

City of Ramsey
Agenda
Public Works Committee
Tuesday September 18, 2012

6:00 pm
Lake Itasca Room, 7550 Sunwood Drive NW

- 1. Call to Order**
- 2. Citizen Input**
- 3. Approve Agenda**
- 4. Approve Minutes**
 1. Approve July 17, 2012 meeting minutes.
- 5. Committee Business**
 1. Review Resident's Concerns With The Sunfish Lk Blvd/CR116 Project
 2. Consider Stop Sign Request for 145th Lane and Tungsten Way
 3. Consider Stop Sign Request at 152nd Lane and Helium Street
 4. Consider Sight Triangle Concerns at Alpine Drive and Puma Street
 5. Crosswalk Request for Zirconium St and Alpine Dr
 6. Consider Retention Pond Improvements Near 5430 149th Lane
 7. Consider Stormwater Improvements at Rum River Hills Golf Course - A Continuation of Discussion Related to 2011 Flooding Concerns
 8. Sunwood Drive Project - Supplemental Agreement #1, Change Order #2 and Connexus Relocation Charges
 9. Review of Miscellaneous Storm Water Appurtenances in the Vicinity of Lake Ramsey
- 6. Committee/Staff Input**
 1. Follow up Information on Radar Speed Signs
- 7. Adjournment**

Public Works Committee

4. 1.

Meeting Date: 09/18/2012

Submitted For: MaryJo Warner

By: MaryJo Warner, Engineering/Public Works

Title:

Approve July 17, 2012 meeting minutes.

Background:

The Public Works Committee held its regular meeting on July 17, 2012.

Notification:

Observations:

Funding Source:

n/a

Staff Recommendation:

Committee Action:

Motion to approve Public Works Committee meeting minutes dated July 17, 2012.

Attachments

[Minutes 07.17.12](#)

Form Review

Inbox
Grant Riemer
Kurt Ulrich

Reviewed By
Grant Riemer
Kurt Ulrich

Date
09/13/2012 09:33 AM
09/13/2012 03:04 PM
Started On: 09/13/2012 08:28 AM

Form Started By: MaryJo Warner

Final Approval Date: 09/13/2012

**PUBLIC WORKS COMMITTEE
CITY OF RAMSEY
ANOKA COUNTY
STATE OF MINNESOTA**

The Public Works Committee conducted a regular meeting on Tuesday, July 17, 2012 at the Ramsey Municipal Center, 7550 Sunwood Drive NW, Ramsey, Minnesota.

Members Present: Chairperson Randy Backous
 Councilmember David Elvig
 Councilmember Colin McGlone

Also Present: Public Works Superintendent Grant Riemer
 Police Chief James Way
 Interim Engineer Ron Wagner
 Councilmember Jeff Wise
 City Attorney William Goodrich
 Development Manager Darren Lazan

1. CALL TO ORDER

Chairperson Backous called the regular meeting of the Public Works Committee to order at 7:14 p.m.

2. CITIZEN INPUT

There was none.

3. APPROVE AGENDA

Motion by Councilmember McGlone, seconded by Chairperson Backous, to approve the agenda, as revised to consider Case 5.03 prior to Case 5.01 and reschedule Case 5.04 to a future meeting.

Motion carried. Voting Yes: Chairperson Backous, Councilmembers McGlone, and Elvig.
Voting No: None.

4. APPROVE MINUTES

Motion by Councilmember McGlone, seconded by Councilmember Elvig, to approve the minutes from the May 15, 2012 Public Works Meeting.

Motion carried. Voting Yes: Chairperson Backous, Councilmembers McGlone, and Elvig.
Voting No: None.

5. COMMITTEE BUSINESS

5.03: Review Overlay Project 11-05 (157th Lane East of Ramsey Boulevard)

Public Works Superintendent Riemer reviewed the staff report. He agreed the center line is not the best but any repair options will create a project that does not look as well. He advised that the core samples taken are all within specifications and he thinks the road is structurally sound, noting it shows no signs of stress after being driven on for one year. He recommended leaving the road as is and monitoring it to see if anything happens.

Dale McKusick, 6801 157th Lane NW, stated his concern that the asphalt is inconsistent in depth, especially as it approaches the curb, an area that carries water drainage and traffic from plows and garbage trucks. He stated he put in a new driveway for his neighbor and found there was only one-half inch of asphalt at that driveway. He agreed with Public Works Superintendent Riemer that grinding down the center would not be an acceptable repair. Mr. McKusick stated the asphalt mat should be a consistent 1.5 to 2 inches thick from edge of curb to edge of curb, but it is not and he thinks the road edges will come apart within several years. He noted the original road was surfaced only once in 30 years, held up well, and is providing a great base for the sealcoat project. However, as it deteriorates, there will be no recourse against the contractor and everyone will be mad at the City. Mr. McKusick stated there has to be someone accountable and if he is paying taxes, he wants it done right.

Chairperson Backous stated he agrees with Mr. McKusick's concern, noting the City enforces its building codes with strict inspections but he does not know about the inspection process for this project.

Councilmember McGlone noted at the time of this project, the City had two engineers and used the same engineering inspection team so there was not an issue with manpower to inspect the project.

Barb McKusick, 6801 157th Lane NW, stated they were told it would be 1.5 to 2 inches thick from curb to curb and that part of the existing bituminous curb would go away. However, along most of the street the bituminous curb remained so people are asking how thin the asphalt is if the curb is still showing.

Councilmember Elvig asked what is the depth of the asphalt.

Public Works Superintendent Riemer stated he can take additional core samples of the edges and may find some at one inch and others at two inches.

Ms. McKusick stated the issue is that the asphalt mat is not consistent.

Mr. McKusick agreed that most of the bituminous curb remains after the project so it means the matting is not consistent.

Councilmember Elvig stated the struggle is that a concrete curb it is definite but with bituminous curbs, the spreader floats so the mat undulates. He asked Mr. McKusick if he thinks an entire area is substandard.

Mr. McKusick stated he cut part of the asphalt when he installed his driveway and it was 2.5 inches, and today it is still 2.5 inches and you can see four inches of bituminous curbing all along the roadway. His question is how far the contractor slanted the mat as it approached the curb. His concern is that the curb area will deteriorate faster because of the truck traffic.

Councilmember Elvig noted this is an overlay project so it resurfaces the area and the idea is not to build thickness. The old road was stable and not deteriorating and the seal coating project added onto it. He asked if the road is worse now, thinking it can only be better with more and newer bituminous. Councilmember Elvig asked if areas with only one inch of overlay should be corrected.

Public Works Superintendent Riemer stated the City removed sections of alligatored asphalt from the old roadway prior to the project. He agreed that when on the paver, you are at the mercy of the road surface because the paver follows the bed underneath. He also agreed there are probably edge areas that are not perfectly correct but he believes the road is sound.

Chairperson Backous asked about the scenario where residents are assessed for a road project, the warranty expires, and then the road falls apart.

Public Works Superintendent Riemer stated if there are problems with the road within the warranty, the contractor would be responsible. If it occurs three years from the project, the contractor would not be responsible.

Chairperson Backous asked if residents would be expected to pay again for a new road.

Councilmember McGlone stated when a contractor's warranty is over, then the City picks up the cost and patches, as needed, so residents would not be reassessed. However, it increases the City's costs and that is covered through taxes.

Public Works Superintendent Riemer pointed out that residents are not assessed for seal coating.

Interim Engineer Wagner advised the general road contract is for a one-year warranty for roads and a longer warranty results in higher project costs.

Public Works Superintendent Riemer stated there is no problem now or in the past with overlay projects and staff will continue to monitor this roadway.

Councilmember McGlone stated regardless of the outcome in this case, the City needs to consider a road policy for the future in how it is funded, project standards, and contract language. He stated he was at the McKusick property three times and watched him pick off a piece of the road with his finger so there is no arguing that fact; however, the core samples tell the story in the locations they were dug. He stated his opinion there are road areas that are substandard and the City needs to look at how contracts are written, whether thickness or tonnage requirements, to assure residents are getting what they paid for. Councilmember McGlone stated he is not sure

he is comfortable with staff's recommendation because he is sure there are areas that are substandard.

Public Works Superintendent Riemer stated North Valley was the contractor for this project and also did the Alpine project and other overlays.

Chairperson Backous asked if North Valley will be used for future projects.

Public Works Superintendent Riemer answered they will be if they bid on projects.

Mr. McKusick explained it came up because he installed two concrete driveways and had purposely left the concrete up 1.5 inches so when the overlay was done, the driveway would slant up. However, the concrete is still 1.5 inches above the asphalt. He again stated he felt the asphalt mat should be consistently at 1.5 to 2 inches from curb to curb and asked what the City is going to do differently in future projects.

Chairperson Backous asked if the variance of depth resulted in requiring tonnage instead of mat depth.

Public Works Superintendent Riemer stated this project required tonnage and was two tons over.

Interim Engineer Wagner advised the specification for this project is standard and used Mn/DOT references, which allow a one-quarter inch tolerance and is measured behind the machine to assure it is laying an adequate mat. Interim Engineer Wagner explained how the road and curb edge is tacked but sometimes the asphalt does not adhere to the curb area because it is rough or dirty. Should that occur, the asphalt could be picked off.

Mr. McKusick noted the paver cannot get directly to the curbing so someone needs to manually spread asphalt to the curbing. If that is not done correctly, the roller compresses it flat to the surface.

Ms. McKusick stated Levi Dargis, 6741 157th Lane NW, who works for Mn/DOT, had explained that the paver should have unhooked and readjusted. This did not occur and that is why there are two different road levels.

Councilmember Elvig asked what is the repercussion with the contractor at this point.

Public Works Superintendent Riemer stated there is not much because the specifications say a 1.5-inch mat and the project met tonnage.

Interim Engineer Wagner explained if none of the core samples are found one-quarter inch below specifications, then it meets the requirements.

Councilmember Elvig noted if a series of cores are taken at the curb, it may find the majority are too thin.

Mr. McKusick stated the cores were not taken where the driveways were milled.

Councilmember McGlone noted the location where Mr. McKusick picked off asphalt was not in a driveway area.

Councilmember Elvig stated if the contention is that all the bituminous is in the middle of the road, he would suggest taking borings from the edge of the road to see if it is an issue.

Mr. McKusick noted the specifications do not say “curb to curb” so he believed it was a “gray area.” He restated he is only bringing this up so specifications for future road projects require consistent matting from curb to curb. He assured the Public Works Committee that if there is cracking, he will come back to the City and say “I told you so.”

Chairperson Backous thanked the McKusicks for bringing this issue forward and noted staff has recommended the City continue to monitor the road. In addition, the Public Works Committee will discuss the contract language.

Motion by Councilmember Elvig, seconded by Chairperson Backous, to recommend that the City Council accept Overlay Project 11-05, 157th Lane east of Ramsey Boulevard and let the warranty period expire, and direct staff to review the policy and propose alternate language.

Future discussion: Councilmember McGlone stated he thinks the road is substandard; however, the core samples tell another story. He stated he has a construction background and if being assessed, would also be upset. Councilmember Elvig stated he had suggested additional cores along the curb but Mr. McKusick stated his intention was to offer suggestions for future road contracts. Councilmember McGlone stated he will use this project as an example in the road standard policy that is to be created. He asked about milling the edge and installing a 1.5-foot wide strip of tar, noting if more core samples are taken the City could go to the contractor about covering the cost. Mr. McKusick stated Public Works Superintendent Riemer is standing behind the road, which is not an attractive road but better than what they had before. Mr. McKusick stated he does not want more holes drilled or strips of asphalt laid unless it is then entirely sealcoated to create a consistent surface. He stated he is concerned for future road projects, that is why he brought forward this issue. Councilmember McGlone stated he was advocating for the resident’s position and if they support accepting the project, he will then support the motion on the floor.

Motion carried. Voting Yes: Chairperson Backous, Councilmembers Elvig, and McGlone. Voting No: None.

5.01: Consider Traffic Control Change for Sunwood Drive / Sapphire Street Intersection

Public Works Superintendent Riemer reviewed the staff report and recommended Option 2, restrict on-street parking on Sunwood Drive.

Police Chief Way advised that a fair amount of speeding tickets are written in the 45-50 mph range. In addition, parking of larger vehicles in the first few spots restricts visibility. He noted

constructing a kick-out like on Dysprosium Street, would require vehicles to pull out farther to see past parked vehicles; however, it creates issues with plowing. He stated he understands the concern with removing parking spaces so he does not have a good answer but wanted to raise the issue.

Councilmember Elvig stated the City set the speed limit to keep it safe and the idea is to move buildings up to the face of the street, which is different for Ramsey and blocks some visibility. He suggested looking at a greater building setback to address driver visibility. Councilmember Elvig stated he is reluctant to remove the parking spaces on Sunwood Drive because it provides quick and convenient parking and access to the Engineering Department through non-carpeted areas. He suggested the key is speed control.

Councilmember McGlone advocated for Option #1, leave intersection as it is presently, noting a worse sight angle is the PSD building and that has been solved. He agreed that reducing parking impacts zoning and parking requirements and that bump outs are a plowing nightmare, offering no protection. Councilmember McGlone indicated when traffic warrants exist, something else can be considered at that time.

Chairperson Backous agreed that removing parking spaces will not calm traffic and he does not support adding costs or installing stop signs. He raised the option of a flashing yield or speed sign, which would be effective.

Public Works Superintendent Riemer stated they are expensive and require electric wiring but he would check on the cost. He agreed it may help with speed but not address visibility.

Chairperson Backous suggested using the Police speed trailer in that location more often.

Police Chief Way stated it has been used in that area frequently and been found to be effective to make the driver aware and slow the speed of traffic.

Interim Engineer Wagner suggested a sign that only flashes speed and operates from a solar panel.

Councilmember Elvig stated he would support looking at that option.

Public Works Superintendent Riemer stated he will get prices for that type of sign.

Police Chief Way stated he thinks the issue of speed will resolve itself as the area develops.

Motion by Councilmember McGlone, seconded by Chairperson Backous, to recommend that the City Council approve Option # 1, leave intersection as it is presently.

Motion carried. Voting Yes: Chairperson Backous, Councilmembers McGlone, and Elvig.
Voting No: None.

Councilmember Elvig left the meeting at 8:04 p.m.

5.02: Tree Removal at 16490 Uranium Street

Public Works Superintendent Riemer reviewed the staff report.

Chairperson Backous stated he looked at the tree and agrees the size justifies the cost.

Motion by Councilmember McGlone, seconded by Chairperson Backous, to recommend that the City Council approve the use of Council Contingency Fund to contract with Olson Tree Service for tree removal and clean up at 16490 Uranium Street in an amount not to exceed \$3,300.00.

Motion carried. Voting Yes: Chairperson Backous and Councilmember McGlone. Voting No: None. Absent: Councilmember Elvig.

5.03: Review Overlay Project 11-05 (157th Lane East of Ramsey Boulevard)

This item was considered prior to Case 5.01.

5.04: Review Resident's Concerns with the Sunfish Lake Boulevard / CR116 Project

This item was removed upon adoption of the agenda and will be rescheduled to a future meeting.

Councilmember Elvig returned at 8:06 p.m.

5.05: Consider Purchase of AVL System for Public Works Fleet

Public Works Superintendent Riemer reviewed the staff report and advised the GPS can be added for \$1,300, which would eliminate the data plan (average \$11/truck/month) for the cellular telephones.

Chairperson Backous noted the costs would be about a "wash."

Councilmember McGlone stated he does not see the value in this system or that the few complaints with snow plowing justifies the cost.

Chairperson Backous noted the Public Works Committee was in favor of this system at an earlier meeting and asked what has changed since then.

Councilmember McGlone stated he was willing to look at the information but now that he sees the cost, he does not see the value.

The Public Works Committee discussed the features offered and considered whether it would result in staff efficiencies. It was noted that staff should already be filling out a daily log and informing Public Works Superintendent Riemer of maintenance issues.

Public Works Superintendent Riemer stated he had brought forward this information at the Public Works Committee's request and another option is to test the equipment for a period of 30 days at a cost of \$30/month.

Motion by Councilmember McGlone, seconded by Councilmember Elvig, to test the AVL system from Precise MRM for 30 days on the sweeper, starting in October. Staff will then provide a report on what did and did not work, and whether its use resulted in staff efficiencies.

Motion carried. Voting Yes: Chairperson Backous, Councilmembers McGlone, and Elvig. Voting No: None.

6. COMMITTEE / STAFF INPUT

Chairperson Backous advised of complaints he received from the neighborhood on 149th Avenue about a deep murky retaining pond next to a front yard and concern with safety.

Interim Engineer Wagner described the reverse grade outlet pipe that provides some skimming.

Public Works Superintendent Riemer stated this retention pond takes drainage from the road and provides settling prior to discharge.

Chairperson Backous asked staff to conduct additional research and schedule the topic for a future meeting so those residents can be heard.

Councilmember McGlone read an e-mail complaint from a resident on Tonto Street relating to the "horrible job the City did when cutting ditches along the road" and damage to trees.

Public Works Superintendent Riemer stated he received a call about this matter but the caller did not leave a telephone number. He advised this area has been cleaned up and problem resolved but he will contact the resident.

Chairperson Backous asked about the broken the concrete in front of City Hall.

Public Works Superintendent Riemer explained it is due to the hot weather and that area will be ground down and repaired prior to winter.

Development Manager Lazan suggested cutting expansion joints to avoid this type of damage during hot weather.

The Public Works Committee agreed with the suggestion of Councilmember Elvig to direct staff look into that option and draft specifications/policy to assure it is handled correctly.

7. ADJOURNMENT

Motion by Councilmember Elvig, seconded by Councilmember McGlone, to adjourn the Public Works meeting.

Motion carried.

The regular meeting of the Public Works Committee adjourned at 8:23 p.m.

Respectfully submitted,

Grant Riemer
Public Works Superintendent

Drafted by Carla Wirth
TimeSaver Off Site Secretarial, Inc.

Public Works Committee

5. 1.

Meeting Date: 09/18/2012

By: Grant Riemer, Engineering/Public Works

Title:

Review Resident's Concerns With The Sunfish Lk Blvd/CR116 Project

Background:

On June 13th city staff and the Ramsey City Council were cc 'd on an email from Ramsey resident Jessie Diaz and Charles Cadenhead of Anoka County Highway. The email was concerning the impact of the Sunfish Lake Blvd/CR116 project was having on her neighborhood, the Sunfish Pond Town homes. Staff has brought this case forward for review by the committee to see if any of the concerns merit city involvement. Jessie Diaz has been informed of this case and invited to attend. The list of concerns are as follows:

1. Use of the the town home developments private road by non residents
2. Limited access to Caseys General Store because of the center medians on Sunfish Lk Blvd and CR 116
3. Increased traffic in surrounding neighborhoods because of the center medians on Sunfish Lk Blvd and CR116
4. Gaps in the sound walls constructed as part of the county project.

Some traffic concerns likely will have been resolved with the partial opening (i.e., one lane in each direction) of Bunker Lake Road last week.

Notification:

A Letter was sent to Ms. Diaz informing her that the Ramsey Public Works Committee would be review her concerns. Meeting location and time were included.

Observations:

Charles Cadenhead of Anoka County Highway has responded to Ms Diaz's email explaining the county's position on her concerns. The one suggestion he had for controlling non-resident traffic in her neighborhood was to post "Private Road" signs at the entrances to the development. These signs are already in place.

Funding Source:

N/A

Staff Recommendation:

Follow the county's guidelines and suggestions

Committee Action:

Based on discussion

Attachments

[email re Sunfish Lake Blvd/Bunker Lake Blvd Construction Project](#)

Form Review

Inbox	Reviewed By	Date
Kurt Ulrich	Shane Nelson	09/11/2012 01:57 PM
Grant Riemer (Originator)	Grant Riemer	09/11/2012 02:32 PM
Kurt Ulrich	Kurt Ulrich	09/13/2012 03:04 PM
Form Started By: Grant Riemer		Started On: 09/11/2012

Final Approval Date: 09/13/2012

Grant Riemer

From: Kurt Ulrich
Sent: Friday, June 15, 2012 11:34 AM
To: Tim Gladhill
Cc: Grant Riemer; Tim Himmer
Subject: RE: Sunfish Lake Blvd / Bunker Lake Blvd Construction Project (UNCLASSIFIED)

Tim,

Thanks for the e-mail. I hadn't seen this, nor the response from the County. I have asked Grant to schedule as an item for the July PW meeting, although I think it is primarily informational, we should consider whether any of their points might merit City involvement.

Kurt

-----Original Message-----

From: Tim Gladhill
Sent: Friday, June 15, 2012 11:04 AM
To: Kurt Ulrich
Subject: FW: Sunfish Lake Blvd / Bunker Lake Blvd Construction Project (UNCLASSIFIED)
Importance: High

You probably have already been forwarded this, but just in case...

Tim Gladhill
Senior Planner
City of Ramsey
7550 Sunwood Dr NW
Ramsey, MN 55303
763-427-1410 (City Hall)
763-576-4308 (Direct)
763-482-4004 (Cell)
763-427-5543 (Fax)
tgladhill@ci.ramsey.mn.us

-----Original Message-----

From: Diaz, Jessie C MVP [mailto:Jessie.C.Diaz@usace.army.mil]
Sent: Thursday, June 14, 2012 9:12 AM
To: info@kellerpropertymgt.com
Cc: Mayor Ramsey; Randy Backous; Jeff Wise; David Elvig; CM McGlone; Jason Tossey; Sarah Strommen; Tim Gladhill; Josh Shenkle; Jacob Diaz; Tim Himmer; Andrew Witter; Doug Fischer; Charles Cadenhead; Jessie Diaz; Harry Grams
Subject: RE: Sunfish Lake Blvd / Bunker Lake Blvd Construction Project (UNCLASSIFIED)
Importance: High

Classification: UNCLASSIFIED
Caveats: NONE

Sunfish Ponds Townhome Association:

Please see the correspondence below. Was the Association who handles/maintains our account notified of the project and effects that it would have on our private road? This project is having significant impacts on the flow of traffic through our residences. There are many non-townhome owners who are now utilizing our privately owned road to

access Sunfish Lake Blvd and Bunker Lake Blvd. This is causing additional safety concerns due to these non-residents speeding through our neighborhood. The county should be held responsible for increasing the traffic through our residences; I don't feel that it should be the responsibility of our Association to address the issue. Those neighbors who I have spoken to are all unhappy with the project, and are concerned with the effects to our residential area. Does our Association have a legal advisor?

In addition, another issue at hand that may have to do with the project is the privacy fence that was put up along Bunker Lake Blvd. The fence does not extend along all of townhomes and is incomplete containing many gaps. Can you please inform me as to when this will be completed?

Thanks Greatly!

Jessie C. Diaz
Sunfish Ponds Townhomes Resident
Ramsey, Minnesota
763-227-6996

-----Original Message-----

From: Charles Cadenhead [mailto:Charles.Cadenhead@co.anoka.mn.us]

Sent: Wednesday, June 13, 2012 2:43 PM

To: Jessie Diaz; Harry Grams

Cc: mayorramsey@ci.ramsey.mn.us; rbackous@ci.ramsey.mn.us; jwise@ci.ramsey.mn.us; delvig@ci.ramsey.mn.us; colin@colinmcglone.com; jtossey@ci.ramsey.mn.us; sstrommen@ci.ramsey.mn.us; tgladhill@ci.ramsey.mn.us; Josh Shenkle; Jacob Diaz; Diaz, Jessie C MVP; thimmer@ci.ramsey.mn.us; Andrew Witter; Doug Fischer

Subject: RE: Sunfish Lake Blvd / Bunker Lake Blvd Construction Project

Jessie,

Thank you for informing us of your concerns and issues.

With regards to your comment regarding Xenon St. NW through the townhomes being a private street, I would offer that the County does not have any jurisdictional authority with regards to that street and therefore cannot dictate who does or does not drive on that street. I am not sure if you have a 'Private Road' sign already posted, but that might be one idea to give a try.

The City of Ramsey and Anoka County had many design meetings, open houses (notices to residents within 1/2 mile were sent), and discussions revolving around the use of medians and the design of Bunker Lake Blvd (CSAH 116) and Sunfish Blvd (CSAH 57). We held open houses for this project in March of 2009, February of 2010 and had a Public Hearing in January of 2011. Notices were sent to your address and we don't show any record of your attendance however we do show a sign in from one of your neighbors in the townhomes. We also completed a traffic study through the design process to evaluate and minimize the adverse impacts to the city street system. It was during these design meetings that it was decided to maintain the County policy of placing medians in the four lane divided roadway and keep the full access points a safe distance from the intersection to minimize the conflicts of left turning movements at the intersection.

This type of design is something that the County has performed on many projects throughout the county and have experienced great results in both efficient movement of traffic and safety. Another example of this type of configuration that has been working well is the intersection of Hanson Blvd. and Bunker Lake Blvd. U-Turns are an allowable traffic movement at the intersections and also a safe alternative given the protected left turn lane. This allows the U-turn traffic to not contend with the traffic traveling through the intersection.

We understand that these are probably not the answers that you were looking for with your request, but we hope that you understand our reasoning.

Charles M. Cadenhead, Jr., P.E.

Anoka County Construction Engineer

1400 Bunker Lake NW

Andover, MN 55304

Phone: 763-862-4237

Fax: 763-862-4201

Charles.Cadenhead@co.anoka.mn.us <mailto:Charles.Cadenhead@co.anoka.mn.us>

At the Anoka county Highway Department, our passion is your safe way home.

"Whatever you are, be a good one." - Abraham Lincoln

From: Jessie Diaz [mailto:jjh.diaz@yahoo.com]

Sent: Monday, June 11, 2012 11:38 AM

To: Harry Grams; Charles Cadenhead

Cc: mayorramsey@ci.ramsey.mn.us; rbackous@ci.ramsey.mn.us; jwise@ci.ramsey.mn.us; delvig@ci.ramsey.mn.us; colin@colinmcglone.com; jtossey@ci.ramsey.mn.us; sstrommen@ci.ramsey.mn.us; tgladhill@ci.ramsey.mn.us; Josh Shenkle; Jacob Diaz; jessie.c.diaz@usace.army.mil
Subject: Sunfish Lake Blvd / Bunker Lake Blvd Construction Project

Dear Mr. Grams & Mr Cadenhead:

I am a homeowner residing in the Sunfish Ponds Townhomes Community located behind Casey's General Store at the Intersection of Sunfish Lake Blvd and Bunker Lake Blvd in Ramsey, MN. I have recently noticed a median going in along the center of Bunker Lake Blvd, which raises concerns for both my neighbors and my husband and I. This median is going to cause a number of problems and inconveniences for our town home community and surrounding residents and businesses. Below is a list of my concerns in regard to the construction project:

1.) Sunfish Ponds Townhomes is a private road, which we pay to have maintained. Since construction has begun there has been a noticeable increase in traffic through our Townhome Residences due to Wolfram Streets closure. Although reopening Wolfram street after completion of construction may reduce some traffic, the median will prevent people from being able to turn left, therefore still increasing the traffic through our townhome residences. There are lots of children in this neighborhood, including a daycare, which further raises my concerns. There are many individuals who speed through our Townhome Residences who are not townhome owners. Since this is a private road, how do you plan to prevent and control non-Sunfish Pond Townhome owners from traveling on our privately owned road?

