	\$12,109,125
								Total	\$118,631,382

Notes:

- All Costs associated with road improvements for the Frontage Roads have been removed from this analysis
- The Cost for Roadway improvements of Hwy. 52 have been reduced by 50%
- The cost of Roadway improvements on Country Road 6 were estimated at 5 miles