Solutions recommended:

- a.) Take out the median on Bunker Lake Blvd. allowing left turn access.
- b.) Put in a paid for and maintained county/city electronic gate for Sunfish Ponds Townhomes Association, which would provide only townhome owners access to the gated area.

2.) Limited access to Casey's General store, causes inconveniences and reduction of revenue for the business.

Solutions:

- a.) Allow turn access into Casey's on both roads traveling in all directions.
- 3.) An increase in accidents is likely to occur at the intersection of Sunfish Lake Blvd and Bunker Lake Blvd. due to more individuals turning right onto Bunker Lake Blvd and needing to make u-turns to access East Bound Bunker Lake Blvd. If u-turns are not allowed at the intersection, then this will further increase traffic through the neighborhoods, raising child and pedestrian safety concerns.

Solutions:

a.) Allow left turn access to Bunker Lake Blvd, by removing the median.

Thank you for taking the time to address and find solutions to my concerns. If you wish to further discuss this with me below is my contact information.

Regards,

Jessie C. Diaz

Sunfish Ponds Townhomes Resident

jjh.diaz@yahoo.com

(763) 227-6996

Click here

<https://www.mailcontrol.com/sr/6vPMPen7nonTndxIloX7UjaeDmea67kXMFSV7kTydD2qV6G6Q7GfIFT8GFgVM1NgIWfGJ4ErSQrgMdFy9yJ30A==>> to report this email as spam.

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Classification: UNCLASSIFIED

Caveats: NONE

Public Works Committee

5. 2.

Meeting Date: 09/18/2012

Submitted For: Grant Riemer

By: Grant Riemer, Engineering/Public Works

Title:

Consider Stop Sign Request for 145th Lane and Tungsten Way

Background:

The attached petition was received June 25th 2012 from residents in the Chestnut Hill 4th Addition near the intersection of 145th lane and Tungsten Way. The purpose of the petition is to request a 4 way stop at the above intersection. Staff has reviewed the intersection and offers the the following information as background in considering this request.

The City of Ramsey follows the guide lines for stop sign installations provided in the Manual on Uniform Traffic Control Devices (MUTCD)

Warrants for Stop Sign

Because the STOP sign causes a substantial inconvenience to motorists, it should only be used when warranted. A stop sign may be warranted at an intersection where one or more of the following conditions exist:

1. Intersection of less important road with a main road, where the application of the normal right-of-way rule is unduly hazardous
2. Street entering a through highway or street
3. Unsignalized intersection in a signalized area.
4. Other intersections where a combination of high speed, restricted view, and serious accident record indicates a need for control by the STOP sign.

Accident History

1 accident involving 2 cars, minor damage, and no injuries 1/15/2009

Traffic

Traffic counts were taken for two 24 hour periods, starting July 16th and ending July 18th. Traffic counts are taken in this manner to determine a 24 hour average.

Street	Leg	Daily Traffic	Peak Hour
145th Ln	East	310	31
145th Ln	West	324	32
Tungsten Way	North	87	9
Tungsten Way	South	162	16
Intersection Avg		441	44

Notification:

Notification has been sent to residents who's name appeared on the petition.

Observations:

Sight Distance

There is an adequate sight distance when traveling north or south on Tungsten Way. Traveling east or west on 145th Lane presents some minor problems. Tungsten Way is at a higher elevation than 145th Ln. which is more noticeable when traveling east on 145th Ln. Motorists can see the intersection clearly they just can't see through the intersection until they are approximately 85 feet from the intersection. This elevation change does make visibility somewhat difficult when traveling east to west through the intersection. The speed limit on both streets is 30 mph. The distance between controlled intersections on 145th Ln is approximately 1950 ft or .37 miles.

Funding Source:

Traffic Engineering
General Fund Budget
Cost Center 0260
Approximate cost-\$800.00

Staff Recommendation:

Because of the limited sight distance, caused by the grade differential at the intersection, staff recommends the installation of a 4-way stop at 145th Lane and Tungsten Way.

Committee Action:

Motion to accept staff recommendation to install 4 way stop at 145th Lane / Tungsten Way
Motion to reject staff recommendation and choose an alternative based on committee discussion

Attachments

[Location Map](#)

[Petition Map](#)

[Petition](#)

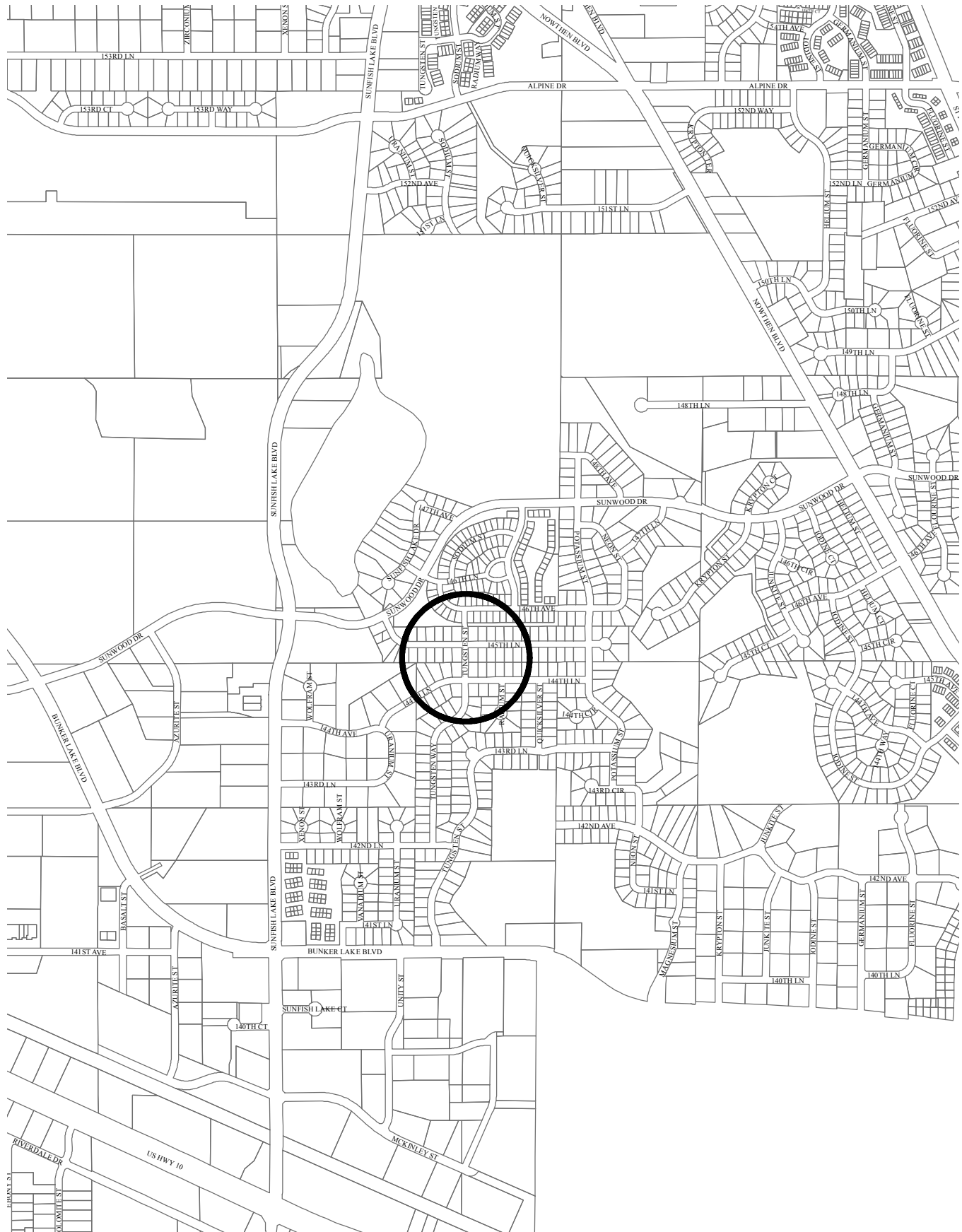
Form Review

Inbox	Reviewed By	Date
Kurt Ulrich	Kurt Ulrich	09/13/2012 03:04 PM
Form Started By: Grant Riemer		Started On: 08/16/2012 08:00 AM
		Final Approval Date: 09/13/2012

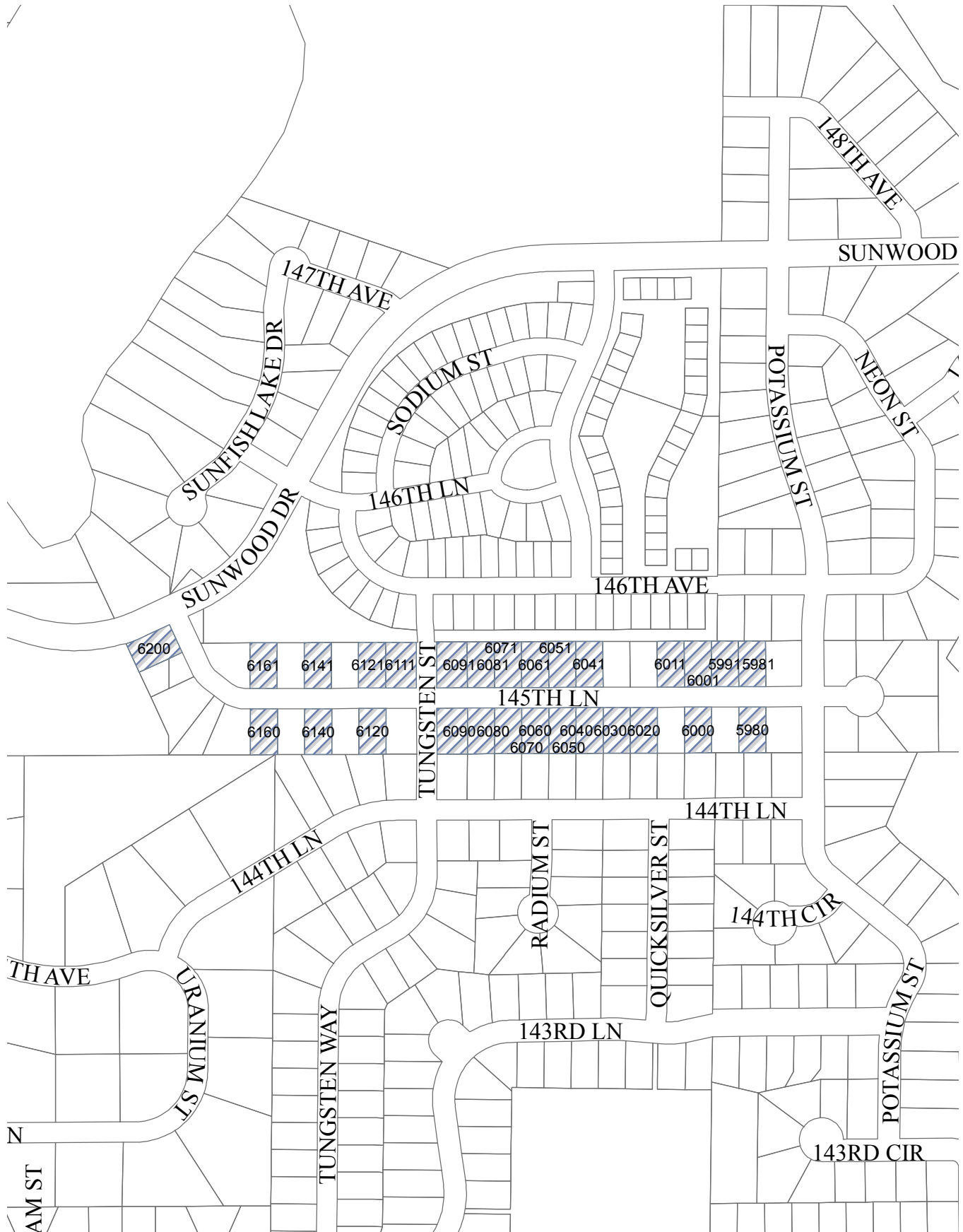
LOCATION MAP

PETITION FOR 4-WAY STOP SIGN

AT 145TH LN AND TUNGSTEN WAY



PETITIONING PROPERTIES FOR 4-WAY STOP SIGN AT 145TH LN AND TUNGSTEN WAY



RECEIVED

JUN 25 2012

1

Petition for Traffic and Speed Study for:

145th Lane and Tungsten Way Ramsey, MN 55303

GOAL:

- 4WAY • Stop sign at intersection of 145th Lane and Tungsten Way

PRINT NAME

ADDRESS

SIGNATURE

REALDEAL1@q.com

- ✓ 1. 763 433 2918
TOM MACIVERSON 6050 145th LANE N.W., [Signature]
2. Gina Filigenzi, 6040 145th Lane NW, [Signature]
3. LISA Wilkinson, 6030 145th Lane NW, [Signature]
4. Doug Thurston, 6020 145th Lane NW, [Signature]
5. Nicki Mrazek, 6000 145th Ln NW, [Signature]
6. Diana Swanson, 5980-145th LN NW, [Signature]
7. KELLY PERHAM 5991 145th LN NW, [Signature]
8. Jody Meier 5981 145th Lane NW, [Signature]
9. Karen Stellwak 6001 145th Lane NW, [Signature]
10. Julie Lundqvist 6011 145th Lane NW, [Signature]

1

RECEIVED
JUN 25 2012

2

Petition for Traffic and Speed Study for:

145th Lane and Tungsten Way Ramsey, MN 55303

GOAL:

- UWAY
- Stop sign at intersection of 145th Lane and Tungsten Way

PRINT NAME	ADDRESS	SIGNATURE
1. Kelly Mulleady	6061 145 th Ln. N.W.	<i>[Signature]</i>
2. Brian Casey	6080 145 th Ln NW Ramsey	<i>[Signature]</i>
3. Kris Bishop	6070-145 th LN NW	<i>[Signature]</i>
4. Jason Smith	6060 145 th Ln NW	<i>[Signature]</i>
5. Ryan Rengo	6051 145 th Lane NW	<i>[Signature]</i>
6. Ayla Benson	6009 145 th Ln NW	<i>[Signature]</i>
7. Chris Middle	6041 145 th Ln NW	<i>[Signature]</i>
8. Stacey Nelson	6071 145 th LN	<i>[Signature]</i>
9. Tim Yehle	6121 145 th LN	<i>[Signature]</i>
10. Mike Roskopf	6120 145 th LN	<i>[Signature]</i>

2

RECEIVED
JUN 25 2012
BY:

3

Petition for Traffic and Speed Study for:

145th Lane and Tungsten Way Ramsey, MN 55303

GOAL:

4WAY • Stop sign at intersection of 145th Lane and Tungsten Way

PRINT NAME ADDRESS SIGNATURE

1. Stacey Adams, 6090-145th Ln NW, Stacey Adams
2. Thomas Haglund, 6081-145th Ln NW, Thomas Haglund
3. Ray Benson, 6111 145th Ln NW Ramsey, Ray Benson
4. Lori Whaley, 6140 145th Ln NW Ramsey, Lori Whaley
5. BRENT WHALEY, " " " " Brent Whaley
6. LISA Lennander, 6141 145th Ln NW, Lisa Lennander
7. MATT OLSON, 6161 145th Ln NW, Matt Olson
8. Brett Gambler, 6200 145th Lane NW, Brett Gambler
9. TODD LANGNER, 6160 145th LANE N.W., Todd Langner
10. Trinette Langner, 6160-145th Ln NW, Trinette Langner

Public Works Committee

5. 3.

Meeting Date: 09/18/2012

Submitted For: Grant Riemer

By: Grant Riemer, Engineering/Public Works

Title:

Consider Stop Sign Request at 152nd Lane and Helium Street

Background:

On August 17, 2012 staff received a petition from residents in the neighborhood near the intersection of 152nd Lane and Helium Street. They are requesting the installation of a stop sign at this intersection (see attached maps).

Staff has reviewed the intersection and offers the the following information as background in considering this request.

The City of Ramsey follows the guide lines for stop sign installations provided in the Manual on Uniform Traffic Control Devices (MUTCD)

Warrants for Stop Sign

Because the STOP sign causes a substantial inconvenience to motorists, it should only be used when warranted. A stop sign may be warranted at an intersection where one or more of the following conditions exist:

1. Intersection of less important road with a main road, where the application of the normal right-of-way rule is unduly hazardous
2. Street entering a through highway or street
3. Unsignalized intersection in a signalized area.
4. Other intersections where a combination of high speed, restricted view, and serious accident record indicates a need for control by the STOP sign.

Accident History

There have been no reported accidents at this intersection

Traffic

Traffic counts were taken for two 24 hour periods, starting 8/27-8/29. Traffic counts are taken in this manner to determine a 24 hour average.

Street	Leg	Daily Traffic	Peak Hour
Helium St	South	230	23
Helium St	North	165	16
152nd Ln	East	115	11

Intersection Avg 312/24 hr

Notification:

Notification has been sent to residents who's name appeared on the petition.

Observations:

The intersection does not meet any of the warrants for STOP signs outlined in MUTCD. Traffic volumes are low and visibility is satisfactory on all three legs

Funding Source:
Traffic Engineering
Cost Center 0260

Staff Recommendation:
Staff recommendation is to not install a stop sign at this intersection at this time.

Committee Action:
Motion to accept staff recommendation to not install stop signs at the intersection of 152nd Ln/Helium St
Motion to reject staff recommendation and choose an alternative based on committee discussion

Attachments

Petition Map
Property Owner Map
Petition

Form Review

Inbox	Reviewed By	Date
Kurt Ulrich	Kurt Ulrich	09/13/2012 03:04 PM
Form Started By: Grant Riemer		Started On: 08/22/2012 12:38 PM
	Final Approval Date: 09/13/2012	

152nd Ln Helium Petition

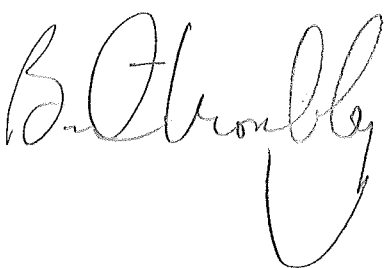
PIN	OWNER	ADDRESS
233225410054	TROMBLEY BRAD	15143 HELIUM ST NW
233225410053	MEADOW CREEK BUILDERS INC	15201 HELIUM ST NW
233225410052	MEADOW CREEK BUILDERS INC	15207 HELIUM ST NW
233225410051	CUNNINGHAM STACY	15211 HELIUM ST NW
233225410050	PERRY ALISON	15217 HELIUM ST NW

Untitled

AUG 17 2012

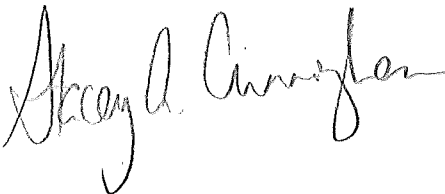
Katy Okerstrom for
M. Warner

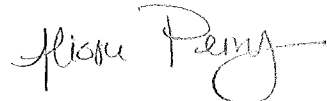
signatures to get a stop sign up at the corner of
Helium st. nw and 152nd

1.  BRAD TROMBLAY 15143 HELIUM ST. NW.

2.  LESLIE BUNE 15201 HELIUM ST

3.  PAUL R. DAVIS 15207 HELIUM ST NW.

4.  STACEY A. CUNNINGHAM 15211 HELIUM ST. NW

5.  ALISON PERRY 15217 HELIUM ST NW

Public Works Committee

5. 4.

Meeting Date: 09/18/2012

By: Len Linton, Engineering/Public Works

Title:

Consider Sight Triangle Concerns at Alpine Drive and Puma Street

Background:

Staff received a concern from a resident about visibility at the Alpine Drive - Puma street intersection. Puma Street was paved in 2011 and provides a connection from the western extension of Bunker Lake Boulevard to Alpine Drive. The concern states that north bound traffic on Puma cannot see eastbound traffic on Alpine Drive in time to safely enter or cross Alpine Drive.

Puma Street was gravel and served one residence prior to being paved. It will be an important access route for Legacy Christian School and the other developments proposed for the intersection of Bunker Lake Boulevard and Puma Street. Clear sight lines at the intersection of Alpine Drive and Puma street is critical for the safety of the traveling public.

Notification:

The resident has been notified that this case will be discussed at the Public Works Committee meeting.

Observations:

Staff has visited the site and observed the site distances from Puma Street. Staff also gathered survey data west of Puma Street and south of Alpine Drive. The Alpine Drive alignment curves south just west of Puma Street. The road rises from west to east in this same area. There is a row of pine trees in the right of way that blocks vision of oncoming vehicles.

Staff performed a sight line analysis using the topographic data obtained. The sight line crosses the northern edge of the property west of Puma Street. The analysis indicated that excavation of the south boulevard of Alpine Drive could provide adequate site distance at this intersection. The excavation will require reshaping a portion of the private property which is currently used for crops. The excavation will require a permanent easement from the adjacent property owner for the sight triangle and a temporary easement for grading and excavation. The proposed grading used a 1 percent slope from the top of curb to south of the sight line then a 10 percent slope to blend into existing grades so that the area could continue to be used for crops. There is an area where the sight line and the proposed grading are at the same elevation. Vegetation and weed growth could block the sight line, mowing will be a regular requirement for this stretch of boulevard.

An exhibit showing the area and the proposed grading is attached to the case.

Funding Source:

The funding source for this project is the PIR Fund. The estimated costs for this is \$42,300, broken down as site work \$35,400 and easements \$6,900.

Staff Recommendation:

Staff recommends entering into negotiations with the land owner for acquisition of the necessary easements. The site work could be issued as a request for quote after the easements are acquired.

Committee Action:

Motion to recommend that the City Council authorize entering into negotiations with the land owner for the necessary easements to lower the boulevard south of Alpine Drive and west of Puma Street to provide better sight distance.

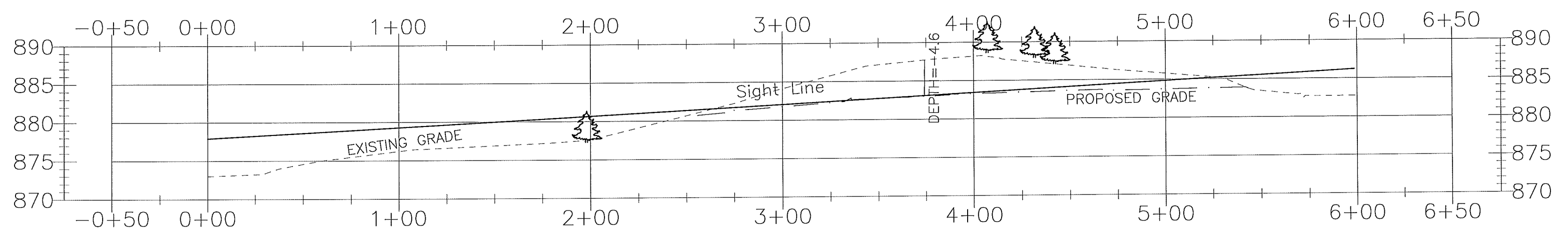
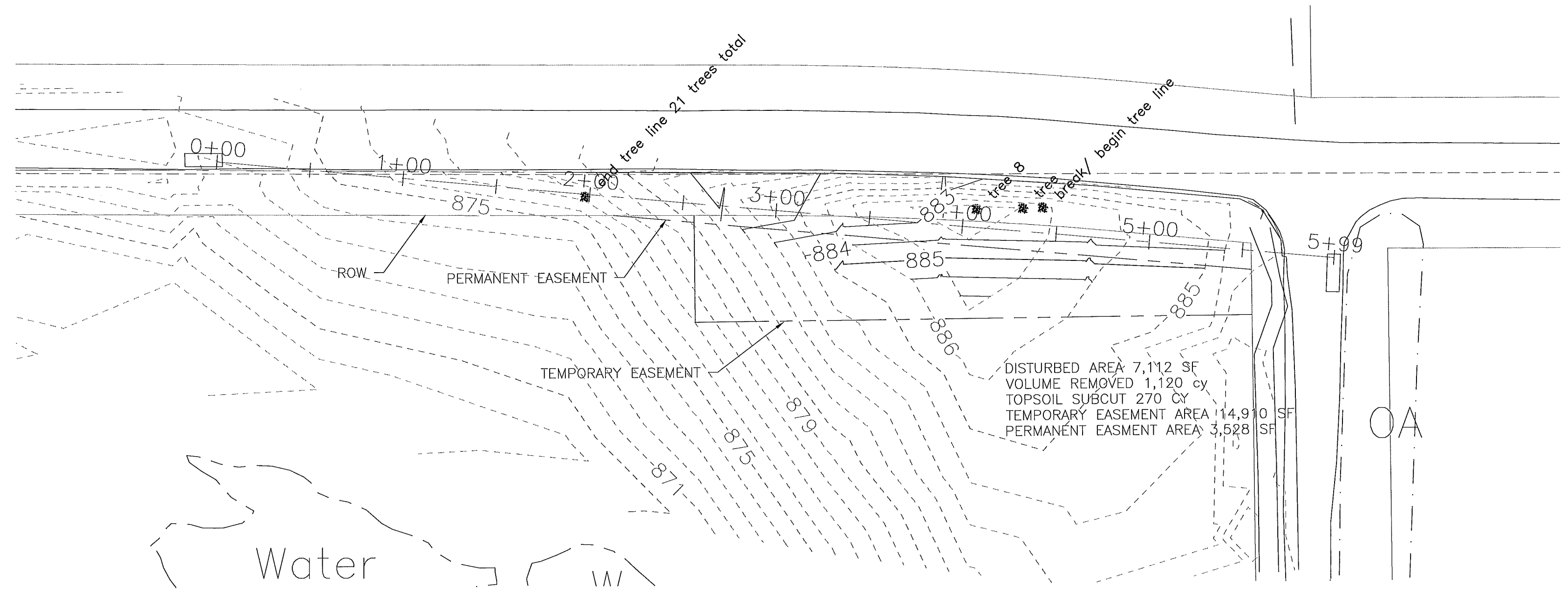
Attachments

Diagram

Form Review

Inbox	Reviewed By	Date
Hakanson Anderson Engineering	Shane Nelson	09/12/2012 03:21 PM
Hakanson Anderson Engineering	Shane Nelson	09/12/2012 03:21 PM
Grant Riemer	Grant Riemer	09/12/2012 03:30 PM
Kurt Ulrich	Kurt Ulrich	09/13/2012 03:04 PM
Form Started By: Len Linton		Started On: 09/12/2012 10:56 AM

Final Approval Date: 09/13/2012



PUMA STREET SIGHT LINE

Public Works Committee

5. 5.

Meeting Date: 09/18/2012

Submitted For: Grant Riemer

By: Grant Riemer, Engineering/Public Works

Title:

Crosswalk Request for Zirconium St and Alpine Dr

Background:

At the July 21, 2009 Public Works Committee received a request for providing cross walks that would offer access to Alpine Park to the residential neighborhoods to the north. This request has been brought forth again by a resident of that neighborhood. The chief concern is the ability to access the park safely across Alpine Drive which has a 45 mile per hour speed limit and a daily traffic count of 2400 vehicles per day. The Alpine Acres subdivision neighborhood includes 22 single family units fronting on 153rd Way that accesses Alpine Drive via Zirconium Street, and 16 single family units fronting on 153rd Court which accesses the west end of the park. Please recall that a crosswalk providing access to the western portion of the neighborhood was installed at the intersection of Alpine Drive and 153 Court at a relatively modest cost of \$2,200. However, a crossing location for the eastern neighborhood was found to be more problematic and no action was taken by the Committee. A possible location having an adequate, but not ideal sight distance had been identified at a point approximately 200 feet west of the intersection with Zirconium Street. This location has the advantage of requiring a minimal distance of "extra travel" for pedestrians from the eastern neighborhood that wish to go to the playground area which is east of Zirconium Street. A crossing at this location would require; a) 200 feet of trail, b) cross walks with signage, c) concrete steps down the grade, and pedestrian ramps. The estimated cost for these improvements is \$38,000. There is also a question of compliance with the Americans with Disability Act (ADA) since steps would not make this access usable to wheelchair users. Staff contacted the Department of Justice, which administers the act, and was advised that a facility (the park) required only one accessible point. However, if an access were to be considered the main entrance, then a handicap access should be seriously considered. This would not be the case since there are two other access points on both the east and west sides of the park.

Notification:

Micheal Helfenstein 6440-153rd Way was notified that this case would be discussed at tonight's meeting.

Observations:

Crosswalk lines should not be used indiscriminately. An engineering study should be performed before a marked crosswalk is installed at a location away from a traffic control signal or an approach controlled by a STOP or YIELD sign. The engineering study should consider the number of lanes, the presence of a median, the distance from adjacent signalized intersections, the pedestrian volumes and delays, the average daily traffic (ADT), the posted or statutory speed limit or 85th-percentile speed, the geometry of the location, the possible consolidation of multiple crossing points, the availability of street lighting, and other appropriate factors. New marked crosswalks alone, without other measures designed to reduce traffic speeds, shorten crossing distances, enhance driver awareness of the crossing, and/or provide active warning of pedestrian presence, should not be installed across uncontrolled roadways where the speed limit exceeds 40 mph and either:

A. The roadway has four or more lanes of travel without a raised median or pedestrian refuge island and an ADT of 12,000 vehicles per day or greater; or

B. The roadway has four or more lanes of travel with a raised median or pedestrian refuge island and an ADT of 15,000 vehicles per day or greater.

Because non-intersection pedestrian crossings are generally unexpected by the road user, warning signs

should be installed for all marked crosswalks at non-intersection locations and adequate visibility should be provided by parking prohibitions.

While the request for a crosswalk is reasonable, the cost of the crossing is significant. At the present time a balance of \$200,000 is available in the trail fund, however a project being undertaken in the near future will significantly reduce this amount. The match required on the 161st to Alpine Dr trail which will be located on the east side of Armstrong Blvd is approximately \$180,000.00 alone. Staff has been tasked with finding Federal or State Grant money to help pay for our trail system, but more often than not, the city is required to pay for a portion or "match" a certain percentage of the total project cost. Without money in our Trail Fund or other funding sources, we are unable to apply for Grants as they become available.

Funding Source:

TIF funding could be used for the sidewalk portion of the project, but staff needs to clarify if the steps or park entrance could be financed through the TIF fund. The cost for the signage would come from the general fund under traffic engineering (cost center 0260)

Staff Recommendation:

Staff recommends that a crosswalk not be installed at this location because of the mid block location and marginal sight distance.

Committee Action:

Motion to accept staff recommendation not to install crosswalk near Zirconium St/Alpine Dr intersection
Motion to reject staff recommendation and choose an alternative based on committee discussion

Form Review

Inbox

Kurt Ulrich

Reviewed By

Kurt Ulrich

Date

09/13/2012 03:04 PM

Form Started By: Grant Riemer

Started On: 08/16/2012 08:05 AM

Final Approval Date: 09/13/2012

Public Works Committee

5. 6.

Meeting Date: 09/18/2012

Submitted For: Grant Riemer

By: Grant Riemer, Engineering/Public Works

Title:

Consider Retention Pond Improvements Near 5430 149th Lane

Background:

The City had previously received a concern on the storm water retention pond by the adjacent landowner. The resident had requested that the City consider clearing the trees and removing the pond. The resident was also concerned with the smell.

Notification:

Several recent attempts have been made to contact the adjacent homeowner, however, they have been unsuccessful.

Observations:

The pond is a storm water detention pond that is in place to treat storm water before entering into the natural drainage system. The pond is located within the drainage and utility easement. The pond is necessary due to state regulations and cannot be removed / filled in. The trees adjacent to the pond could be cleared and would be recommended for ease of future maintenance.

Funding Source:

Any pond maintenance is anticipated to be completed with city crews

Staff Recommendation:

We recommend that the pond configuration must largely remain as is. However, the trees can be cleared and we recommend removal of the trees.

Committee Action:

Motion to recommend clearing of trees.

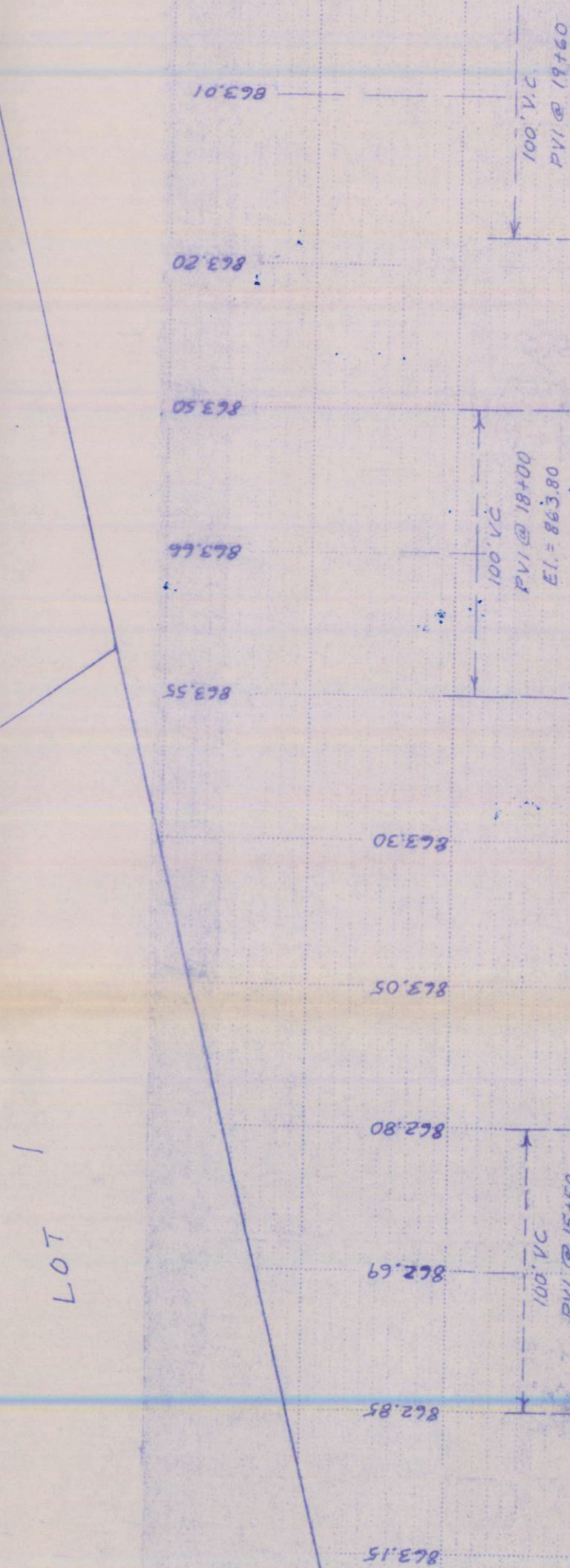
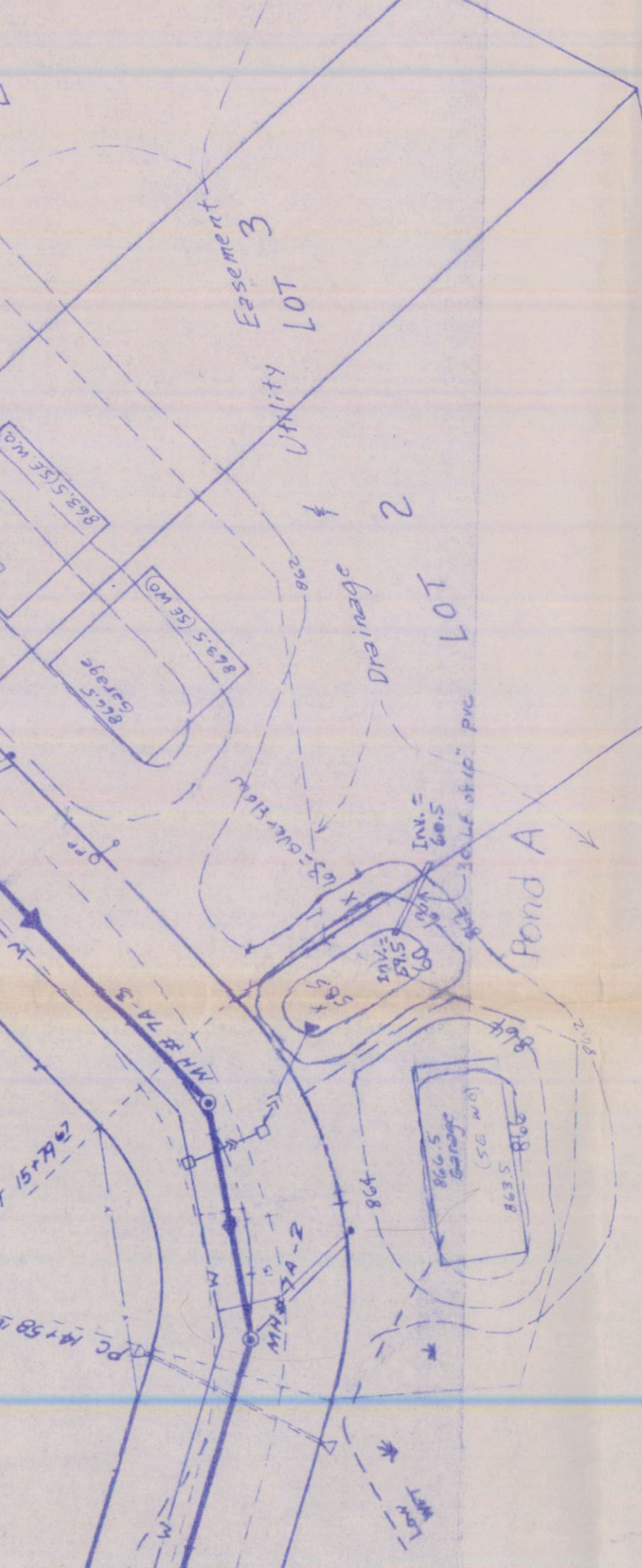
Attachments

Utility Plan

Plat

Form Review

Inbox	Reviewed By	Date
Kurt Ulrich	Kurt Ulrich	09/13/2012 03:04 PM
Form Started By: Grant Riemer		Started On: 08/22/2012 12:48 PM
Final Approval Date: 09/13/2012		



RAMSEY MEADOWS 4TH ADDITION

CITY OF RAMSEY COUNTY OF ANOKA

pg 25

KNOW ALL PERSONS BY THESE PRESENTS: That J. A. Menkveld & Associates, Inc., a Minnesota corporation, owner and proprietor and Builders Mortgage Corporation, a Minnesota corporation, mortgagee of the following described property situated in the County of Anoka, State of Minnesota, to-wit:

That part of the Southwest Quarter of Section 24, Township 32, Range 25, Anoka County, Minnesota, described as follows:

Beginning at the northeast corner of Outlot A, RAMSEY MEADOWS 3RD ADDITION, according to the recorded plat thereof, Anoka County, Minnesota; thence South 89 degrees 07 minutes 51 seconds East, assumed bearing, parallel with the south line of said Southwest Quarter, a distance of 208.50 feet to the center line of State Trunk Highway No. 47, per the plat of AMBER RIDGE, according to the recorded plat thereof, Anoka County, Minnesota; thence northerly along said center line and along the center line of said State Trunk Highway No. 47, per the plat of WILLOW RIDGE, according to the recorded plat thereof, Anoka County, Minnesota, a distance of 789.96 feet to the intersection with the northeasterly extension of the following described line:

Beginning at a point on the center line of State Trunk Highway No. 47, per the plat of GORHAM'S ADDITION, according to the recorded plat thereof, Anoka County, Minnesota, said point being distant 93.00 feet southeasterly of the northeasterly extension of the southeasterly line of Block 3, said GORHAM'S ADDITION, as measured along said center line; thence South 64 degrees 18 minutes West, parallel with the southeasterly line of Block 3, said GORHAM'S ADDITION, a distance of 376.78 feet, and said line there terminating;

thence South 64 degrees 18 minutes 00 seconds West, along said last described line, a distance of 376.83 feet to the point of termination of said line; thence southwesterly along a tangential curve concave to the southeast, having a radius of 103.25 feet and a central angle of 63 degrees 14 minutes 20 seconds, a distance of 113.96 feet; thence South 1 degree 03 minutes 40 seconds West, tangent to said curve, a distance of 345.42 feet; thence southwesterly along a tangential curve concave to northwest, having a radius of 115.75 feet and a central angle of 60 degrees 08 minutes 15 seconds, a distance of 121.49 feet; thence South 61 degrees 11 minutes 55 seconds West, tangent to said curve, a distance of 53.09 feet to the intersection with the westerly extension of the north line of said Outlot A, RAMSEY MEADOWS 3RD ADDITION; thence South 87 degrees 06 minutes 09 seconds East, along said north line and its westerly extension, a distance of 517.62 feet to the point of beginning.

AND

Outlot A, RAMSEY MEADOWS 3RD ADDITION, according to the recorded plat thereof, Anoka County, Minnesota.

Have caused the same to be surveyed and platted as RAMSEY MEADOWS 4TH ADDITION and do hereby dedicate to the public for public use forever the boulevard, lane and drainage and utility easements as shown on the plat. In witness whereof said J. A. Menkveld & Associates, Inc., a Minnesota corporation, has caused these presents to be signed by its proper officer this 7th day of OCT, 1996. Also in witness whereof said Builders Mortgage Corporation has caused these presents to be signed by its proper officer this 7th day of OCT, 1996.

SIGNED:

J. A. MENKVELD & ASSOCIATES, INC.:

J. A. Menkveld
J. A. Menkveld, President



CAINE & ASSOCIATES
LAND SURVEYORS, INC.

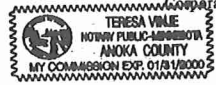
1275655
OFFICE OF COUNTY RECORDS
STATE OF MINNESOTA, COUNTY OF ANOKA
I hereby certify that the within instrument was filed in this office for record on the 7th day of OCT, 1996 at 10:00 o'clock A.M., and was duly recorded in book 54 page 65

Edward M. Inuka
County Clerk
By *KHG*
Deputy

BUILDERS MORTGAGE CORPORATION:

Ronald Stratton
Ronald Stratton, as President

STATE OF MINNESOTA) The foregoing instrument was acknowledged before me this COUNTY OF ANOKA) 7th day of OCTOBER, 1996, by J. A. Menkveld, President of J. A. Menkveld & Associates, Inc., a Minnesota Corporation, on behalf of the Corporation.



Teresa Vinje
Notary Public, Anoka County, Minnesota
My Commission expires 1-31-00

STATE OF MINNESOTA) The foregoing instrument was acknowledged before me this COUNTY OF ANOKA) 7th day of OCTOBER, 1996, by Ronald Stratton, President of Builders Mortgage Corporation, a Minnesota corporation, on behalf of the corporation.

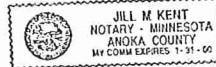


Kathleen R. Caven
Notary Public, Ramsey County, Minnesota
My Commission expires 1-31-2000

I hereby certify that I have surveyed and platted the land described in the dedication on this plat as RAMSEY MEADOWS 4TH ADDITION; that the plat is a correct representation of said survey; that all distances are correctly shown on said plat in feet and hundredths of a foot; that the monuments have been correctly placed in the ground as shown; that the boundaries are correctly designated on said plat; and that there are no wetlands or public highways to be designated on said plat other than as shown thereon.

Jeffrey N. Caine
Jeffrey N. Caine, Registered Land Surveyor
Minnesota Registration No. 12251

STATE OF MINNESOTA) The surveyors certificate was acknowledged before me a Notary COUNTY OF ANOKA) Public, this 9th day of OCTOBER, 1996, by Jeffrey N. Caine, Land Surveyor.



Jill M. Kent
Notary Public, Anoka County, Minnesota
My Commission expires 01-31-00

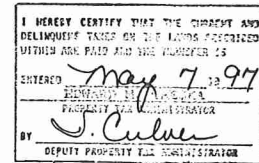
CITY OF RAMSEY

We hereby certify that the City Council of the City of Ramsey, Anoka County, Minnesota, duly accepted and approved the plat of RAMSEY MEADOWS 4TH ADDITION at a regular meeting held this 24th day of September, 1996. If applicable, the written comments and recommendations of the Commissioner of Transportation and the County Highway Engineer have been received by the city or the prescribed 30 day period has elapsed without receipt of such comments and recommendations, as provided by Minn. Statutes, Section 505.03, Subd. 2.

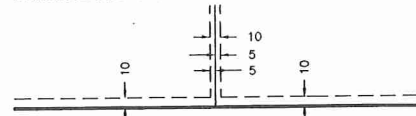
By *Ryan R. Schuchter* Mayor By *Ryan R. Schuchter* Clerk

Checked and approved this 7th day of MAY, 1997.

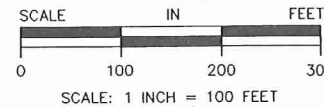
By *Merlyn D. Anderson*
Anoka County Surveyor
By *Larry S. Homin* Deputy



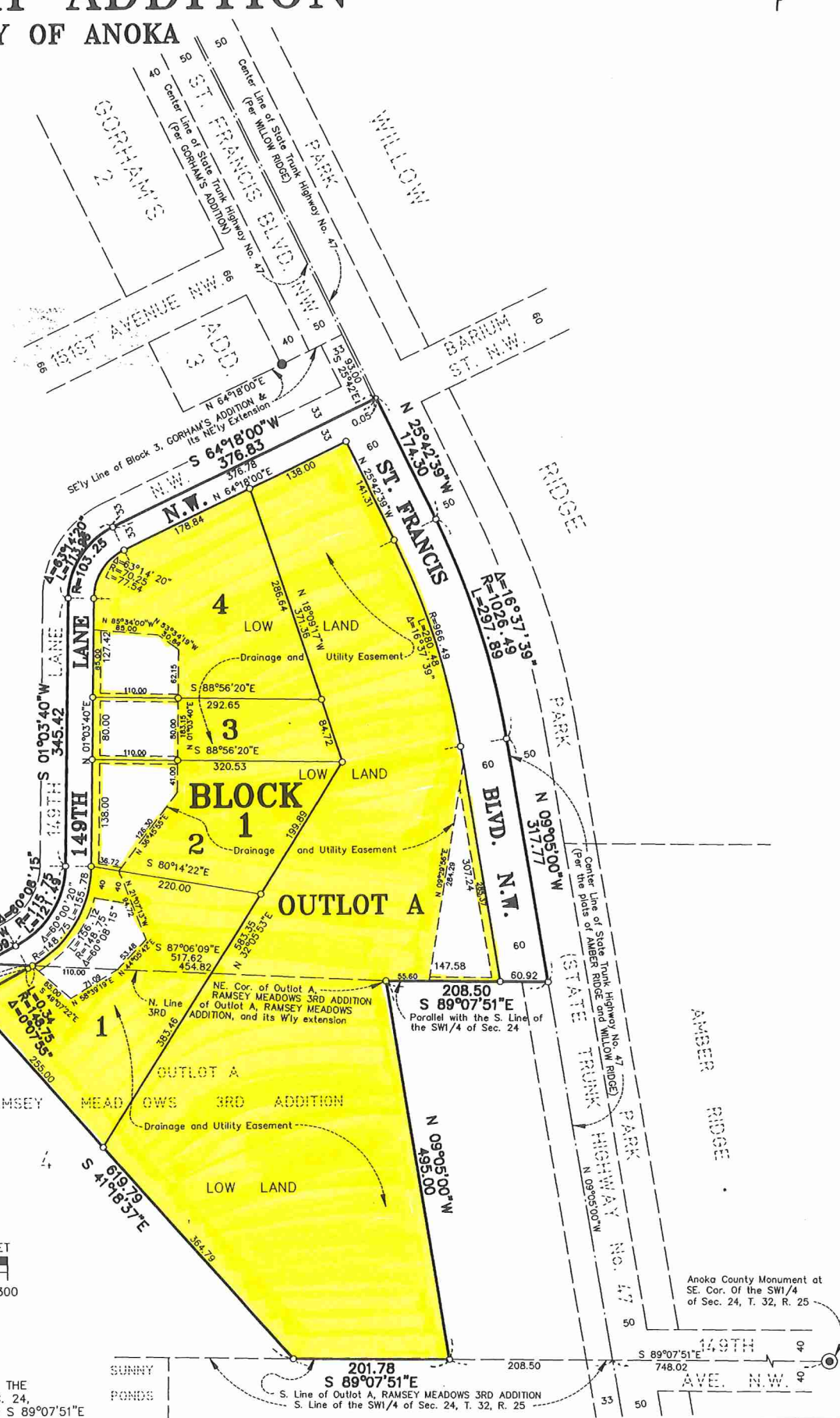
DRAINAGE AND UTILITY EASEMENTS SHOWN THUS:



BEING 10 FEET WIDE AND ADJOINING ALL STREET RIGHT-OF-WAY LINES AND REAR LOT LINES AND 5 FEET WIDE AND ADJOINING ALL SIDE LOT LINES, UNLESS OTHERWISE SHOWN ON THE PLAT.



● DENOTES IRON MONUMENT FOUND.
○ DENOTES 1/2 INCH IRON PIPE SET.
⊙ DENOTES ANOKA COUNTY MONUMENT.
NOTE: FOR THE PURPOSES OF THIS PLAT, THE SOUTH LINE OF THE SW1/4 OF SEC. 24, T. 32, R. 25 IS ASSUMED TO BEAR S 89°07'51"E



30997/\$24500

Public Works Committee

5. 7.

Meeting Date: 09/18/2012

By: Len Linton, Engineering/Public Works

Title:

Consider Stormwater Improvements at Rum River Hills Golf Course - A Continuation of Discussion Related to 2011 Flooding Concerns

Background:

Last summer the City experienced several significant rainfall events that lead to many localized flooding concerns, and resident complaints. The large volumes of precipitation that occurred over a short period of time appears to have elevated the groundwater within areas of the City, and prohibited the generous rate of infiltration that typically takes place in the Anoka sandplain. Throughout the summer and fall staff worked hard at registering and responding to the calls, and evaluating the situations on an individual basis to determine whether quick fixes could be implemented (culvert obstructions, re-ditching, etc.) to alleviate the immediate concerns.

This item was discussed at the Public Works Committee on August 15, 2011, and at that time staff summarized the areas of concern that were being investigated based upon citizen complaints received. The attached summary was presented at the meeting; which outlines the concern identified, actions steps to evaluate the concern, additional investigations that would be necessary to fully understand the situation, and recommendations for specific projects that could be implemented rather quickly and inexpensively. At that time we classified the issues into 3 categories:

1.
Those that required no further action. They were evaluated and corrected, or did not need correcting because the water was fully contained within a dedicated drainage & utility easement (functioning as designed).

2.
Those that required additional investigation and evaluation before deciding on a long term solution, and implementing corrective actions.

3.
Those that had an identified recommendation for immediate action.

At that meeting the Committee briefly discussed the areas of concern, and directed staff to prepare plans and specifications for the items identified in category 3. Once this direction was ratified by the City Council on September 13, 2011, and the plans completed, it was too late in the season to secure bids and complete the improvements in 2011. It was then decided to delay construction until 2012, where some of the improvements could be completed by inclusion in the street maintenance program. Staff is in the process of finalizing plans for these items and intends to solicit quotes for the improvements this spring/summer. Depending on the direction staff receives for potential improvements to alleviate some of the outstanding concerns identified over the next couple of months, additional plans can be incorporated into one plan set for bidding.

Notification:

The Golf Course representatives have been notified of the meeting and have received a copy of the agenda. They plan on attending the meeting.

Observations:

Rum River Hills Golf Club is located east of Trunk Highway 47 at 167th Avenue NW. Several areas were evaluated and summarized in the report. The golf course was platted in the early 1980's, and at that time linear drainage and utility easements were secured on the site to encumber areas where off-site stormwater was routed through the site. Many areas of the site experienced flooding concerns last summer, and they were summarized at the May 15, 2012 Public Works Committee Meeting. A motion was made to recommend preparation of plans and specifications for storm drainage improvements at Rum River Hills Golf course. Hakanson Anderson has

prepared the plans and specifications and their design will be presented tonight.

Four areas were identified as need improvement, each will be discussed in detail along with the proposed improvements.

Area 1 (Pond adjacent to Hole #1)

There is a large pond along the west side of hole #1. This pond receives runoff from the area west of TH 47 and discharges through a 12" pipe. This pipe was televised in 2011 and has sags and root intrusions. Stormwater modeling indicates this pipe is undersized for the drainage area. The existing pipe runs through an area between fairways then passes under a tee box and adjacent to and traps and a green before discharging to a ditch. The existing pipe is fairly close to the property line and there are several trees that provide screening for the adjacent properties that would need to be removed. Replacement of the pipe on its current alignment would require extensive restoration and temporary relocation of the tee box. An alternative alignment was selected which will cross the fairway instead of the green and avoid the tee box. This relocation will allow for construction of a surge pond at the downstream end of the pipe which will minimize erosion. This pond will be incorporated as a water feature on the course. The main pond serves as an extended supply for the course irrigation system. An outlet control structure with a removable weir will be installed to allow regulation of the water level in the pond. The realignment will require removal of several large trees. The existing drainage and utility easement will need to be revised to cover the new pipe.

The new outlet pipe will be increased to 18" from the current 12" size. Modeling of the existing system indicates the pond would be above normal water level for almost 4 days for the 100 year event, after installation of the new pipe the pond will be above normal water level for just over 2 days.

Area 2 (Ponds North and West of the Club House)

There are ponds northwest and north of the clubhouse. The northwest pond is connected to the north pond by a culvert under the cart path. The cart path is subject to flooding after a 2 inch rain event. The pipe will be replaced with 3 parallel pipes. The cart path will still be subject to flooding after a 4 inch rain event. The design process evaluated raising the elevation of the path; however, this could cause water to overflow the pond bank towards the clubhouse. The 2 inch rain event has a probability of once every 5 years, the 4 inch rain has a 10 year probability. Golf course representatives were contacted during the design process and they felt over topping the path during an event larger than the 10 year event would be acceptable.

The culvert under the path at the east end of the north pond will be replaced with twin pipes to provide better capacity and reduce the chance of over topping the path.

Area 3 (Area around Holes #15 and #16)

There is an existing metal weir across the ditch which provides drainage for the course. The ditch upstream of the weir has silted in and in some places is overgrown with vegetation. The plans propose lowering the weir by 6 inches, removing the decorative rock lining the ditch, lowering the grade of the ditch and replacing the rock.

The golf course will performing work work in area 3 to install draitile to address the the saturated soils on the fairway. They will also be stabilizing the pond dug during the summer of 2011. This pond was excavated to provide a drainage way for the saturated soils adjacent to the fairway.

Area 4 (Area around Holes #3 and #17)

This area receives drainage from an area north of the golf course. There are a series ponds connected by culverts that are in poor condition that will be replaced. Several of the culverts have shifted to the point where the downstream end is higher than the upstream end, which restricts flow. The connecting ditches will be cleaned and regraded as part of the project.

The proposed schedule is to bring this project to the September 25 City Council meeting for authorization to bid the project. The project would be advertised and opened and brought back to the City Council on October 23 for award of bids. Construction would occur in early November after the end of the golfing season and before frost sets in.

The estimate presented in May 2012 was \$50,000. The engineers estimate for the plans attached to the case is \$105,000. The review during the design process indicated the ditch upstream of the weir needed to be cleaned and lowered in order to pass the anticipated storm events. The plans also include replacing additional culverts connecting ponds under cart paths. These items were not anticipated when the initial estimate was prepared.

The plans are attached to the case and Hakanson Anderson will be present at the meeting to answer questions.

Funding Source:

The funding for this project will come from the Stormwater Utility Fund.

Staff Recommendation:

Staff recommends the Public Works Subcommittee approve moving forward with project and bring Plans and Specifications before the City Council meeting on September 25th for approval of plans and specs and authorization to advertise for bids.

Committee Action:

Motion to approve moving forward with project and bring Plans and Specifications before the City Council meeting on September 25th for approval of plans and specs and authorization to advertise for bids.

Attachments

Plans

Form Review

Inbox	Reviewed By	Date
Hakanson Anderson Engineering	Shane Nelson	09/13/2012 04:04 PM
Grant Riemer	MaryJo Warner	09/13/2012 04:09 PM
Kurt Ulrich	MaryJo Warner	09/13/2012 04:09 PM
Form Started By: Len Linton		Started On: 09/12/2012 09:18 AM

Final Approval Date: 09/13/2012

CITY PROJECT 12-28

CONSTRUCTION PLANS FOR RUM RIVER HILLS STORM SEWER REPLACEMENT

CITY OF RAMSEY

GOVERNING SPECIFICATIONS

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL APPLY.

ALL FEDERAL, STATE AND LOCAL LAWS, REGULATIONS, AND ORDINANCES SHALL BE COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.

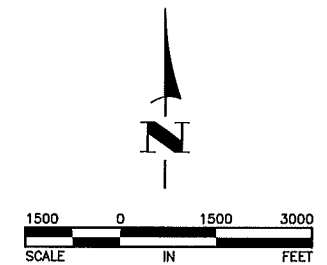
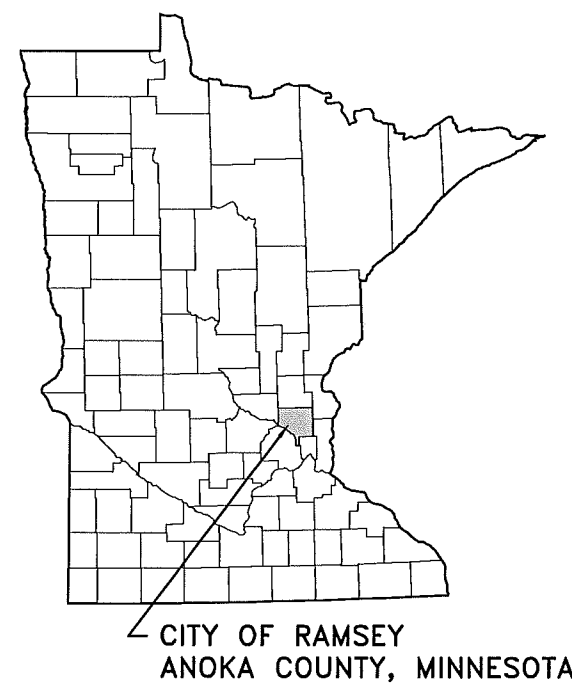
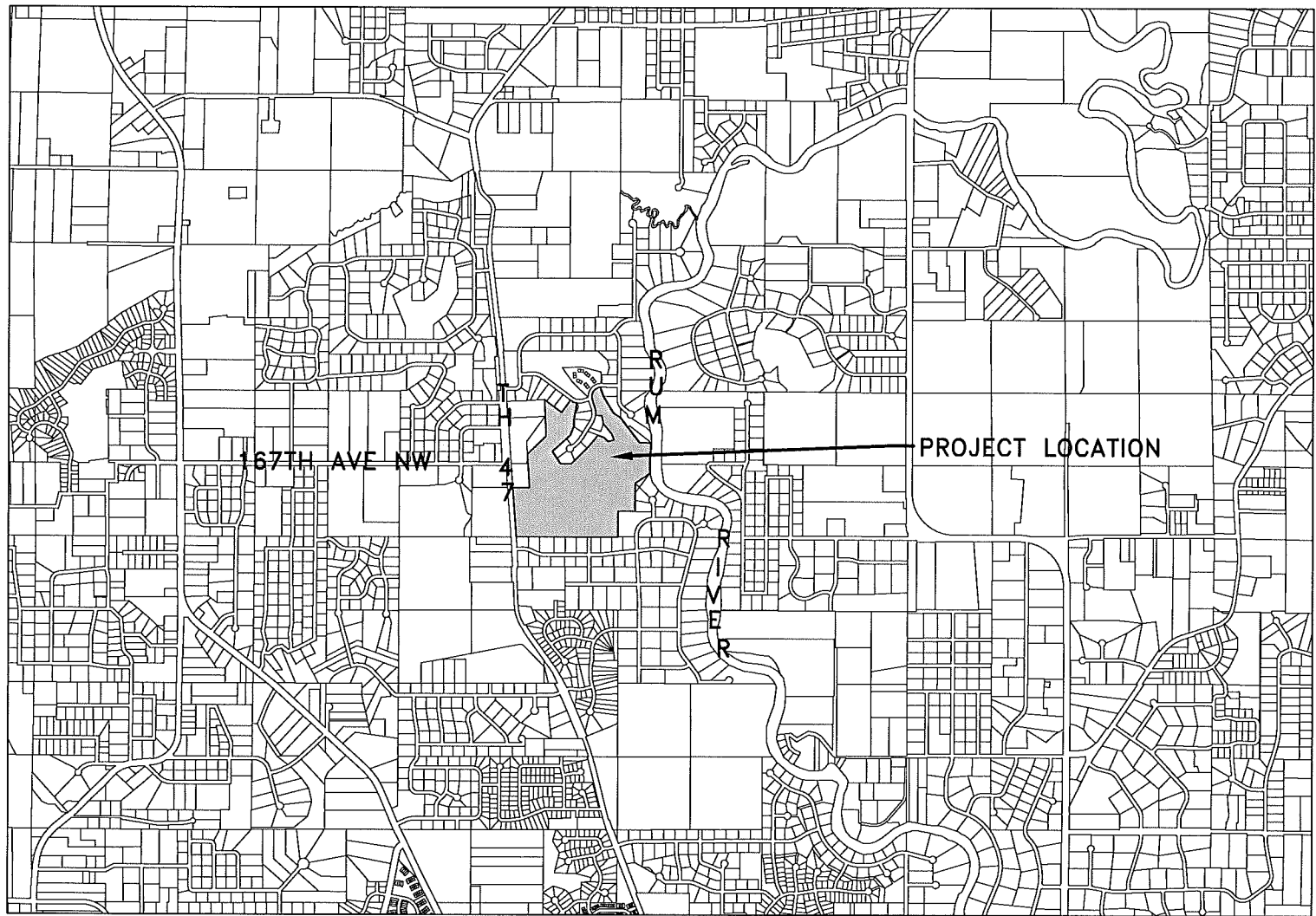
WORK SHALL CONFORM TO THE STANDARD UTILITY SPECIFICATIONS AS PUBLISHED BY THE CITY ENGINEERS ASSOCIATION OF MINNESOTA, 1999 REVISION.

ALL REQUIREMENTS OF THE PROJECT MANUAL FOR THE 2012 STREET MAINTENANCE PROJECT.

SHEET INDEX

THIS PLAN CONTAINS 8 SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	DETAILS AND ESTIMATED QUANTITIES
3	DETAILS
4	OVERALL SITE PLAN
5-8	STORM SEWER PLAN
X1-X2	DITCH GRADING CROSS SECTIONS



I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

 RONALD J. WAGNER, P.E.
 HAKANSON ANDERSON
 DESIGN ENGINEER

26052 DATE XX
 LIC. NO.

APPROVED

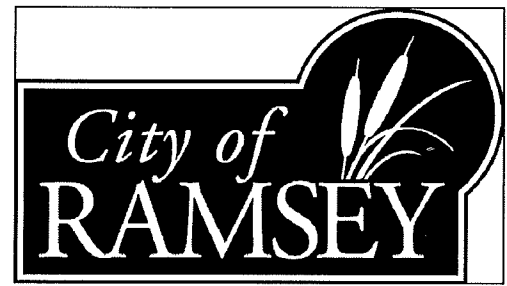
 SHANE M. NELSON, P.E.
 CITY OF RAMSEY ENGINEER

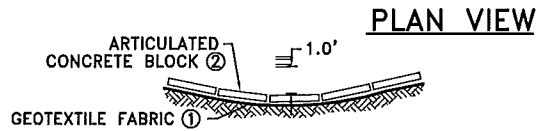
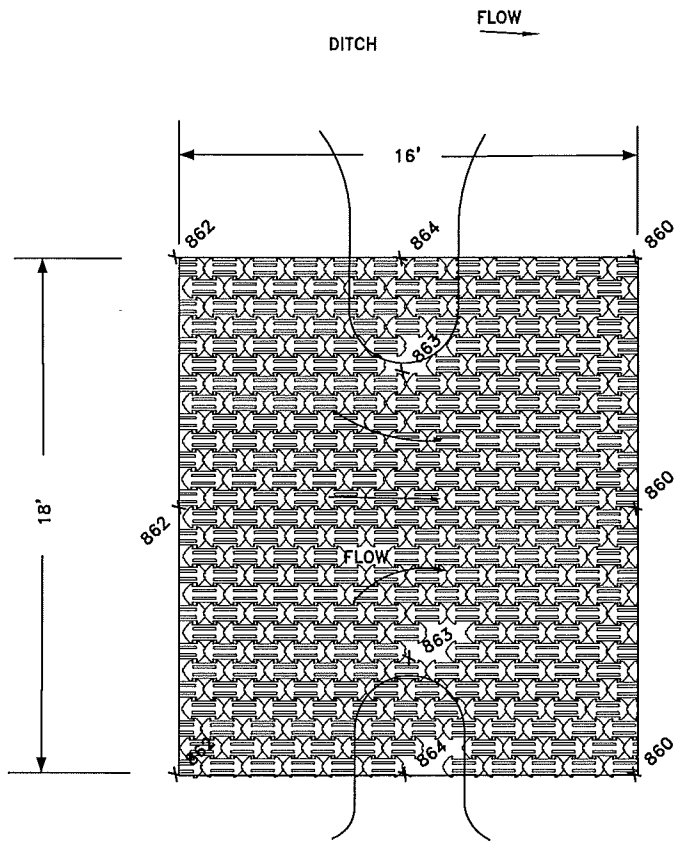
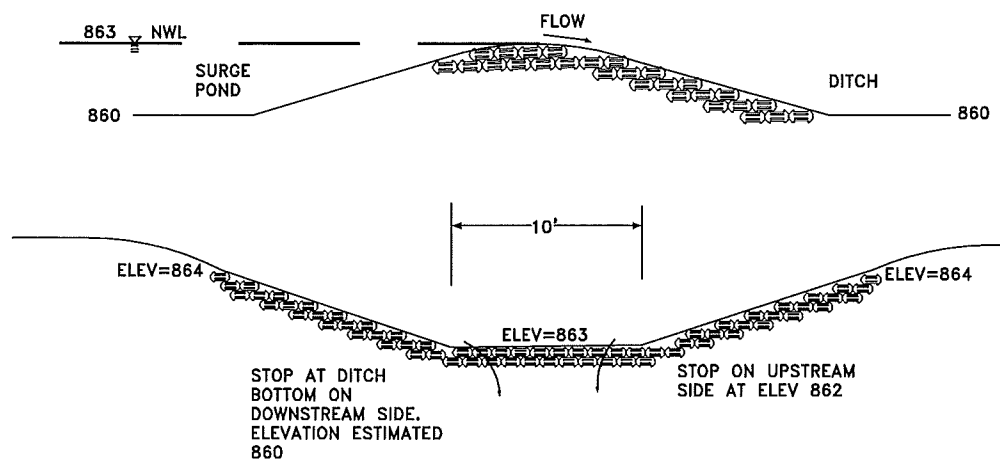
43381 DATE XX
 LIC. NO.

DATE	REVISION

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-2, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

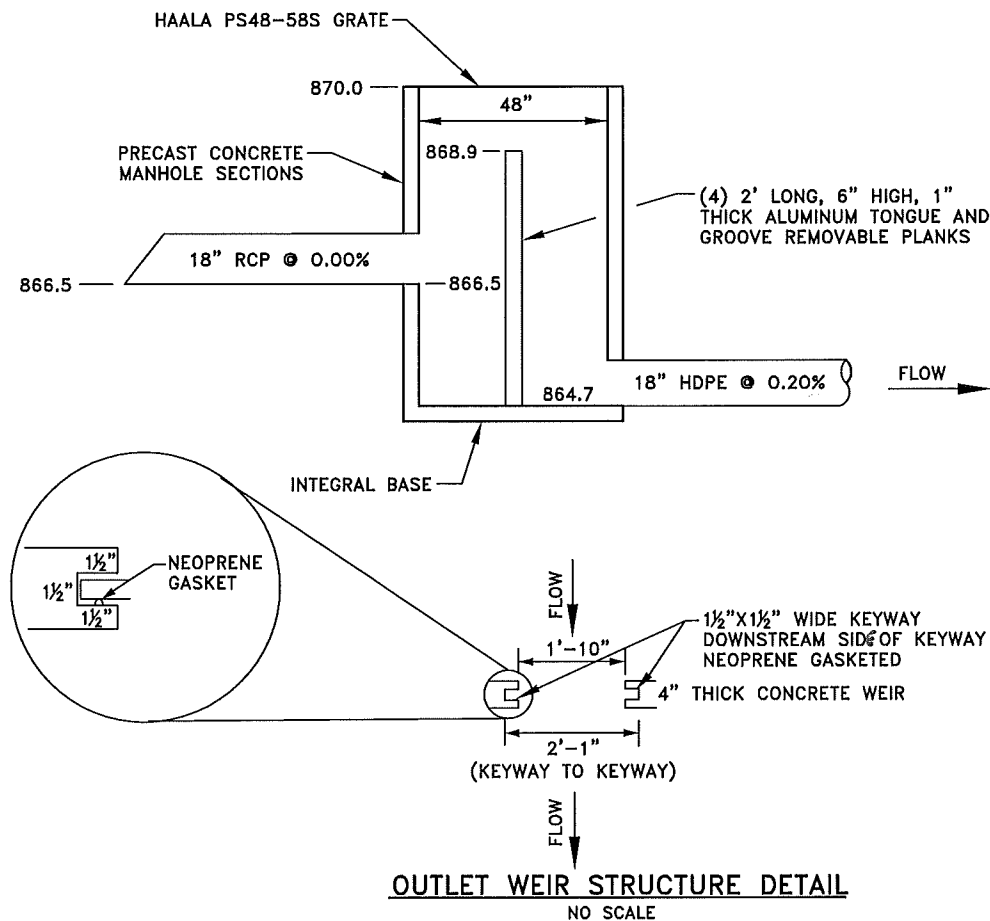
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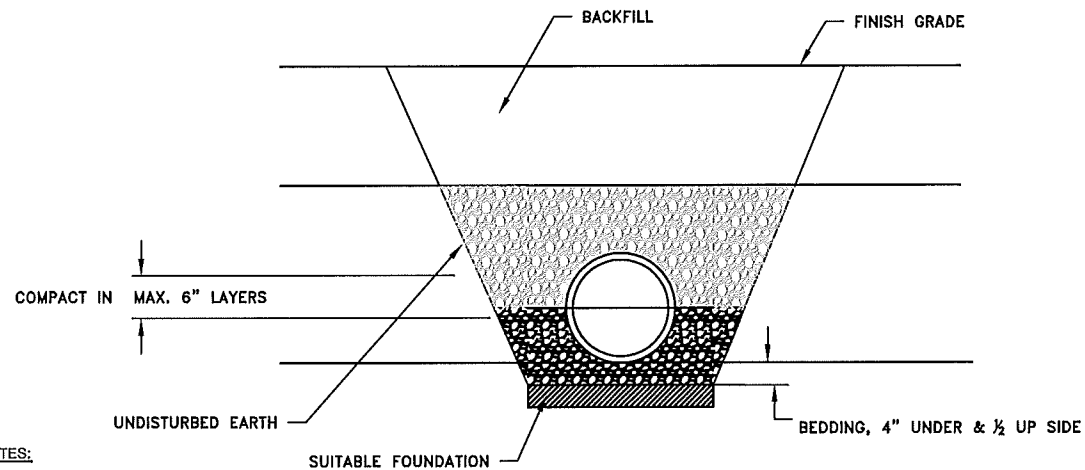


- ARTICULATED CONCRETE BLOCK SHALL BE A HANDPLACED INTERLOCKING CONCRETE BLOCK SYSTEM OR CABLE CONNECTED CONCRETE BLOCK MAT.
- ① GEOTEXTILE FABRIC PER Mn/DOT SPEC. 3733. FABRIC SHALL COVER THE AREA OF THE ARTICULATED BLOCK MAT.
 - ② IF A CABLE CONCRETE SYSTEM IS USED, MULTIPLE MATS MUST BE TIED TOGETHER PER MANUFACTURERS SPEC. AND ALL CABLES PROTRUDING BEYOND THE FINISHED EDGES SHALL BE CUT FLUSH TO THE BLOCK.

SURGE POND OVERFLOW DETAIL
NO SCALE



OUTLET WEIR STRUCTURE DETAIL
NO SCALE



NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION
3. **FOUNDATION:** WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER, AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
4. **BEDDING:** SUITABLE MATERIAL SHALL BE CLASS III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" UNDER THE PIPE.

HDPE PIPE INSTALLATION DETAIL
NO SCALE

ESTIMATED QUANTITIES

Schedule "A" - Removals and General Construction

Item No.	Description	Unit	Total Estimated Quantity
1	MOBILIZATION	LUMP SUM	1
2	CLEARING & GRUBBING (SEE NOTES)	LUMP SUM	1
3	COMMON EXCAVATION	CU YD	500
4	DITCH CLEAN (ROCK SLOPE DIRT BOTTOM)	LIN FT	550
5	DITCH CLEAN (ROCK BOTTOM)	LIN FT	200
6	DITCH CLEAN (DIRT BOTTOM & SLOPES W/SMALL TREES)	LIN FT	300
7	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LIN FT	78
8	REMOVE BITUMINOUS PAVEMENT	SQ FT	2,386
9	REMOVE MANHOLE OR CATCH BASIN	EACH	1
10	REMOVE 15" HDPE PIPE	LIN FT	50
11	REMOVE 12" HDPE PIPE	LIN FT	430
12	REMOVE 15" CM PIPE	LIN FT	69
13	AGGREGATE BASE CLASS 5	TON	65
14	TYPE LV2350B WEARING COURSE MIXTURE	SQ FT	2,386
15	SOD (FAIRWAYS)	SQ YD	386

Schedule "B" - Storm Sewer

Item No.	Description	Unit	Total Estimated Quantity
16	F&I 12" HDPE APRON	EACH	2
17	F&I 12" HDPE PIPE	LIN FT	32
18	F&I 15" HDPE APRON	EACH	6
19	F&I 15" HDPE PIPE	LIN FT	196
20	F&I 18" HDPE APRON	EACH	11
21	F&I 18" HDPE PIPE	LIN FT	1,052
22	F&I 24" HDPE APRON	EACH	12
23	F&I 24" HDPE PIPE	LIN FT	150
24	F&I 18" RC APRON	EACH	1
25	F&I 18" RC PIPE	LIN FT	9
26	CONSTRUCT WEIR MANHOLE	EACH	1
27	CONSTRUCT STORM MANHOLE	EACH	1
28	OVERFLOW-ARTICULATED CONCRETE BLOCK MAT	SQ YD	50
29	LOWER METAL DAM OVERFLOW	EACH	1
30	CONSTRUCT BULKHEAD	EACH	1

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DATE	REVISION

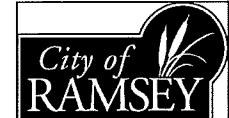
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RONALD J. WAGNER, P.E.
Date 8/22/12 Lic. No. 26052

DESIGNED BY: RJW
DRAWN BY: JAP
CHECKED BY: TAE

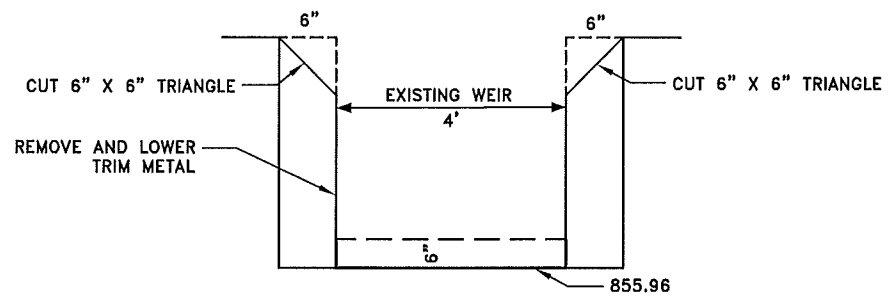


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Civil Engineers and Land Surveyors
3601 Thurston Ave., Anoka, Minnesota 55303
763-427-5860 FAX 763-427-0520
www.haa-inc.com



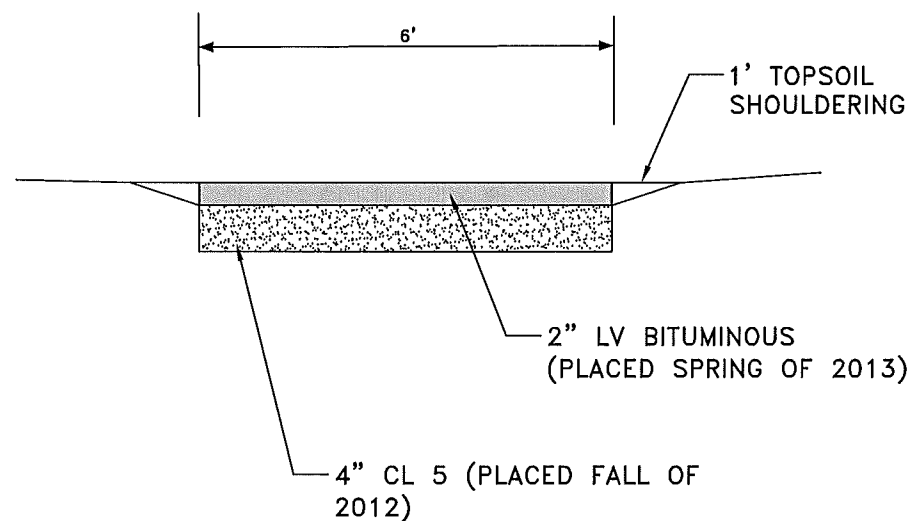
DETAILS AND ESTIMATED QUANTITIES
CITY PROJECT 12-28
RUM RIVER HILLS STORM SEWER REPLACEMENT
CITY OF RAMSEY, MINNESOTA

SHEET 2 OF 8 SHEETS
RA433



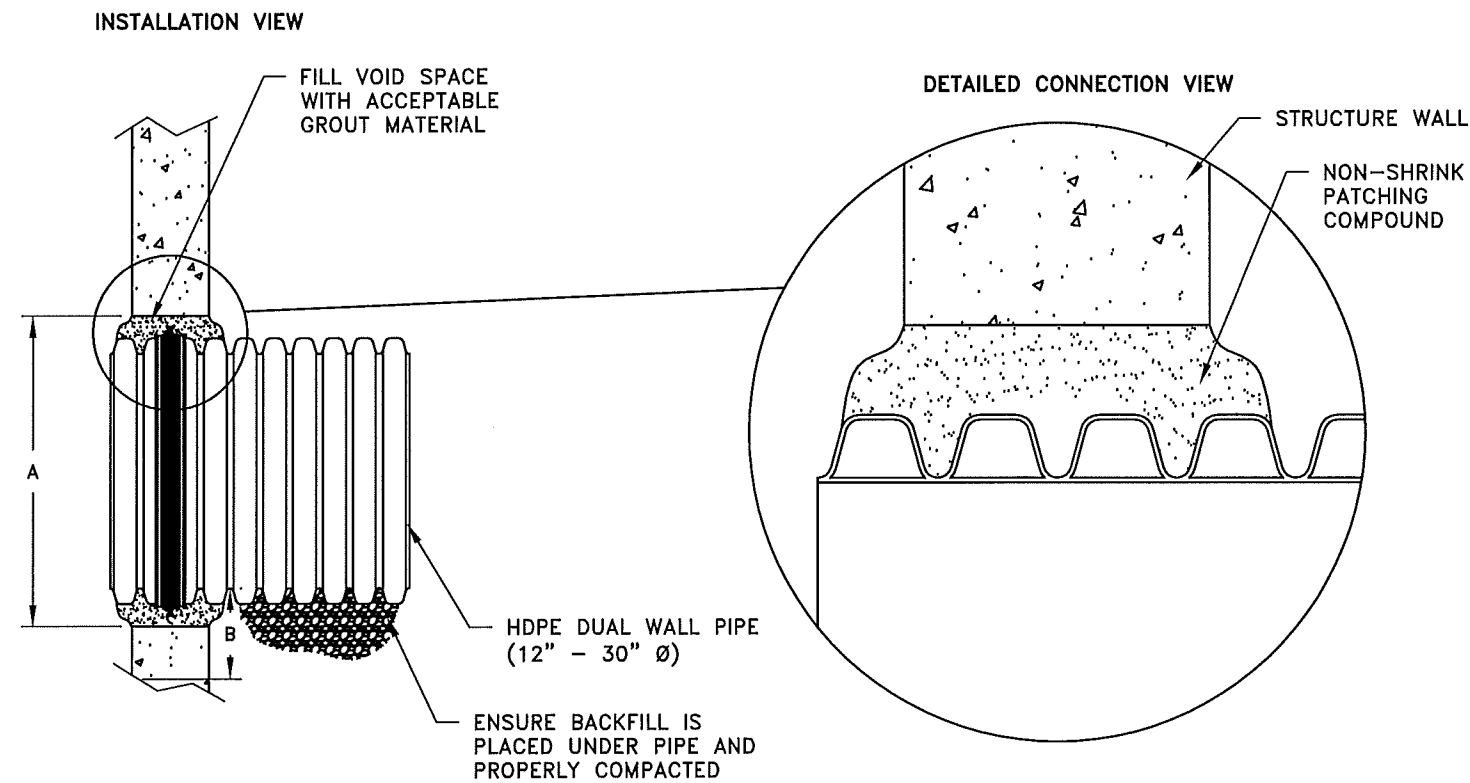
NOTE: PAINT ALL BARE METAL TO MATCH EXISTING.

WEIR STRUCTURE EXPANSION
NO SCALE



PATH DETAIL
NO SCALE

12"-60" HDPE STORM WATER GROUDED MANHOLE CONNECTION (DUAL WALL)



PIPE SIZE (IN)	PIPE OD (IN)	"A" MIN. HOLE Ø (IN)	"B" MIN. DISTANCE PIPE INVERT TO STRUCTURE INVERT (IN)
12	14.5	19.50	3.7
15	17.6	23.00	4.0
18	21.2	26.50	4.2
24	27.8	33.25	4.5
30	35.1	40.50	5.2
36	41.1	47.00	5.5
42	47.7	53.00	5.7
48	53.6	59.00	5.7
60	66.3	72.00	6.4

GROUDED WATERSTOP MANHOLE CONNECTION
NO SCALE

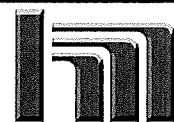
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DATE	REVISION

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Date 8/22/12 Lic. No. 26052

DESIGNED BY: RJW
DRAWN BY: JAP
CHECKED BY: TAE

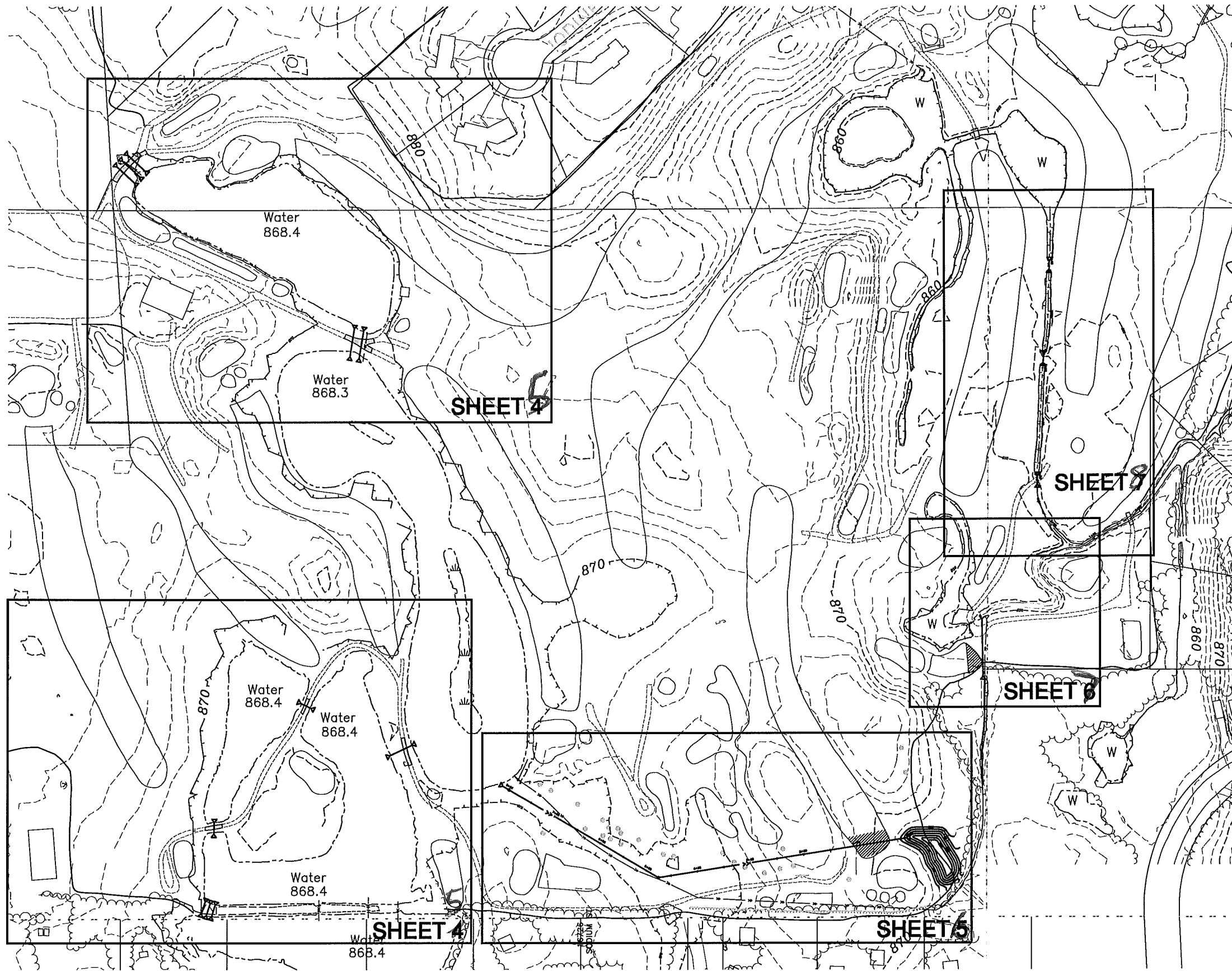


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3601 Thurston Ave., Anoka, Minnesota 55303
763-427-5860 FAX 763-427-0520
www.haa-inc.com

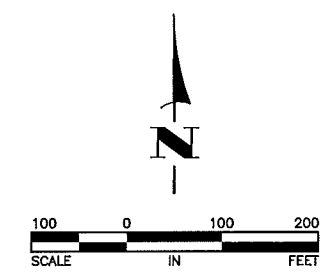


DETAILS
CITY PROJECT 12-28
RUM RIVER HILLS STORM SEWER REPLACEMENT
CITY OF RAMSEY, MINNESOTA

SHEET 3 OF 8 SHEETS
RA433



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 - >->- DENOTES PROPOSED STORM SEWER LINE
 - ▷ DENOTES PROPOSED FLARED END SECTION

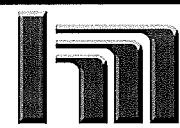


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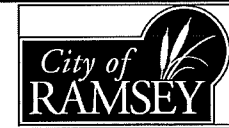
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 Date 8/22/12 Lic. No. 26052

DESIGNED BY: RJW
 DRAWN BY: JAP
 CHECKED BY: TAE

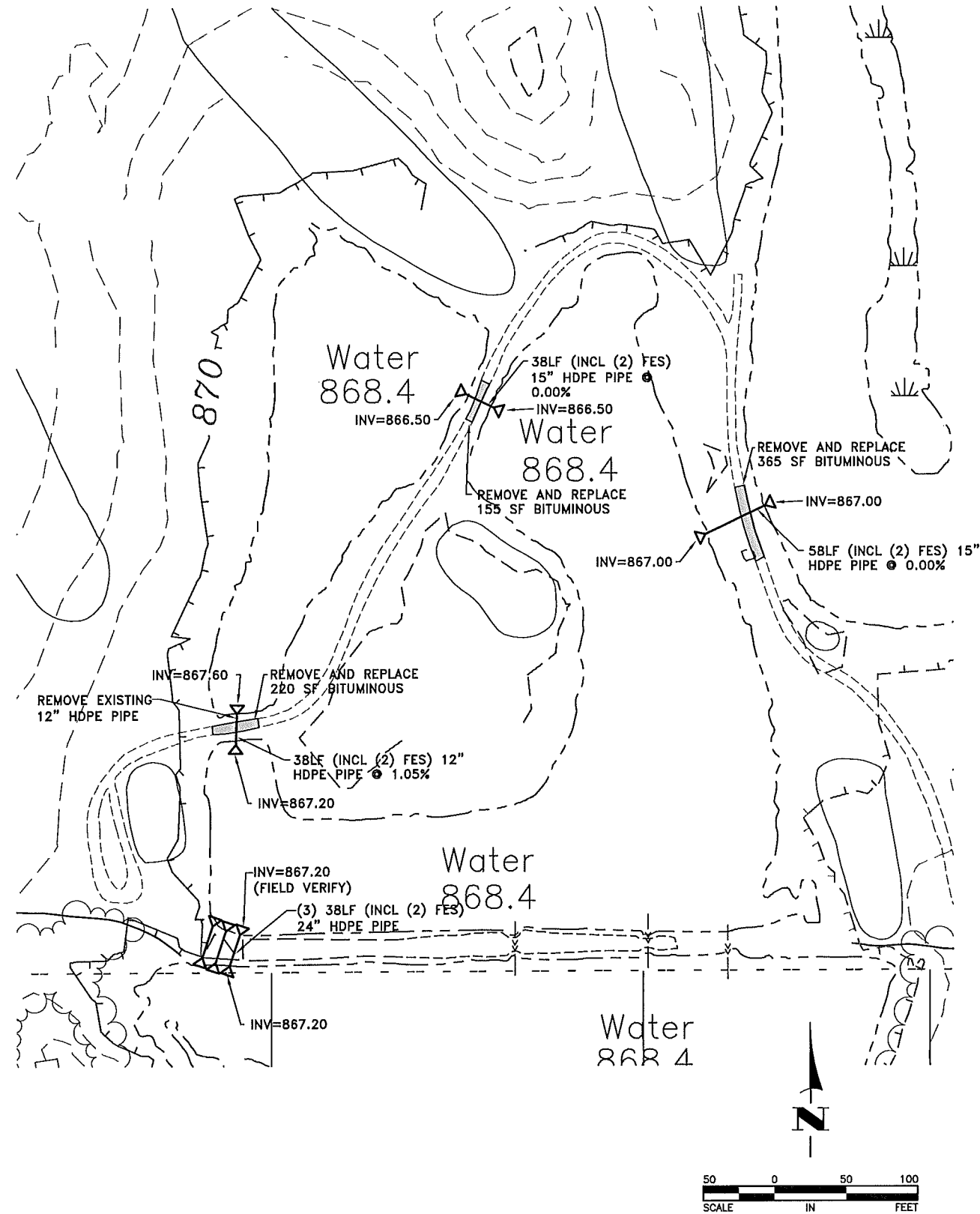
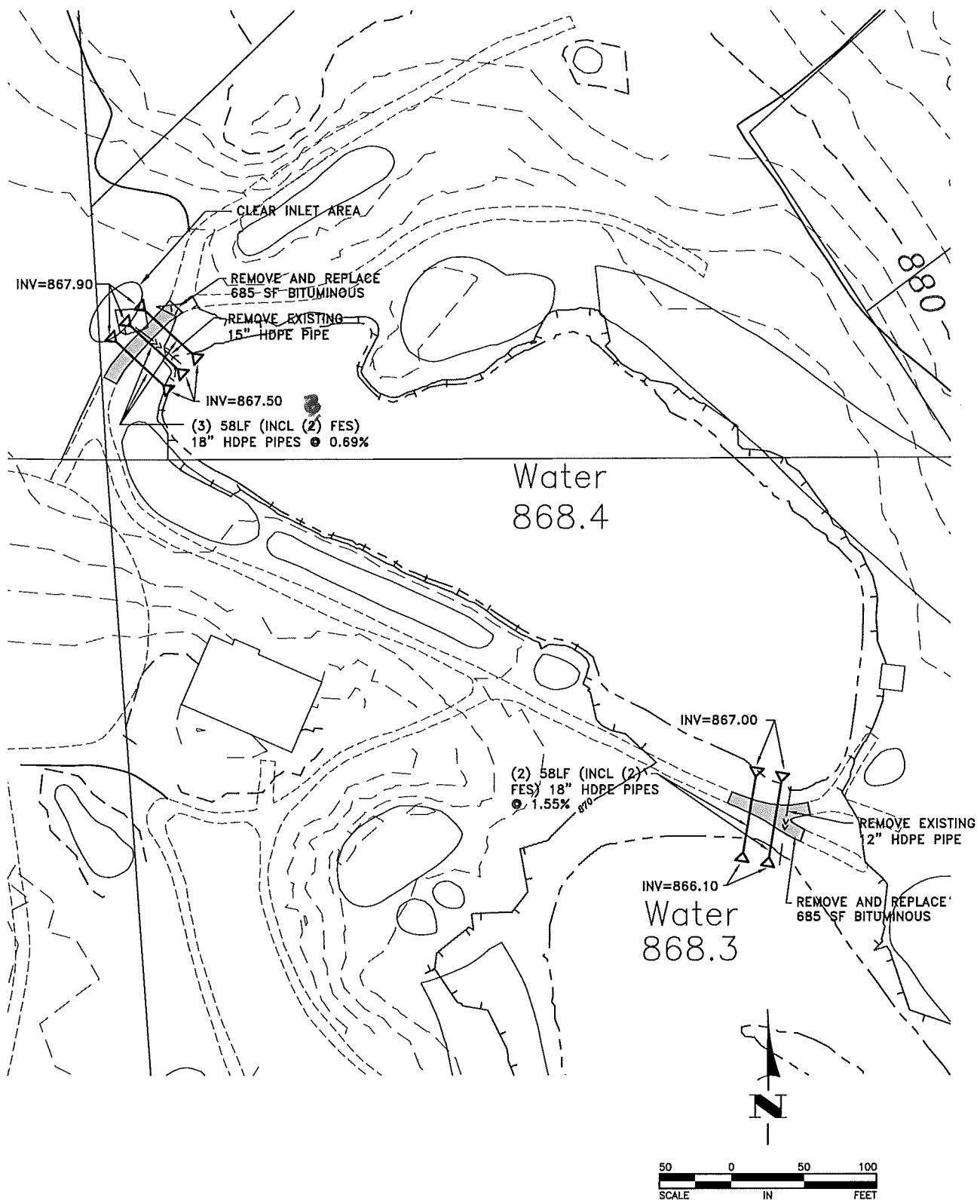


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 Civil Engineers and Land Surveyors
 3601 Thurston Ave., Anoka, Minnesota 55303
 763-427-5860 FAX 763-427-0520
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OVERALL PLAN
 CITY PROJECT 12-28
 RUM RIVER HILLS STORM SEWER REPLACEMENT
 CITY OF RAMSEY, MINNESOTA

SHEET 4 OF 8 SHEETS
 RA433



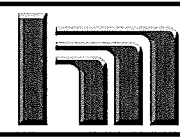
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DATE	REVISION

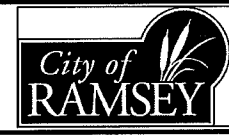
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 RONALD J. WAGNER, P.E.
 Lic. No. 26052
 Date 8/22/12

DESIGNED BY: RJW
 DRAWN BY: JAP
 CHECKED BY: TAE

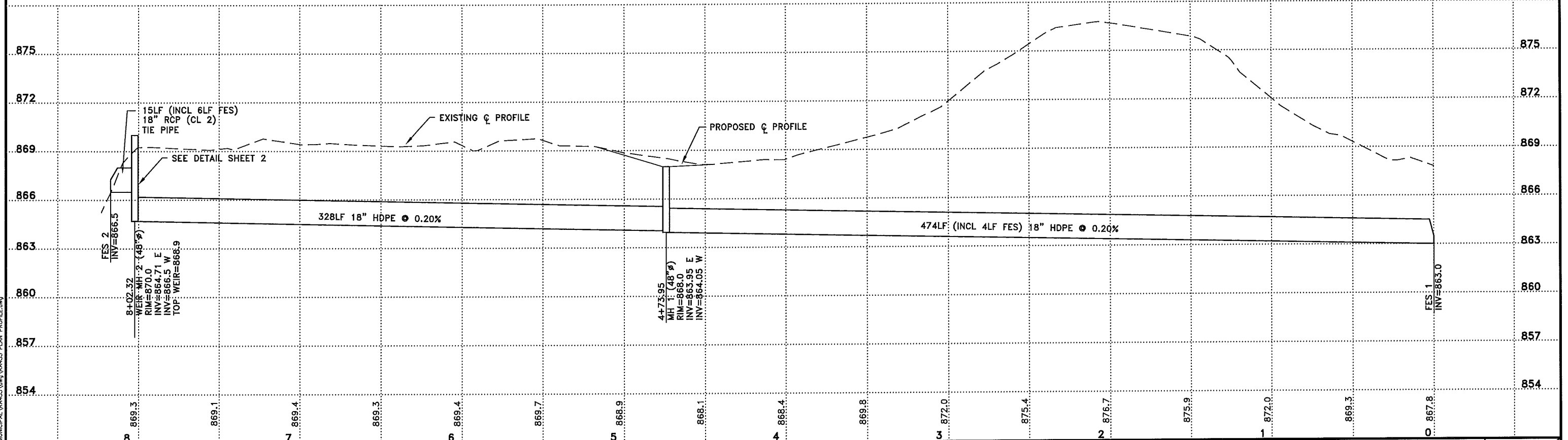
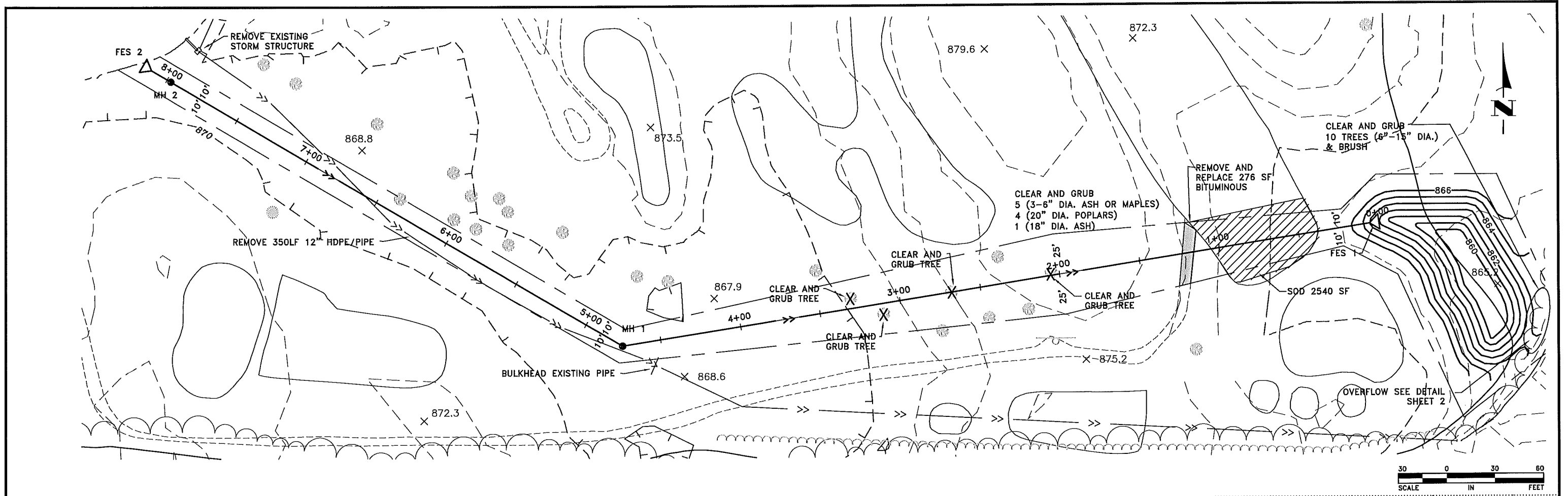


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STORM SEWER PLAN
 CITY PROJECT 12-28
 RUM RIVER HILLS STORM SEWER REPLACEMENT
 CITY OF RAMSEY, MINNESOTA

SHEET 5 OF 8 SHEETS
 RA433

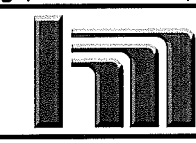


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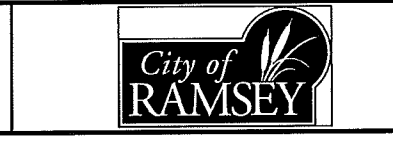
DATE	REVISION

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PRELIMINARY
 Date XX/XX/XX Lic. No. 26052

DESIGNED BY: RJW
 DRAWN BY: DMS
 CHECKED BY: RJW

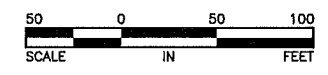
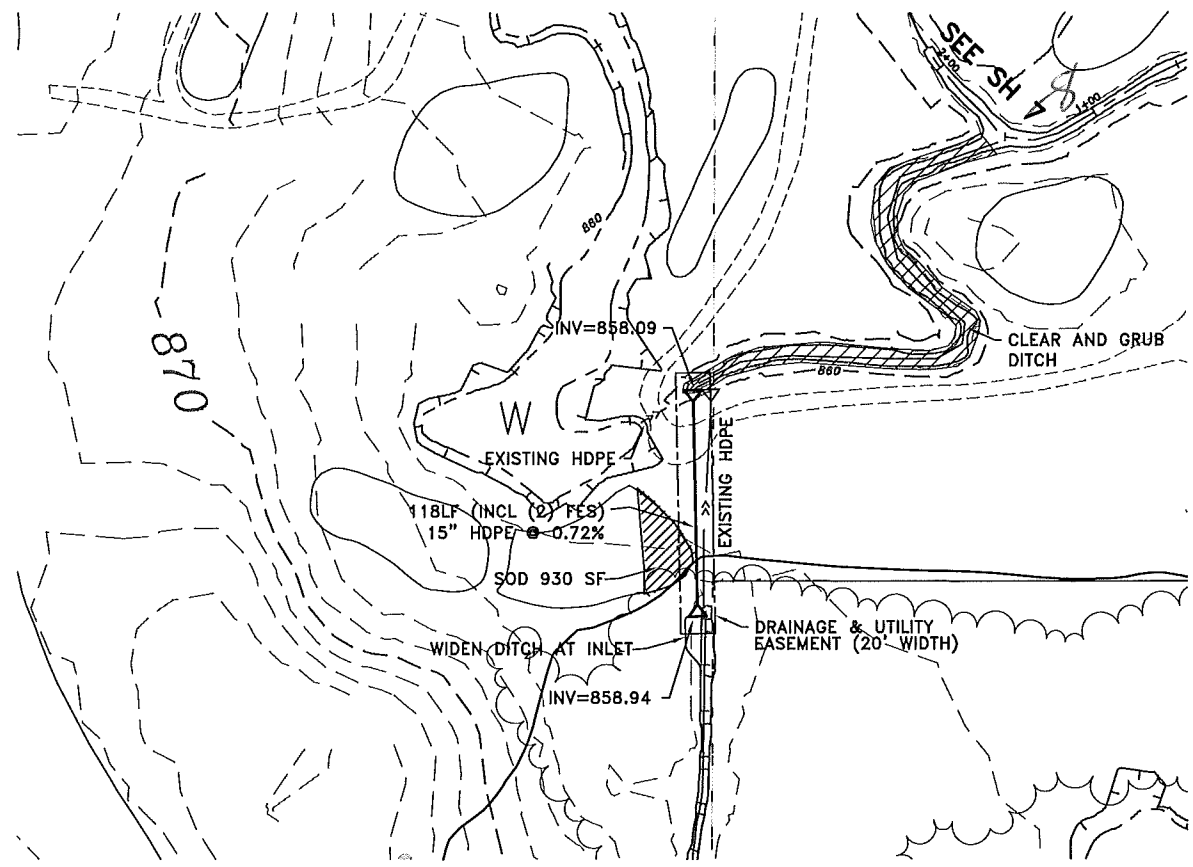


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 www.hakanson-anderson.com



STORM SEWER REPLACEMENT
 CITY PROJECT 12-28
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 CITY OF RAMSEY, MINNESOTA

SHEET 6 OF 8 SHEETS
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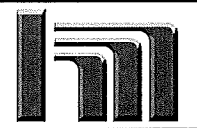
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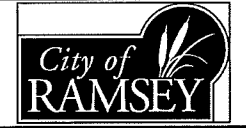
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 DRAWN BY: **JAP**
 CHECKED BY: **TAE**



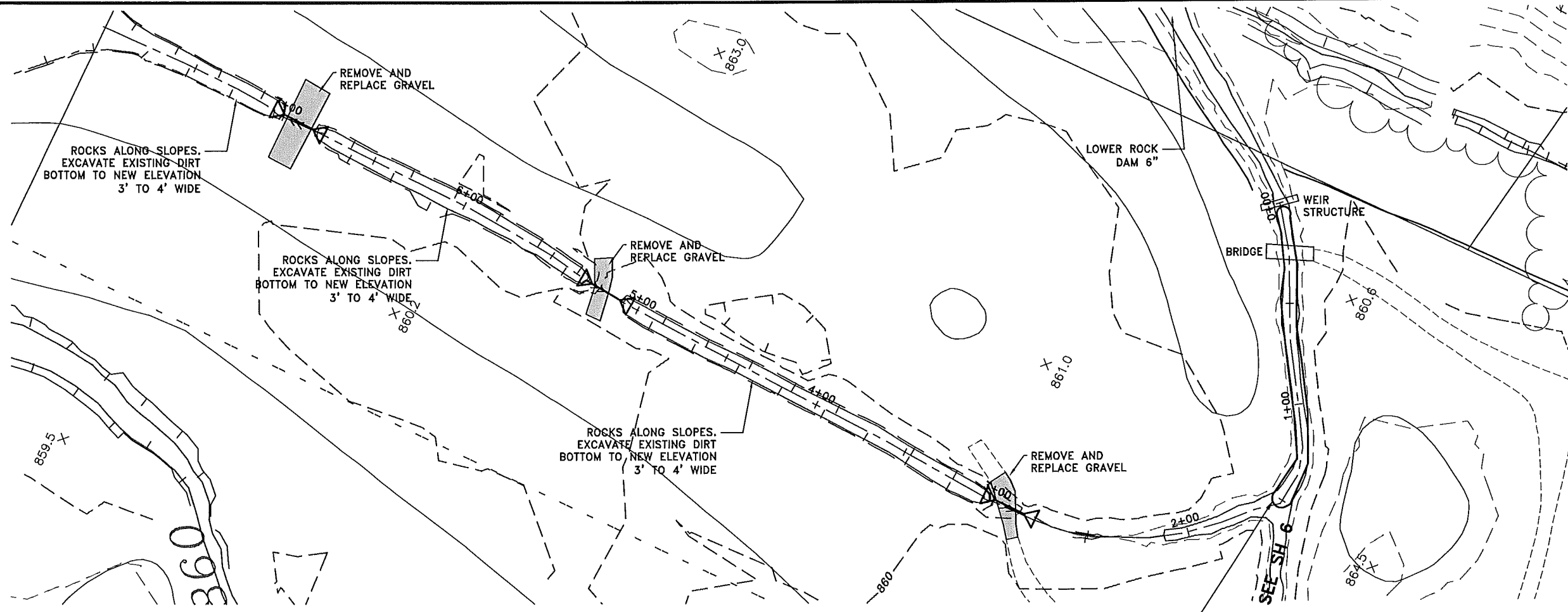
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RUM RIVER HILLS STORM SEWER REPLACEMENT
CITY OF RAMSEY, MINNESOTA

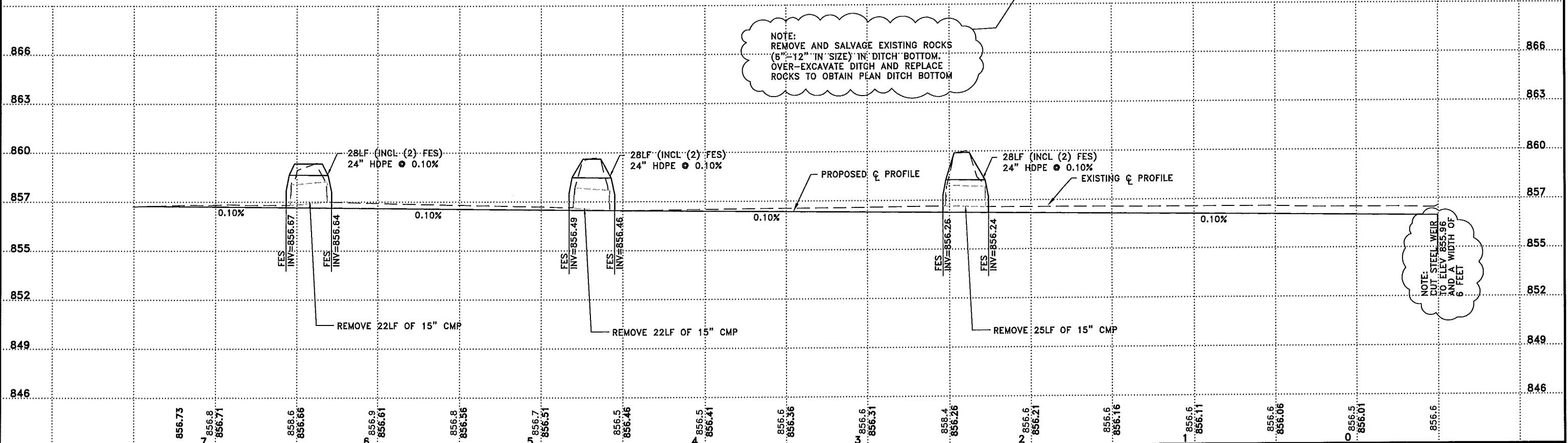
SHEET **7** OF **8** SHEETS

RA433



NOTE:
 REMOVE AND SALVAGE EXISTING ROCKS
 (6" - 12" IN SIZE) IN DITCH BOTTOM.
 OVER-EXCAVATE DITCH AND REPLACE
 ROCKS TO OBTAIN PLAN DITCH BOTTOM

NOTE:
 CUT STEEL WEIR
 TO ELEV 855.96
 AND A WIDTH OF
 6 FEET



Sep 10, 2012 - 8:16pm
 C:\Users\jwagner\Documents\Municipal\RA433\dwg\RA433_PLAN_PROFILE.dwg

DATE	REVISION

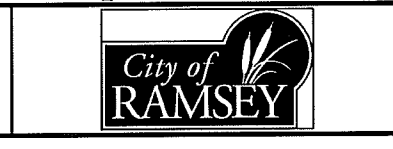
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

PRELIMINARY

RONALD J. WAGNER, P.E.
 Lic. No. 26052

DESIGNED BY: RJW
 DRAWN BY: DMS
 CHECKED BY: RJW

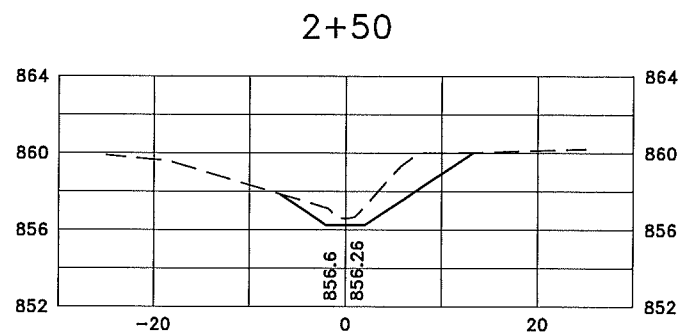
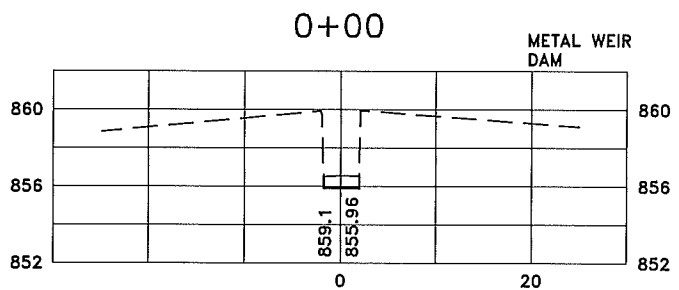
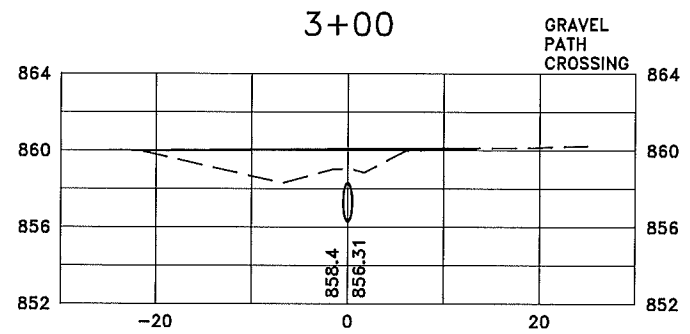
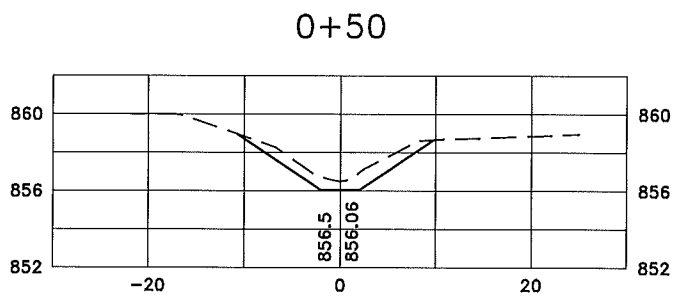
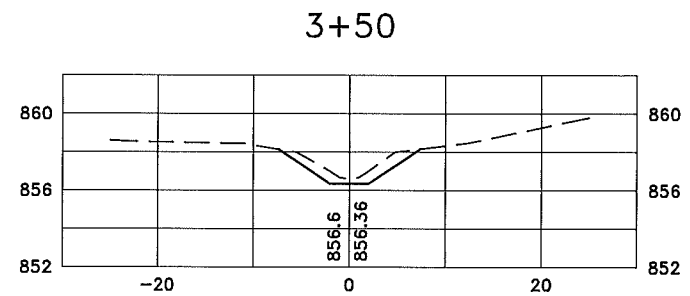
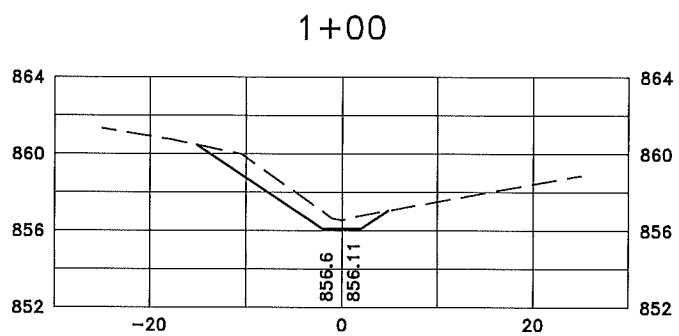
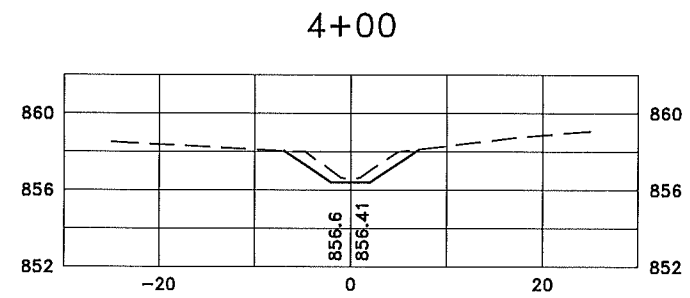
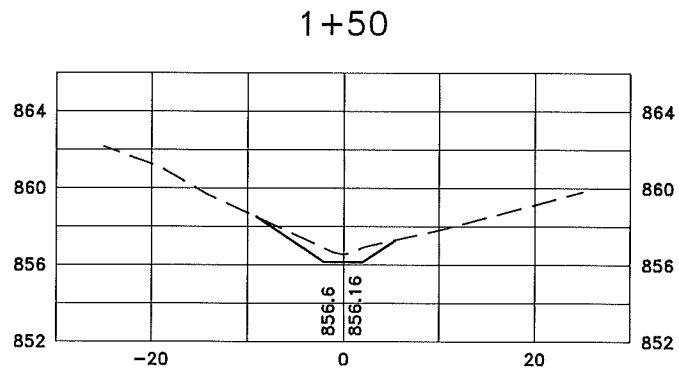
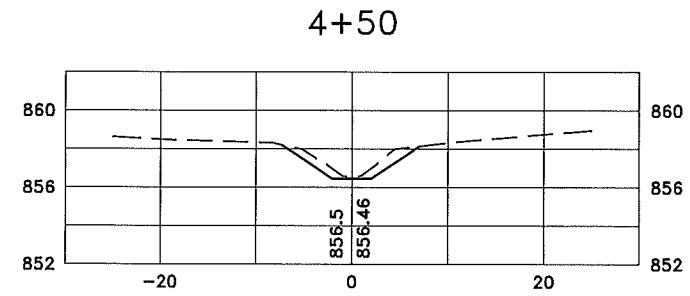
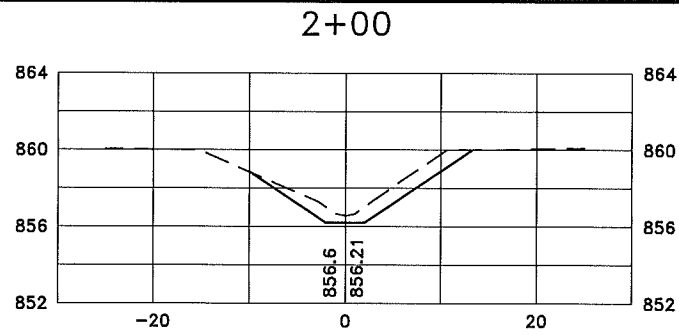
Hakanson Anderson
 Civil Engineers and Land Surveyors
 3601 Thurston Ave., Anoka, Minnesota 55303
 763-427-5860 FAX 763-427-0520
 www.hakanson-anderson.com



DITCH GRADING PLAN
 CITY PROJECT 12-28
 RUM RIVER HILLS STORM SEWER REPLACEMENT
 CITY OF RAMSEY, MINNESOTA

SHEET 8 OF 8 SHEETS
 RA433

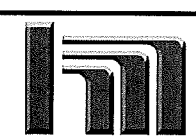
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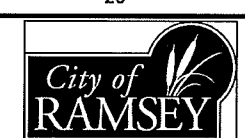
DATE	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Date 8/22/12 **RONALD J. WAGNER, P.E.**
 Lic. No. 26052

DESIGNED BY: **RJW**
 DRAWN BY: **JAP**
 CHECKED BY: **TAE**

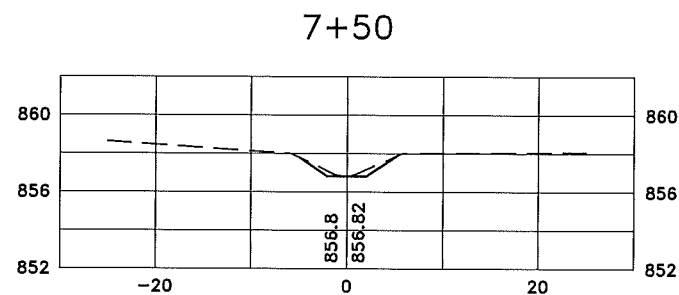
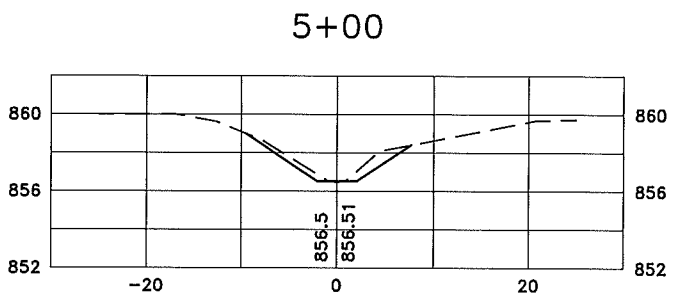
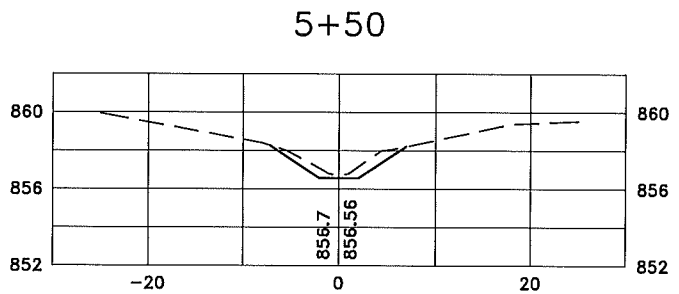
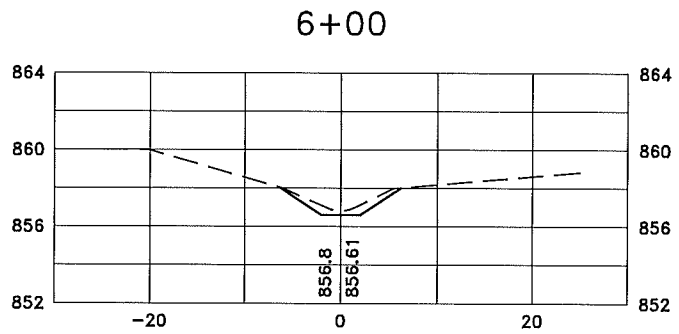
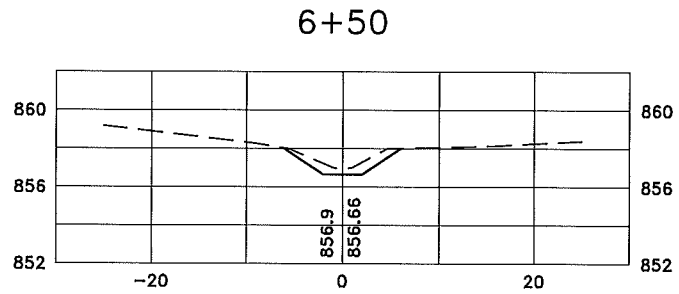
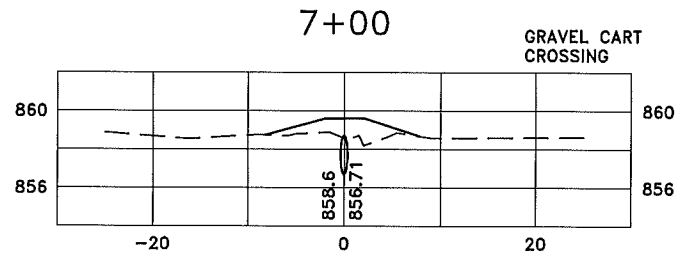


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CROSS SECTIONS
 CITY PROJECT 12-28
 RUM RIVER HILLS STORM SEWER REPLACEMENT
 CITY OF RAMSEY, MINNESOTA

SHEET **X1** OF **X2**
 SHEETS



Sep 10, 2012 8:15 PM
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DATE	REVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

RONALD J. WAGNER, P.E.
 Lic. No. 26052
 Date 8/22/12

DESIGNED BY:
RJW

DRAWN BY:
JAP

CHECKED BY:
TAE



Hakanson Anderson
 Civil Engineers and Land Surveyors
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CROSS SECTIONS
 CITY PROJECT 12-28
 RUM RIVER HILLS STORM SEWER REPLACEMENT
 CITY OF RAMSEY, MINNESOTA

SHEET
 X2
 OF
 X2
 SHEETS

Public Works Committee

5. 8.

Meeting Date: 09/18/2012

By: Shane Nelson, Engineering/Public Works

Title:

Sunwood Drive Project - Supplemental Agreement #1, Change Order #2 and Connexus Relocation Charges

Background:

Supplemental Agreement #1

The City Council previously approved the construction contract for City Project 12-20. This supplemental agreement addresses two items that were included in the original design, as follows:

Trail Width - The original plans included a 8' bituminous trail along the east side of Armstrong Blvd. For maintenance purposes, the City has determined that all trails should be 10' wide.

Drainage Along Armstrong - During the construction it was discovered that there is an elevation conflict between the two sets of plans. Essentially, the plans for Armstrong designed the east boulevard to existing ground. The design for Sunwood Drive and the COR TWO retail area depicted mass grading east of Armstrong to prepare the building sites for the COR TWO retail area. This resulted in approximately a 4 to 6 foot conflict in elevations, and created a drainage concern. Due to the mass grading, one catchbasin cannot be used as the depth is incorrect and there is no practical way to direct stormwater to that location when taking into consideration the COR TWO plat. After several design concepts and iterations, it was determined that the most feasible solution is extending the curb to the south 126' to prevent the runoff from Armstrong Blvd from sheet flowing onto the proposed parking area in the COR TWO.

The estimated cost increase associated with Supplemental Agreement #1 is \$5,001.

Change Order #2

This Change Order is associated with the large diameter outlet pipe from the North Commons project area to the newly excavated Lake Ramsey. Currently, the storm sewer is stubbed and is directly below the right turn lane on Bunker Lake Blvd. Extending the pipe will consist of lane closures on Bunker Lake Blvd, dewatering, installing a 108" diameter manhole, installing 210 LF of 73" Arch Pipe, bituminous patching, and other miscellaneous work. It will also be necessary to lower an existing watermain that will conflict with the storm sewer. The estimated cost of Change Order #2 is \$184,114.

Connexus Relocation Charges

We were recently informed by the development manager that the electric cabinet recently installed by Connexus is in a location that will obscure the proposed development signage for the COR TWO and must be relocated. The current location was well communicated by all parties at several weekly construction meetings. However, the attendees at the weekly construction meetings did not have knowledge that this same issue was discussed approximately one year earlier. The Development Manager has provided information showing that approved locations for cabinets had been provided to Connexus in 2011. Connexus has responded indicating that some alignments have changed and there were more recent communications regarding the cabinet locations. The estimated cost provided by Connexus to relocate the cabinet is \$10,620.

Notification:

Tom Keller from Connexus was notified and invited to attend

Observations:

Supplemental Agreement #1

These revisions are necessary in order to improve drainage patterns and ease of maintenance for the trail.

Change Order #2

The existing 73" Arch pipe is significant in size and appears to be sized for the 100-year event. However, the the original Storm Water Management plan for the Ramsey Town Center lacks a narrative and is not easy to interpret. Several things have changed since the original storm water management plan has been prepared, which may warrant a more in-depth analysis of the overall storm water system in the COR.

This pipe is not necessitated by the Sunwood / Armstrong project. It is more closely related to the North Commons project and the restrictions that currently exist on the open space. If completed, this storm sewer pipe will receive runoff from areas in addition to the North Commons project.

Connexus Cabinet Relocation Charges

The location of the cabinet will obscure the proposed development sign for the COR TWO as indicated by the Development Manager. If there is no alternative sites for the sign, the only alternative is to relocate the cabinet.

Funding Source:

The funding source for Supplemental Agreement #1 and the Connexus relocation charges would be from the project budget, and a request should be made to Connexus to reimburse costs commensurate with their responsibility for the error.

The funding source of Change Order #2 would be from the HRA and storm drainage fund.

Staff Recommendation:

We recommend approval of Supplemental Agreement #1.

We recommend further review and analysis of Change Order #2 by City staff and the Development Manager.

We recommend approval of relocating the Connexus cabinet.

Committee Action:

Motion to reccomend approval of Supplemental Agreement #1.

Motion to recommend that further analysis be performed to evaluate the contemplated development patterns in the overall drainage area, associated runoff rates and volumes, and required storm sewer pipe sizes.

Motion to reccomend relocation of the Connexus cabinet and a request be made to Connexus for the appropriate level of reimbursement of cost.

Attachments

Supplemental Agreement

Change Order #2

Change Order Pricing

Form Review

Inbox	Reviewed By	Date
Grant Riemer	Grant Riemer	09/12/2012 12:11 PM
Kurt Ulrich	Kurt Ulrich	09/13/2012 03:04 PM
Form Started By: Shane Nelson		Started On: 09/06/2012 08:59 AM
Final Approval Date: 09/13/2012		

STATE AID FOR LOCAL TRANSPORTATION
 SUPPLEMENTAL AGREEMENT

SAP 199 – 020 - 010	Minn. Proj. No. ()	SA No. 1
Project Location: CSAH 83 & Sunwood Drive, Ramsey, MN		
Local Agency: Ramsey	Local Project No: 12-20	
Contractor: North Pine Aggregate, Inc.	Contract No.	
Address/City/State/Zip: 14551 Lake Drive NE, Forest Lake, MN 55025		
Total Supplemental Agreement Amount \$ + 5001.00		

This contract is between City of Ramsey and the Contractor as follows:

WHEREAS: This Contract provides for, among other things, Grading, Bituminous surfacing, Storm Sewer, Concrete Curb and Gutter, Bituminous Trail, Signing, and Traffic Control

WHEREAS: The City of Ramsey is requesting that the Bituminous Trail along the east side of CSAH 83 be widened to 10 feet from 8 feet, and be realigned to avoid in-place utilities. The Boulevard will also be revised from 10 feet to 8 feet.

WHEREAS: The City of Ramsey is requesting that the east curb line along CSAH 83 be extended to the south by 126 feet to improve drainage.

WHEREAS: The Engineer has determined that these revisions will improve off highway drainage along the east side of CSAH 83 as well as avoid in-place utilities that would be costly to relocate.

NOW, THEREFORE, IT IS HEREBY MUTUALLY AGREED AND UNDERSTOOD THAT:

1. The contractor shall provide all materials, labor, equipment, traffic control, and mobilization necessary for these design revisions.
2. The work of this supplemental agreement will be in accordance with the pertinent portions of the plan, the special provisions, the Mn/DOT Standard Specifications, Mn/DOT Standard Plates, the nineteen (19) 11" x 17" revised plan sheets dated 08/22/12 (originally signed 04/03/12) identified as Plan Sheet Nos. 3R, 5R, 7R, 9R, 10R, 14R, 74R, 75R, 136R, 137R, 139R, 140R, 141R, 142R, 143R, 144R, 145R, 146R, and 147R and as directed by the Engineer.
3. By signing the Supplemental Agreement No. 1, the Contractor acknowledges receipt of the nineteen (19) 11" x 17" revised plan sheets (dated 08/22/12) that are incorporated into this Supplemental Agreement No. 1 by reference.
4. All pay items associated with the Supplemental Agreement #1 will be paid at the Contract Unit Price as shown in the Estimate of Cost.
5. Contract time will not be revised except as provided under the Contract Provisions of Mn/DOT Specification 1806.

STATE AID FOR LOCAL TRANSPORTATION
SUPPLEMENTAL AGREEMENT

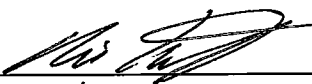
Rev. July 2010

Page 2 of 2

6. If the Contractor incurs unknown and unanticipated additional work that affects costs or impacts the critical path, the Contractor reserves the right to request an additional adjustment to the contract amount or contract time in accordance with MnDOT 1402.

ESTIMATED INCREASE IN COST - SAP 199-020-010 / CP 12-20					
Item No.	Description	Unit	Unit Price	Quantity	Amount
2105.523	COMMON BORROW (CV) (P)	CU YD	\$3.75	290	\$1,087.50
2521.511	2" BITUMINOUS WALK	SQ FT	\$1.30	1665	\$2,164.50
2531.501	CONCRETE CURB AND GUTTER DESIGN B424	LIN FT	\$13.25	132	\$1,749.00
					\$0.00
TOTAL INCREASES SAP 199-020-010 / CP 12-20					\$5,001.00

TOTAL ADJUSTMENT SAP 199-020-010 / CP 12-20	\$5,001.00
--	-------------------

Approved by Project Engineer:  Date: 8/24/12
 Print Name: Nicholas Hentges Phone: 612 360 1286

Approved by City Engineer: _____ Date: _____
 Print Name: _____ Phone: _____

Approved by Contractor: _____ Date: _____
 Print Name: _____ Phone: _____

Distribution: Project Engineer (Original), Contractor (copy), DSAE (copy for funding review)

DSAE Portion: The State of Minnesota is not a participant in this contract. Signature by the District State Aid Engineer is for FUNDING PURPOSES ONLY and for compliance with State and Federal Aid Rules/Policy. Eligibility does not guarantee funds will be available.

This work is eligible for: Federal Funding State Aid Funding Local funds

District State Aid Engineer: _____ Date: _____

ESTIMATED QUANTITIES

TAB	SHEETS	ITEM NUMBER	Description	Notes	Unit	PROJECT TOTAL ESTIMATED QUANTITY	S.A.P. 199-020-010 CSAH 83 (ARMSTRONG BLVD)	S.A.P. 199-020-010 CSAH 83 STORM SEWER	100% CITY NON-PARTICIPATING
							ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY
		2021.501	MOBILIZATION		LUMP SUM	1.00	0.58	0.07	0.35
		2031.501	FIELD OFFICE TYPE D		LUMP SUM	1.00	0.58	0.07	0.35
C, GB	8, 52	2101.502	CLEARING		TREE	53	50		3
C, GB	8, 52	2101.507	GRUBBING		TREE	53	50		3
G	21	2102.502	PAVEMENT MARKING REMOVAL		LINE FT	2250	2250		
C, GB	8, 52	2102.602	PAVEMENT MARKING REMOVAL - SPECIAL	(10)	EACH	9	9		
C	8	2104.501	REMOVE CONCRETE CULVERT		LINE FT	298	298		
C	8	2104.501	REMOVE METAL CULVERT		LINE FT	115	115		
C	8	2104.501	REMOVE SEWER PIPE (STORM)		LINE FT	119	4		115
C	8	2104.501	REMOVE CURB AND GUTTER		LINE FT	1139	239		900
C	8	2104.501	REMOVE CHAIN LINK FENCE		LINE FT	395	275		120
C	8	2104.503	REMOVE CONCRETE WALK		SQ FT	140			140
C, GB	8, 52	2104.505	REMOVE BITUMINOUS PAVEMENT	(1)	SQ YD	16430	10001		6429
	72	2104.509	REMOVE VEHICULAR GATE		EACH	1			1
C	8	2104.509	REMOVE CONCRETE APRON		EACH	6	6		
C	8	2104.509	REMOVE METAL APRON		EACH	6	6		
C	8	2104.509	REMOVE DRAINAGE STRUCTURE		EACH	2	2		
	72 - 73	2104.509	REMOVE SIGN TYPE C		EACH	16	12		4
N	109	2104.509	REMOVE SIGN TYPE SPECIAL		EACH	3			3
C	8	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)		LINE FT	20	4		16
C, G, GB	8, 21, 52	2104.513	SAWING BIT PAVEMENT (FULL DEPTH)	(1)	LINE FT	2224	1874		350
C, H	8, 68	2104.523	SALVAGE CASTING		EACH	5	2		3
C	8	2104.523	SALVAGE CATCH BASIN		EACH	2	2		
HH	68	2104.523	SALVAGE GATE VALVE & BOX		EACH	1			1
HH	68	2104.523	SALVAGE HYDRANT		EACH	1			1
	72	2104.523	SALVAGE SIGN TYPE SPECIAL	(13)	EACH	1	1		
	72	2104.523	SALVAGE VEHICULAR GATE		EACH	1			1
E, GF	9R, 53	2105.501	COMMON EXCAVATION	(P) (7)	CU YD	11119	10042		1077
E	9R	2105.507	SUBGRADE EXCAVATION	(P)	CU YD	2207	1486		721
E	9R	2105.522	SELECT GRANULAR BORROW (CV)	(P) (14)	CU YD	5861	4515		1346
E	9R	2105.523	COMMON BORROW (CV)	(P) (14)	CU YD	10227	9264		963
E, GF	9R, 53	2105.525	TOPSOIL BORROW (LV)	(P)	CU YD	3555	3117		438
		2105.601	DEWATERING		LUMP SUM	1			1
		2123.610	STREET SWEEPER (WITH PICKUP BROOM)	(3)	hour	95	95		
		2130.501	WATER	(2)	M GALLONS	100	100		

* SEE SHEETS 2A - 3A FOR SAP 199-104-010 ESTIMATED QUANTITIES

NOTES:

- (1) SEE TYPICAL SECTIONS FOR APPROXIMATE BITUMINOUS THICKNESSES.
- (2) TO BE USED AS DUST CONTROL AS DIRECTED BY THE ENGINEER (SEE SWPPP).
- (3) CONTRACTOR MUST HAVE A STREET SWEEPER ON SITE OR AVAILABLE WITHIN 3 HOURS OF REQUEST. TRACKED SEDIMENT MUST BE REMOVED FROM ALL OFF-SITE SURFACES PROMPTLY UPON DISCOVERY, OR AS DIRECTED BY THE CITY ENGINEER. SEE SWPPP NOTES FOR FURTHER INFORMATION.
- (4) SIGN PANELS PAID BY SQ. FT. INCLUDES FURNISHING AND INSTALLING OF THE SIGNS AND POSTS.
- (5) ENGINEER TO VERIFY FINAL LOCATIONS PRIOR TO PLACEMENT.
- (6) ALL BROKEN OR DOTTED LINES ARE PAID BY THE ACTUAL LENGTH OF LINE MARKED AND DO NOT INCLUDE THE LENGTH OF THE GAPS.
- (7) INCLUDES 6,182 CU YD OF TOPSOIL EXCAVATION.
- (8) FERTILIZER ANALYSIS 22-5-10
- (9) TO BE USED FOR TEMPORARY STABILIZATION OF DISTURBED AREAS AND STOCKPILES AS DIRECTED BY THE ENGINEER.
- (10) APPLIES TO PAVEMENT MESSAGE REMOVAL
- (11) HIGH EARLY CONCRETE
- (12) 2' X 3' BOX.
- (13) 8019 146TH AVE NW BUSINESS SIGN AND VEHICULAR GATE.
- (14) TO BE IMPORTED FROM THE LAKE RAMSEY BORROW AREA, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- (15) FOR 21" RC PIPE.
- (16) FOR USE ALONG THE CSAH 83 WEST R/W AT THE 801 146TH AVE NW PROPERTY.
- (17) 8019 146TH AVE NW PROPERTY. REMOVAL OF EXISTING SYSTEM IS INCIDENTAL.
- (18) 30 MPH
- (19) 55 MPH
- (P) DENOTES PLAN QUANTITY

BASIS FOR QUANTITIES

UNIT WEIGHT OF BITUMINOUS MIX.....	113 LBS/SY/IN
STREET SWEEPER.....	5 HOURS/WEEK
TURF ESTABLISHMENT	
- SEED MIXTURE 240.....	75 LBS/ACRE
- SEED MIXTURE 260.....	100 LBS/ACRE
- FERTILIZER TYPE 3.....	400 LBS/ACRE
- MULCH MATERIAL TYPE 1.....	2 TONS/ACRE

TABULATION INDEX

SHEET No.	TAB ID	DESCRIPTION
7R	A	BITUMINOUS & AGGREGATE
7R	B	CONCRETE
8	C	MISCELLANEOUS REMOVAL
8	D	TURF ESTABLISHMENT & EROSION CONTROL
9R	E	EARTHWORK SUMMARY
10R	F	EARTHWORK QUANTITIES
21	G	TRAFFIC CONTROL
52	GA	BYPASS BITUMINOUS & AGGREGATE
52	GB	BYPASS MISCELLANEOUS REMOVALS
52	GC	BYPASS TURF ESTABLISHMENT & EROSION CONTROL
52	GD	BYPASS PAVEMENT MARKINGS
52	GE	BYPASS CULVERT TABULATION
53	GF	BYPASS EARTHWORK SUMMARY & TABULATIONS
68	H	SANITARY SEWER
68	HH	WATERMAIN
87 - 89	I	STORM SEWER TABULATION
90	J	DRAINAGE STRUCTURE SUMMARY
90	K	STORM SEWER SUMMARY
90	L	CASTINGS
91	M	CULVERT TABULATION
109	N	REMOVE SIGN TYPE SPECIAL
109	O	SIGN PANELS TYPE C
109	P	DELINEATORS & MARKERS
109	Q	PERMANENT PAVEMENT MARKING
120	R	TRAFFIC SIGNAL ESTIMATED QUANTITIES

Date Printed: 8/23/2012
WSB Filename: K:\01973-010.cad\plan\CD020295.est.dgn

NO.	DATE	BY	CHK	REVISIONS
1	08/22/12	NEH	AJP	EAST SIDE TRAIL AND CURB LINE REVISED

Design By: NEH
 P1an By: CWK
 Checked By: AJP
 Approved By: NEH

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

CERTIFIED BY: *[Signature]*
 LICENSED PROFESSIONAL ENGINEER - RICHARDAS E. HENIGES, PE
 DATE: 04/03/12 L.I.C. NO: 44620

WSB
 & Associates, Inc.
 701 Xenia Avenue South, Suite 300
 Minneapolis, MN 55416
 www.wsbeng.com
 783-541-4800 - Fax 783-541-1700
 INFRASTRUCTURE • ENGINEERING • PLANNING • CONSTRUCTION

City of RAMSEY
 Armstrong Blvd at Sunwood Drive
 City of Ramsey, Minnesota

CITY OF RAMSEY, MINNESOTA

ESTIMATED QUANTITIES
 S.A.P. 199-020-010 / C.P. 12-20

SHEET
3R
 OF
153
 SHEETS

ESTIMATED QUANTITIES

TAB	SHEETS	ITEM NUMBER	Description	Notes	Unit	PROJECT TOTAL	S.A.P. 199-020-010 CSAH 83 (ARMSTRONG BLVD)	S.A.P. 199-020-010 CSAH 83 STORM SEWER	100% CITY NON-PARTICIPATING
						ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY	ESTIMATED QUANTITY
H, J	68, 90	2506.501	CONST DRAINAGE STRUCTURE DESIGN F		LINE FT	47.9		35.5	12.4
J	90	2506.501	CONST DRAINAGE STRUCTURE DESIGN G		LINE FT	11.7		11.7	
J	90	2506.501	CONST DRAINAGE STRUCTURE DESIGN H		LINE FT	3.8		3.8	
J	90	2506.501	CONST DRAINAGE STRUCTURE DES 48-4020		LINE FT	50.6		41.7	8.9
J	90	2506.501	CONST DRAINAGE STRUCTURE DES 60-4020		LINE FT	34.9		34.9	
J	90	2506.502	CONST DRAINAGE STRUCTURE DES SPECIAL	(12)	EACH	3		2	1
H, L	68, 90	2506.516	CASTING ASSEMBLY		EACH	20		17	3
H	68, 86	2506.521	INSTALL CASTING		EACH	5		2	3
H	68	2506.522	ADJUST FRAME & RING CASTING		EACH	1			1
H	68	2506.602	RECONSTRUCT MANHOLES		EACH	3			3
	86	2506.602	INSTALL CATCH BASIN		EACH	2		2	
K, M, GE	90, 91, 52	2511.501	RANDOM RIPRAP CLASS II		CU YD	24	18	6	
B	7R	2521.501	4" CONCRETE WALK		SQ FT	10129	10129		
A	7R	2521.511	2" BITUMINOUS WALK		SQ FT	8403	8403		
B	7R	2531.501	CONCRETE CURB & GUTTER DESIGN B418		LINE FT	1348	1348		
B	7R	2531.501	CONCRETE CURB & GUTTER DESIGN B424		LINE FT	1258	1203		55
B	7R	2531.501	CONCRETE CURB & GUTTER DESIGN B612		LINE FT	392			392
B	7R	2531.501	CONCRETE CURB & GUTTER DESIGN B618		LINE FT	779	123		656
B	7R	2531.507	6" CONCRETE DRIVEWAY PAVEMENT	(11)	SQ YD	6			6
B	7R	2531.602	CONC ENTRANCE NOSE DESIGN 7113		EACH	4	4		
B	7R	2531.604	6" CONCRETE VALLEY GUTTER	(11)	SQ YD	12			12
B	7R	2531.618	TRUNCATED DOMES		SQ FT	124	124		
G	21	2533.507	PORTABLE PRECAST CONC BARRIER DES 8337		LINE FT	300	300		
G	21	2533.508	RELOCATE PORT PRECAST CONC BAR DES 8337		LINE FT	380	380		
	47 - 48	2554.505	PERMANENT BARRICADES		LINE FT	64	64		
K, M, GE	90, 91, 52	2554.509	GUIDE POST TYPE B		EACH	12	8	4	
G	21	2554.615	IMPACT ATTENUATOR NO 1	(18)	ASSEMBLY	2	2		
G	21	2554.615	IMPACT ATTENUATOR NO 2	(19)	ASSEMBLY	1	1		
G	21	2554.615	RELOCATE IMPACT ATTENUATOR NO 2	(19)	ASSEMBLY	1	1		
	74R	2557.501	WIRE FENCE DESIGN 60-9322		LINE FT	150			150
		2557.522	METAL BRACE ASSEMBLY		EACH	6			6
		2557.527	ELECTRICAL GROUND		EACH	2			2
	74R	2557.602	INSTALL VEHICULAR GATE		EACH	1			1
		2563.601	TRAFFIC CONTROL		LUMP SUM	1.00	0.58	0.07	0.35
O	109	2564.531	SIGN PANELS TYPE C	(4) (5)	SQ FT	198.0	180.4		17.6
	74R	2564.537	INSTALL SIGN TYPE SPECIAL	(5) (13)	EACH	1	1		
P	109	2564.552	HAZARD MARKER X4-2	(5)	EACH	4	4		
P	109	2564.553	CLEARANCE MARKER X4-4	(5)	EACH	3	3		

* SEE SHEETS 2A - 3A FOR SAP 199-104-010 ESTIMATED QUANTITIES

NOTES:

- (1) SEE TYPICAL SECTIONS FOR APPROXIMATE BITUMINOUS THICKNESSES.
- (2) TO BE USED AS DUST CONTROL AS DIRECTED BY THE ENGINEER (SEE SWPPP).
- (3) CONTRACTOR MUST HAVE A STREET SWEEPER ON SITE OR AVAILABLE WITHIN 3 HOURS OF REQUEST. TRACKED SEDIMENT MUST BE REMOVED FROM ALL OFF-SITE SURFACES PROMPTLY UPON DISCOVERY, OR AS DIRECTED BY THE CITY ENGINEER. SEE SWPPP NOTES FOR FURTHER INFORMATION.
- (4) SIGN PANELS PAID BY SQ. FT. INCLUDES FURNISHING AND INSTALLING OF THE SIGNS AND POSTS.
- (5) ENGINEER TO VERIFY FINAL LOCATIONS PRIOR TO PLACEMENT.
- (6) ALL BROKEN OR DOTTED LINES ARE PAID BY THE ACTUAL LENGTH OF LINE MARKED AND DO NOT INCLUDE THE LENGTH OF THE GAPS.
- (7) INCLUDES 6,182 CU YD OF TOPSOIL EXCAVATION.
- (8) FERTILIZER ANALYSIS 22-5-10
- (9) TO BE USED FOR TEMPORARY STABILIZATION OF DISTURBED AREAS AND STOCKPILES AS DIRECTED BY THE ENGINEER.

- (10) APPLIES TO PAVEMENT MESSAGE REMOVAL
- (11) HIGH EARLY CONCRETE
- (12) 2' X 3' BOX.
- (13) 8019 146TH AVE NW BUSINESS SIGN AND VEHICULAR GATE.
- (14) TO BE IMPORTED FROM THE LAKE RAMSEY BORROW AREA, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- (15) FOR 21" RC PIPE.
- (16) FOR USE ALONG THE CSAH 83 WEST R/W AT THE 801 146TH AVE NW PROPERTY.
- (17) 8019 146TH AVE NW PROPERTY. REMOVAL OF EXISTING SYSTEM IS INCIDENTAL.
- (18) 30 MPH
- (19) 55 MPH
- (P) DENOTES PLAN QUANTITY

BASIS FOR QUANTITIES

- UNIT WEIGHT OF BITUMINOUS MIX.....113 LBS/SY/IN
- STREET SWEEPER.....5 HOURS/WEEK
- TURF ESTABLISHMENT
 - SEED MIXTURE 240.....75 LBS/ACRE
 - SEED MIXTURE 260.....100 LBS/ACRE
 - FERTILIZER TYPE 3.....400 LBS/ACRE
 - MULCH MATERIAL TYPE 1.....2 TONS/ACRE

TABULATION INDEX

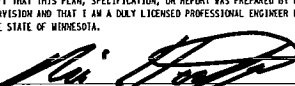
SHEET No.	TAB ID	DESCRIPTION
7R	A	BITUMINOUS & AGGREGATE
7R	B	CONCRETE
8	C	MISCELLANEOUS REMOVAL
8	D	TURF ESTABLISHMENT & EROSION CONTROL
9R	E	EARTHWORK SUMMARY
10R	F	EARTHWORK QUANTITIES
21	G	TRAFFIC CONTROL
52	GA	BYPASS BITUMINOUS & AGGREGATE
52	GB	BYPASS MISCELLANEOUS REMOVALS
52	GC	BYPASS TURF ESTABLISHMENT & EROSION CONTROL
52	GD	BYPASS PAVEMENT MARKINGS
52	GE	BYPASS CULVERT TABULATION
53	GF	BYPASS EARTHWORK SUMMARY & TABULATIONS
68	H	SANITARY SEWER
68	HH	WATERMAIN
87 - 89	I	STORM SEWER TABULATION
90	J	DRAINAGE STRUCTURE SUMMARY
90	K	STORM SEWER SUMMARY
90	L	CASTINGS
91	M	CULVERT TABULATION
109	N	REMOVE SIGN TYPE SPECIAL
109	O	SIGN PANELS TYPE C
109	P	DELINEATORS & MARKERS
109	Q	PERMANENT PAVEMENT MARKING
120	R	TRAFFIC SIGNAL ESTIMATED QUANTITIES

Date Printed: 8/23/2012
WSB Filename: K:\01973-010\Lead\plan\CD020295-est.dgn

NO.	DATE	BY	CHK	REVISIONS
1	08/22/12	NEH	AJP	EAST SIDE TRAIL AND CURB LINE REVISED

Design By: NEH
 Plan By: CWK
 Checked By: AJP
 Approved By: NEH

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

CERTIFIED BY: 
 LICENSED PROFESSIONAL ENGINEER NICHOLAS E. HENTGES, PE
 DATE: 04/03/12 LIC. NO: 44620

WSB & Associates, Inc.
 701 Xenia Avenue South, Suite 300
 Minneapolis, MN 55416
 www.wsbeng.com
 763-541-4800 • Fax 763-541-1700
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 City of Ramsey, Minnesota

CITY OF RAMSEY, MINNESOTA

ESTIMATED QUANTITIES
 S.A.P. 199-020-010 / C.P. 12-20

SHEET
5R
 OF
153
 SHEETS

BITUMINOUS & AGGREGATE

STATION TO STATION	2360 TYPE SP 12.5 WEARING COURSE MIXTURE (4,C) (SPWEB440C) (1)	2360 TYPE SP 12.5 NON WEARING COURSE MIXTURE (4,B) (SPNWB430B) (1)	AGGREGATE BASE (CV) CLASS 5 MODIFIED	AGGREGATE BASE (CV) CLASS 5 MOD. (4" CONCRETE WALK)	AGGREGATE BASE (CV) CLASS 5 MOD. (2.0" BITUMINOUS WALK)	AGGREGATE SHOULDERING (CV) CLASS 5 MODIFIED	2" BITUMINOUS WALK
	TON	TON	CU YD	CU YD	CU YD	CU YD	SQ FT
S.A.P. 199-020-010							
CSAH 83 (ARMSTRONG BLVD)							
27+82.04 TO 38+00	1954	1079	2896	54	14	56	821
38+00 TO 45+24.37	555	341	866	54	102		7582
146TH AVE NW	183		141		7		
147TH AVE NW	573		429		6		
PROJECT TOTALS	3265	1420	4332	108	129	56	8403

NOTES:
 (1) TACK COAT IS INCIDENTAL.
 (2) SEE SHEET 74 FOR LOCATION OF PAVEMENT SECTION CHANGE BETWEEN CSAH 83 AND 147TH AVE NW.

CONCRETE

STATION TO STATION	CURB & GUTTER				CONCRETE WALK			6" CONCRETE DRIVEWAY PAVEMENT (1)	MEDIAN NOSE DESIGN 7113	TRUNCATED DOMES
	CURB AND GUTTER DESIGN B424	CURB AND GUTTER DESIGN B418	CURB AND GUTTER DESIGN B618	CURB AND GUTTER DESIGN B612	6" CONCRETE VALLEY GUTTER (1)	4" CONCRETE WALK	4" CONCRETE MEDIAN			
	LN FT	LN FT	LN FT	LN FT	SQ YD	SQ FT	SQ FT			
S.A.P. 199-020-010										
CSAH 83 (ARMSTRONG BLVD)										
27+82.04 TO 38+00	619	525	123			1989	3842		4	124
38+00 TO 45+24.37	584	823					4298			
146TH AVE NW				392	12			6		
147TH AVE NW	55		656							
PROJECT TOTALS	1258	1348	779	392	12	1989	8140	6	4	124

GENERAL NOTES:
 - SEE BITUMINOUS & AGGREGATE TABULATION FOR AGGREGATE BASE QUANTITY LOCATED BELOW THE CONCRETE WALK AND BITUMINOUS TRAIL.

NOTES:
 (1) HIGH EARLY CONCRETE

Date Plotted: 8/23/2012 WSB Filename: K:\01973-010\lead\plan\CD020295_tabs.dgn

NO.	DATE	BY	CHK	REVISIONS
1	08/22/12	NEH	AJP	EAST SIDE TRAIL REVISED, EAST SIDE CURB AND GUTTER EXTENDED SOUTH TO STA 34+28.

Design By: NEH
 Plan By: CWK
 Checked By: AJP
 Approved By: NEH

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Nicholas E. Hentges
 CERTIFIED BY: NICHOLAS E. HENTGES, PE
 LICENSED PROFESSIONAL ENGINEER
 DATE: 04/03/12 LIC. NO: 44620

WSB
 & Associates, Inc.
 701 Xenia Avenue South, Suite 300
 Minneapolis, MN 55416
 www.wsbeng.com
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CITY OF RAMSEY, MINNESOTA

TABULATED QUANTITIES
 S.A.P. 199-020-010 / C.P. 12-20

SHEET
7R
 OF
153
 SHEETS

CSAH 83 IMPROVEMENTS (RAMSEY, MN)


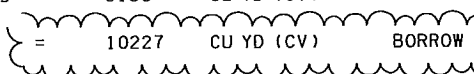

E

Earthwork Summary

CSAH 83 at Sunwood Drive / 147th Avenue NW
EXCAVATION

CSAH 83 at Sunwood Drive / 147th Avenue NW EARTHWORK ACCOUNTING

COMMON MATERIAL BALANCE

COMMON EXCAVATION	S.A.P. 199-020-010	8018 CU YD (EV)	AVAILABLE FROM EXCAVATION				
SUBGRADE EXCAVATION	S.A.P. 199-020-010	2207 CU YD (EV)	SUBGRADE EXC. + COMMON EXC.	(2207 + 8018)	CU YD (EV)	/1.25 = 8180	CU YD (CV) 
			(8180 - 18407)			= 10227	CU YD (CV) BORROW 
EMBANKMENT							
SELECT GRADING	S.A.P. 199-020-010	18407 CU YD (CV) 	SELECT GRANULAR BALANCE	(5861)	CU YD (CV)	= 5861	CU YD (CV) BORROW
SELECT GRANULAR EMBANKMENT	S.A.P. 199-020-010	5861 CU YD (CV)	TOPSOIL BALANCE	(1649)	CU YD (CV)	*1.4 = 2309	CU YD (LV) BORROW
TOPSOIL	S.A.P. 199-020-010	1649 CU YD (CV)					

GENERAL NOTES:

- 125% SHRINKAGE FACTOR USED FROM EXCAVATED VOLUME (EV) TO COMPACTED VOLUME (CV) FOR COMMON EXCAVATION. 130% EXPANSION FACTOR USED FROM COMPACTED VOLUME (CV) TO LOOSE VOLUME (LV) FOR SELECT GRANULAR AND SELECT GRADING
- ANY MATERIAL NOT UTILIZED ON THIS PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR, THE DISPOSAL OF WHICH SHALL BE HIS RESPONSIBILITY WITH NO ADDITIONAL COMPENSATION PAID OTHER THAN THE PRICE BID FOR COMMON EXCAVATION.
- SELECT GRANULAR BALANCE ASSUMES NO EXCAVATED MATERIAL WILL MEET SELECT GRANULAR SPECIFICATIONS.


* SEE SHEETS 60A - 62A FOR SAP 199-104-010 MASS GRADING PLAN AND FOR THE LAKE RAMSEY BORROW AREA GRADING PLAN. GRANULAR AND SELECT GRANULAR BORROW TO BE TAKEN FROM THE LAKE RAMSEY BORROW AREA, UNLESS OTHERWISE APPROVED BY THE ENGINEER. SEE SHEETS 61A FOR LOCATION AND DETAILS.

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NO.	DATE	BY	CHK	REVISIONS
1	08/22/12	NEH	AJP	EAST SIDE TRAIL AND CURB LINE REVISED - COMMON FILL INCREASED

Design By: NEH
Plan By: CWK
Checked By: AJP
Approved By: NEH

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CERTIFIED BY: 
LICENSED PROFESSIONAL ENGINEER NICHOLAS E. HENTGES, PE
DATE: 04/03/12 L.I.C. NO: 44620

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CITY OF RAMSEY, MINNESOTA
EARTHWORK TABULATION & SUMMARY
S.A.P. 199-020-010 / C.P. 12-20

SHEET
9R
OF
153
SHEETS

EARTHWORK TABULATION							F	
STATION TO STATION	EXCAVATION			EMBANKMENT				
	COMMON	TOPSOIL	SUB-GRADE	SUITABLE GRADING	SELECT GRANULAR BORROW (ROADWAY)	TOPSOIL		
	CU YD (EV)	CU YD (EV)	CU YD (EV)	CU YD (CV)	CU YD (CV)	CU YD (CV)		
CSAH 83								
27+85	TO	28+00	24	27	26	7	26	9
28+00	TO	28+50	78	86	87	22	88	31
28+50	TO	29+00	77	82	89	16	89	32
29+00	TO	29+50	80	80	90	18	93	31
29+50	TO	30+00	67	88	92	31	101	30
30+00	TO	30+50	45	73	95	26	111	33
30+50	TO	31+00	23	49	69	24	128	32
31+00	TO	31+50	14	35	24	34	147	31
31+50	TO	32+00	16	32	4	86	157	33
32+00	TO	32+50	29	152		295	164	41
32+50	TO	33+00	37	277		677	170	50
33+00	TO	33+50	28	309		1065	176	59
33+50	TO	34+00	30	338		1350	182	68
34+00	TO	34+50	34	358		1663	187	74
34+50	TO	35+00	8	74		362	38	16
35+00	TO	35+50	49	349		1643	192	72
35+50	TO	35+91	23	280		1327	172	50
35+91	TO	37+21		674		3391	561	137
37+21	TO	37+50	3	127		501	121	28
37+50	TO	38+00	19	282		775	213	53
38+00	TO	38+50	32	282	6	672	213	56
38+50	TO	39+00	19	274	52	586	213	56
39+00	TO	39+50	13	257	134	477	213	56
39+50	TO	40+00	69	235	176	369	213	54
40+00	TO	40+50	144	214	184	279	206	54
40+50	TO	40+95	135	159	172	171	174	42
40+95	TO	41+00	10	12	14	13	13	3
41+00	TO	41+50	63	79	90	120	81	17
41+50	TO	41+90	46	57	73	84	65	11
41+90	TO	42+00	5	12	9	15	8	2
42+00	TO	42+50		52		50		10
42+50	TO	43+00		44		38		8
43+00	TO	43+50		45		41		8
43+50	TO	44+00		53		57		10
44+00	TO	44+50		58		67		12
44+50	TO	45+00		74		174		17
45+00	TO	45+24		42		135		10
SUBTOTALS			1220	5721	1486	16661	4515	1336

EARTHWORK TABULATION							F	
STATION TO STATION	EXCAVATION			EMBANKMENT				
	COMMON	TOPSOIL	SUB-GRADE	SUITABLE GRADING	SELECT GRANULAR BORROW (ROADWAY)	TOPSOIL		
	CU YD (EV)	CU YD (EV)	CU YD (EV)	CU YD (CV)	CU YD (CV)	CU YD (CV)		
147TH AVE NW								
11+09	TO	11+50	40	9	71		68	7
11+50	TO	12+00	61	16	96		92	9
12+00	TO	12+50	59	27	115	1	116	9
12+50	TO	13+00	29	40	101	10	135	12
13+00	TO	13+50	2	49	42	58	139	18
13+50	TO	14+00		55	4	203	137	24
14+00	TO	14+50		69		434	150	32
14+50	TO	14+63		23		167	46	10
SUBTOTALS			191	288	429	873	883	121

EARTHWORK TABULATION							F	
STATION TO STATION	EXCAVATION			EMBANKMENT				
	COMMON	TOPSOIL	SUB-GRADE	SUITABLE GRADING	SELECT GRANULAR BORROW (ROADWAY)	TOPSOIL		
	CU YD (EV)	CU YD (EV)	CU YD (EV)	CU YD (CV)	CU YD (CV)	CU YD (CV)		
SUNWOOD DRIVE								
20+42	TO	20+50		21		109	29	7
20+50	TO	20+75		63		402	83	
20+75	TO	20+94		48		339	59	
SUBTOTALS				132		850	171	7

EARTHWORK SUMMARY								F
ALIGNMENT	STATION TO STATION	EXCAVATION			EMBANKMENT			
		COMMON	TOPSOIL (1)	SUB-GRADE	SUITABLE GRADING	SELECT GRANULAR BORROW (ROADWAY)	TOPSOIL BORROW	
		CU YD (EV)	CU YD (EV)	CU YD (EV)	CU YD (CV)	CU YD (CV)	CU YD (CV)	
CSAH 83	27+85 TO 45+24	1,220	5,721	1,486	16,661	4,515	1,336	
147TH	11+09 TO 14+63	191	288	429	873	883	121	
SUNWOOD	20+42 TO 20+94		132		850	171	7	
CUL-DE-SAC		425	41	292	23	292	185	
TOTALS		1,836	6,182	2,207	18,407	5,861	1,649	

NOTES:
 (1) PAID AS COMMON EXCAVATION. QUANTITY IS NOT INCLUDED IN THE COMMON EXCAVATION COLUMN.

* SEE SHEETS 60A - 62A FOR SAP 199-104-010 MASS GRADING PLAN AND FOR THE LAKE RAMSEY BORROW AREA GRADING PLAN. GRANULAR AND SELECT GRANULAR BORROW TO BE TAKEN FROM THE LAKE RAMSEY BORROW AREA, UNLESS OTHERWISE APPROVED BY THE ENGINEER. SEE SHEETS 61A FOR LOCATION AND DETAILS.

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NO.	DATE	BY	CHK	REVISIONS
1	08/06/12	NEH	AJP	EAST SIDE TRAIL AND CURB LINE REVISED - COMMON FILL INCREASED

Design By: NEH
 Plan By: CWK
 Checked By: AJP
 Approved By: NEH

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

[Signature]
 CERTIFIED BY: MICHAEL E. HENTGES, PE
 LICENSED PROFESSIONAL ENGINEER
 DATE: 04/03/12 L.I.C. NO: 44620

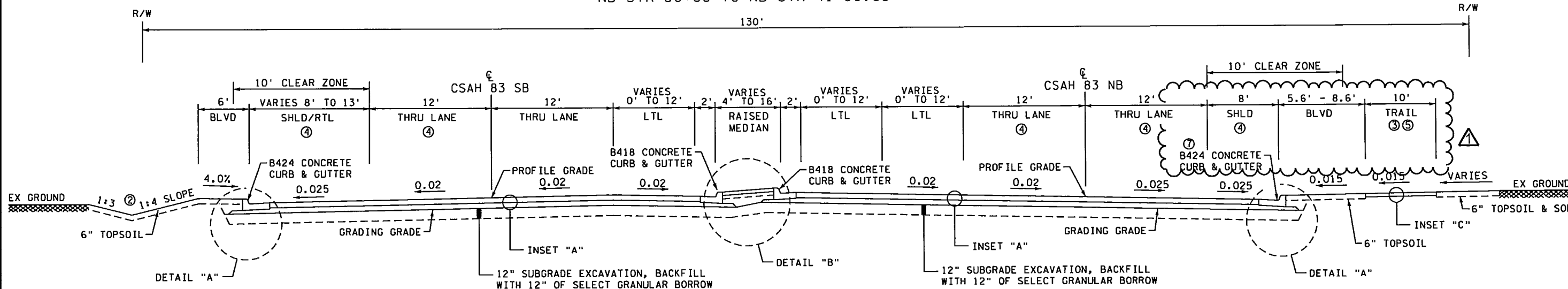
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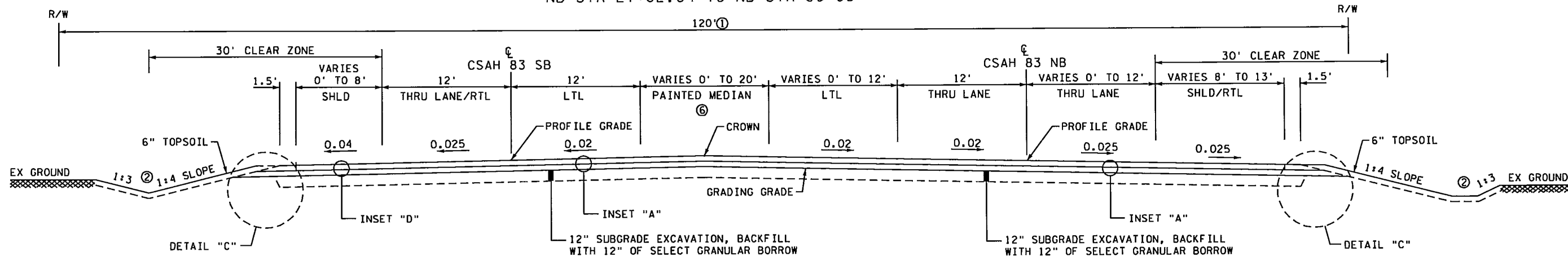
CITY OF RAMSEY, MINNESOTA
EARTHWORK TABULATION & SUMMARY
 S.A.P. 199-020-010 / C.P. 12-20

SHEET
10R
 OF
153
 SHEETS

CSAH 83 (ARMSTRONG BLVD)
NB STA 36+00 TO NB STA 41+90.68



CSAH 83 (ARMSTRONG BLVD)
NB STA 27+82.04 TO NB STA 36+00



GENERAL NOTES:

INPLACE PAVEMENT DEPTHS ARE BASED ON SOIL BORINGS AND BEST AVAILABLE INFORMATION. NO GUARANTEES ARE MADE REGARDING THE UNIFORMITY OF THE PAVEMENT THICKNESS.

UNLESS OTHERWISE SPECIFIED, THE GRADING GRADE CROSS SLOPES WILL BE THE SAME AS THE PROPOSED DRIVING SURFACE.

ALL EDGE DIMENSIONS ARE FACE TO FACE OF CURB OR TO THE EDGE OF THE BITUMINOUS PAVEMENT.

FOR LANE WIDTHS SEE CONSTRUCTION PLANS AND FOR CROSS SLOPES AND SUPERELEVATION SEE DRAINAGE, TURF AND EROSION CONTROL PLANS.

ALL CROSS SLOPES ARE FT/FT.

SEE SHEET 12 FOR INSETS AND DETAILS.

NOTES:

① R/W 120' FROM STA 27+00 TO 31+50 & VARIES FROM 160' TO 175' FROM STA 32+00 TO 36+00

② DITCH WIDTH AND DEPTH VARIES. SEE SHEETS 76 - 77 AND CROSS SECTIONS FOR DITCH PROFILES AND WIDTHS

③ TRAIL CONTINUES TO STA 45+26.5

④ CONSTRUCTION ENDS AT STA 40+77.55

⑤ 2 FOOT CLEAR ZONE ON EITHER SIDE OF TRAIL.

⑥ RAISED MEDIAN FROM STA 34+28 (NB) TO STA 35+78 (NB). SEE SHEET 74R.

⑦ EAST SIDE CURB AND GUTTER FROM STA 34+28 TO SUNWOOD DRIVE.

Date Pl-Inted: 8/23/2012
WSB Filename: K:\01973-010\road\plan\CD020295.rsd.dgn

NO.	DATE	BY	CHK	REVISIONS
1	08/22/12	NEH	AJP	EAST SIDE TRAIL REVISED FROM 8 FEET TO 10 FEET.

Design By: NEH
Plan By: CWK
Checked By: AJP
Approved By: NEH

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Michael E. Nentges
MICHAEL E. NENTGES, PE
LICENSED PROFESSIONAL ENGINEER
DATE: 04/03/12 L.I.C. NO: 44620

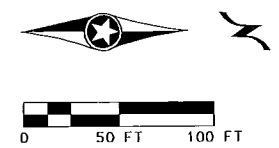
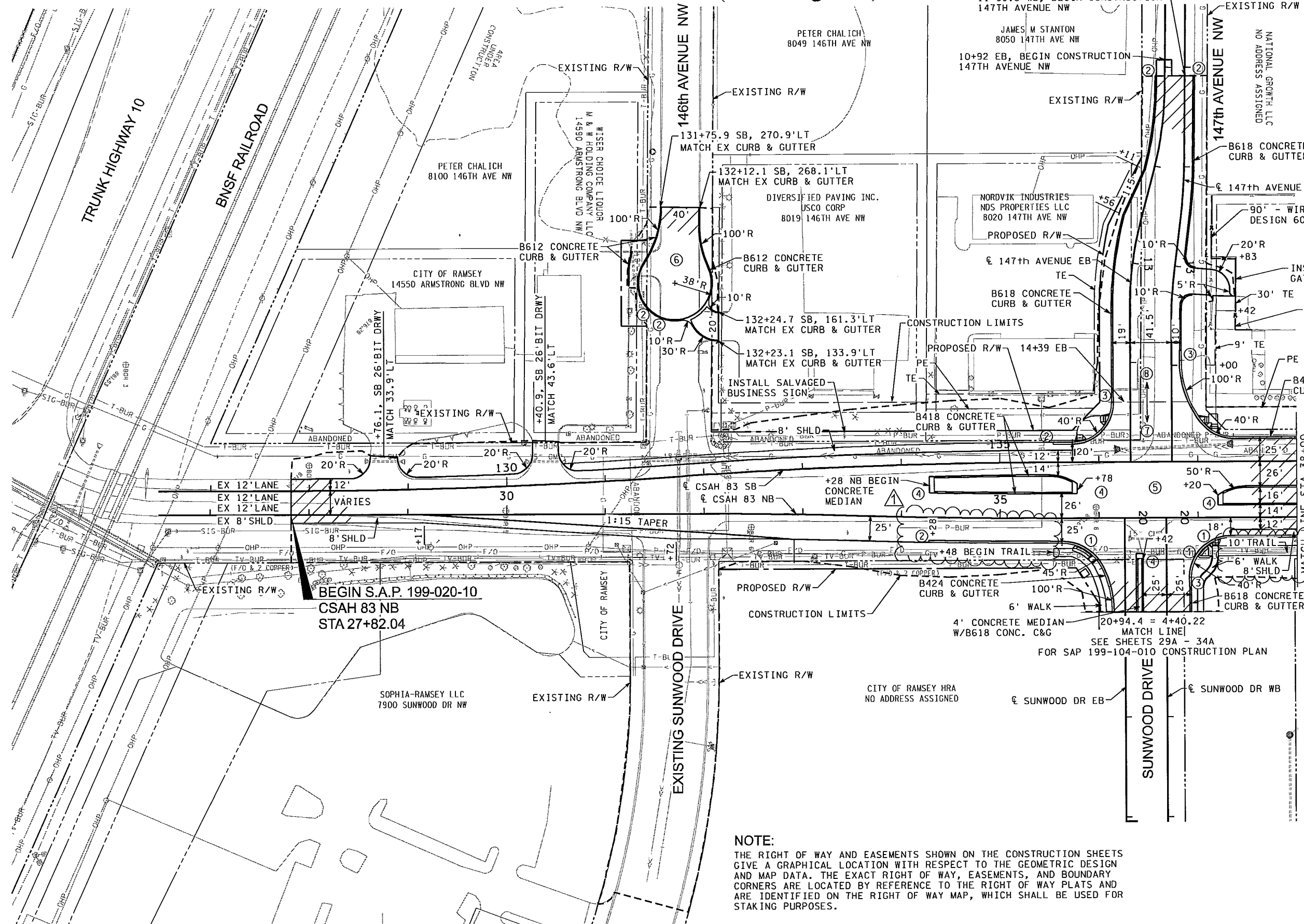
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CITY OF RAMSEY, MINNESOTA
TYPICAL SECTIONS
S.A.P. 199-020-010 / C.P. 12-20

SHEET
14R
OF
153
SHEETS

CSAH 83 (Armstrong Blvd)



- ### LEGEND
- ① PEDESTRIAN CURB RAMP
SEE DETAILS, SHEETS DT1-DT6
 - ② 3' CURB TRANSITION FROM
FULL HEIGHT TO 0" HEIGHT
 - ③ 10' TRANSITION FROM B424 TO
B618 CONCRETE CURB & GUTTER
 - ④ CONCRETE APPROACH NOSE
DESIGN 7113
 - ⑤ SEE SHEET 79 FOR CSAH 83 &
SUNWOOD DR./147TH AVE
INTERSECTION DETAILS.
 - ⑥ SEE SHEET 80 FOR 146TH
AVE NW CUL-DE-SAC DETAILS.
 - ⑦ SEE INSET A ON SHEET 12
FOR PAVEMENT SECTION
 - ⑧ SEE INSET B ON SHEET 12
FOR PAVEMENT SECTION
 - INPLACE ROADWAY
 - ▨ NEW CONSTRUCTION

- ### NOTES
1. ALL ROADWAY DIMENSIONS ARE TO EDGE OF BITUMINOUS UNLESS OTHERWISE NOTED.
 2. SEE SIGNING AND PAVEMENT MARKING PLAN FOR LANE WIDTHS AND TRAFFIC DIRECTIONS.
 3. SEE DRAINAGE & SUPERELEVATION PLAN FOR PAVEMENT CROSS SLOPES & STORM SEWER.

NOTE:
THE RIGHT OF WAY AND EASEMENTS SHOWN ON THE CONSTRUCTION SHEETS GIVE A GRAPHICAL LOCATION WITH RESPECT TO THE GEOMETRIC DESIGN AND MAP DATA. THE EXACT RIGHT OF WAY, EASEMENTS, AND BOUNDARY CORNERS ARE LOCATED BY REFERENCE TO THE RIGHT OF WAY MAPS AND ARE IDENTIFIED ON THE RIGHT OF WAY MAP, WHICH SHALL BE USED FOR STAKING PURPOSES.

Date Printed: 8/23/2012
WSB Filename: K:\01973-010\lead\plan\CD02020295_cpo1.dgn

NO.	DATE	BY	CHK	REVISIONS
1	08/22/12	NEH	AJP	EAST SIDE TRAIL REVISED FROM 8 FEET TO 10 FEET. EAST SIDE CURB LINE EXTENDED SOUTH TO STA 34+28.

Design By: NEH
 P.Tan By: CWK
 Checked By: AJP
 Approved By: NEH

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF WISCONSIN.

CERTIFIED BY: *[Signature]*
 LICENSED PROFESSIONAL ENGINEER
 DATE: 04/03/12 L.T.C. NO: 44620

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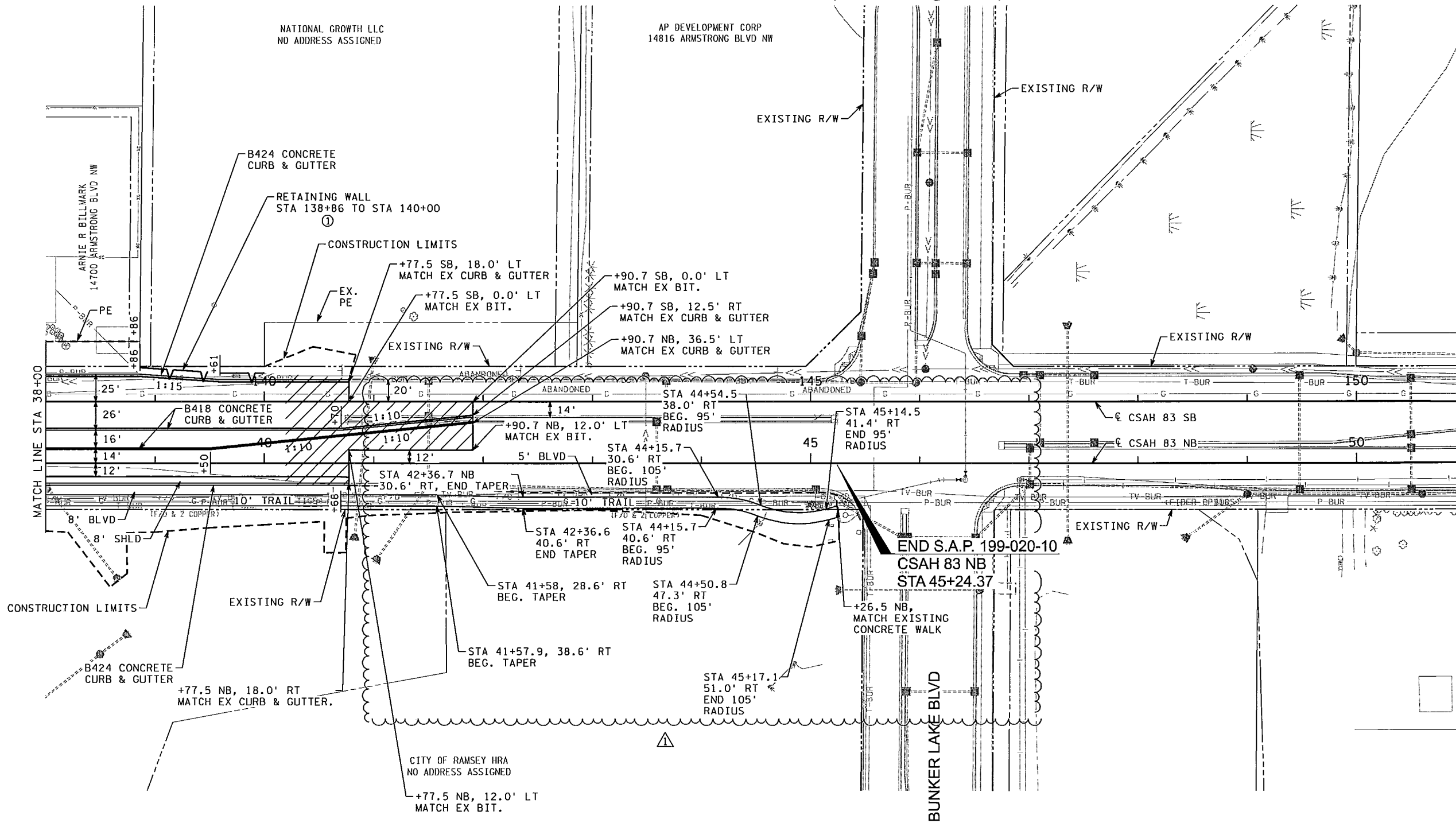
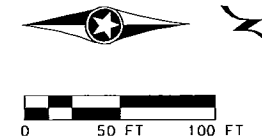
CITY OF RAMSEY, MINNESOTA
 STA 26+00 TO STA 38+00
CONSTRUCTION PLAN
 S.A.P. 199-020-010 / C.P. 12-20

SHEET
74R
 OF
153
 SHEETS

CSAH 83 (Armstrong Blvd)

NATIONAL GROWTH LLC
NO ADDRESS ASSIGNED

AP DEVELOPMENT CORP
14816 ARMSTRONG BLVD NW



LEGEND

- INPLACE ROADWAY
- NEW CONSTRUCTION
- SEE SHEET 81 FOR DETAILS

NOTES

1. ALL ROADWAY DIMENSIONS ARE TO EDGE OF BITUMINOUS UNLESS OTHERWISE NOTED.
2. SEE SIGNING AND PAVEMENT MARKING PLAN FOR LANE WIDTHS AND TRAFFIC DIRECTIONS.
3. SEE DRAINAGE & SUPERELEVATION PLAN FOR PAVEMENT CROSS SLOPES & STORM SEWER.

Date Plotted: 8/23/2012
WSB Filename: K:\01973-010\Lead\plan\CD02020295_cp02.dgn

NO.	DATE	BY	CHK	REVISIONS
1	08/22/12	NEH	AJP	EAST SIDE TRAIL REVISED FROM 8 FEET TO 10 FEET, ALIGNMENT REVISED NEAR BUNKER LAKE BLVD.

Design By: NEH
 Plan By: CWK
 Checked By: AJP
 Approved By: NEH

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY OR UNDER MY DIRECT SUPERVISION AND THAT I AM A ONLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

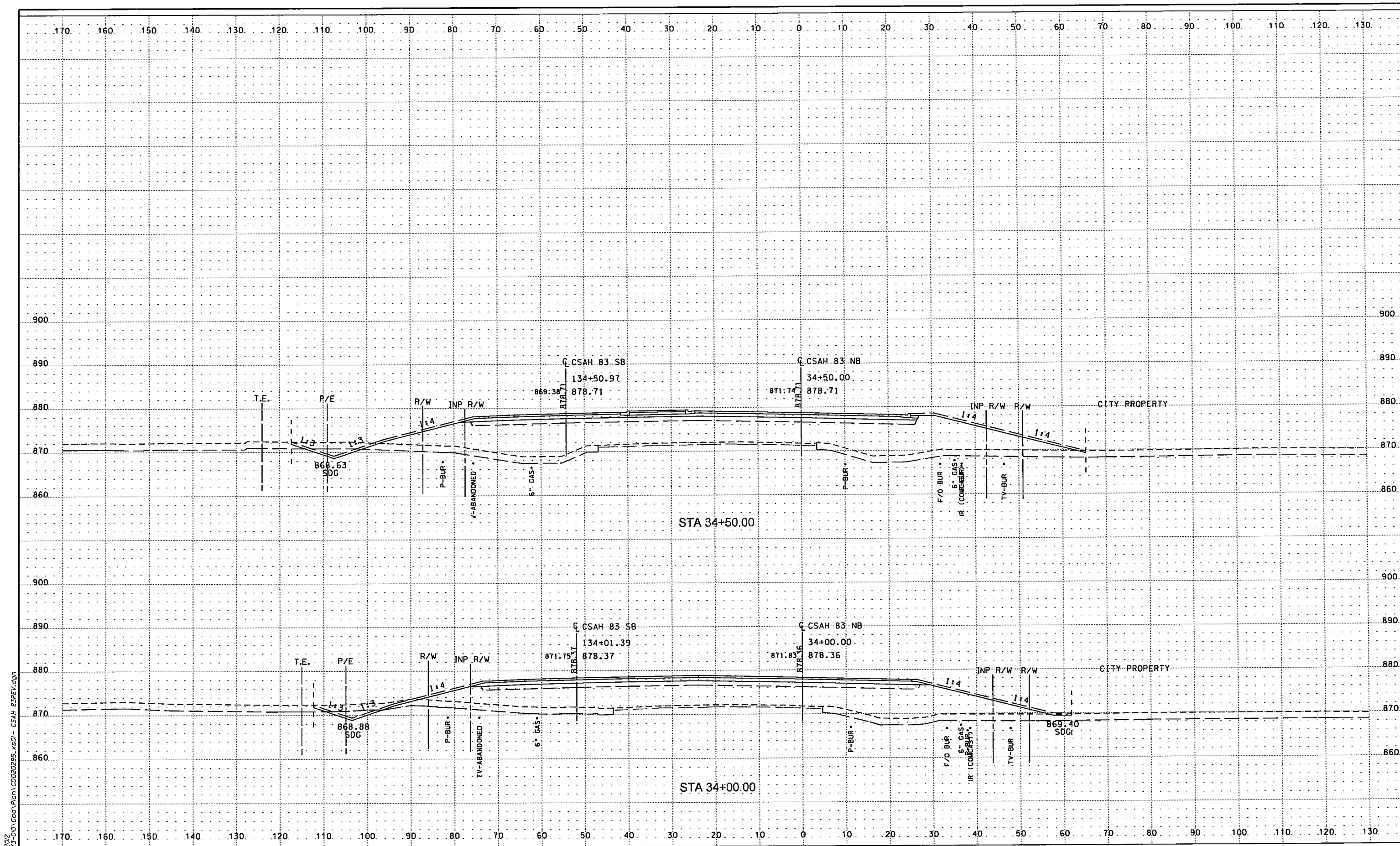
CERTIFIED BY:
 LICENSED PROFESSIONAL ENGINEER NICHOLAS E. HENTGES, PE
 DATE: 04/03/12 LIC. NO.: 44620

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CITY OF RAMSEY, MINNESOTA
 STA 38+00 TO STA 51+00
CONSTRUCTION PLAN
 S.A.P. 199-020-010 / C.P. 12-20


SHEET
75R
 OF
153
 SHEETS



Date Printed: 8/23/2012
 WSB Filename: K:\01673-010\Cad\Plan\CD020295_x.spl - CSAH 83REV.dgn

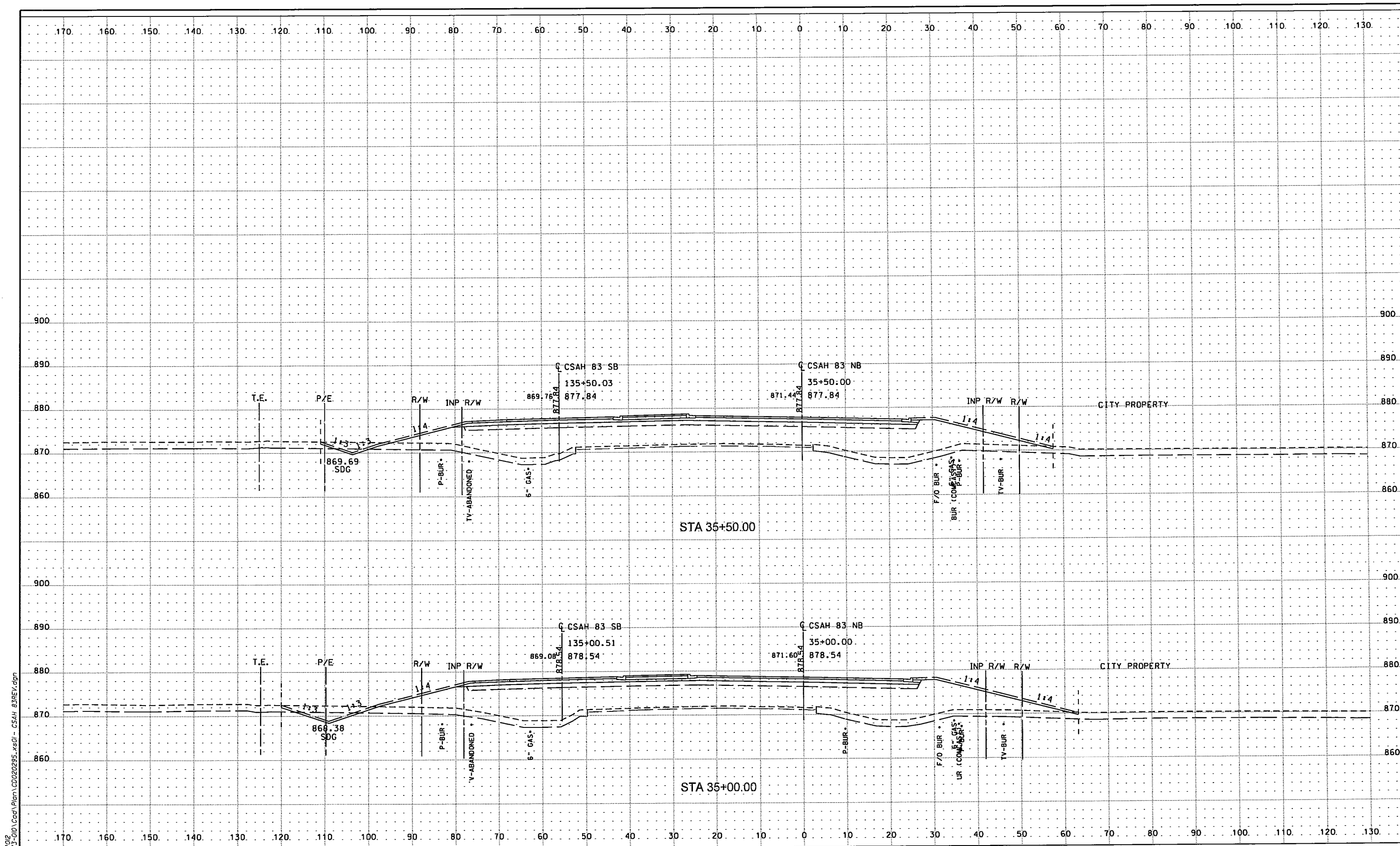
NO.	DATE	BY	CHK	REVISIONS
1	08/22/12	MEH	AJP	CURB AND DUTTER ADDED FROM STA 34+28 TO 35+58


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CITY OF RAMSEY, MINNESOTA
 STA 34+00.00 TO STA 34+50.00
CROSS SECTIONS - CSAH 83
 S.A.P. 199-020-010 / C.P. 12-20


SHEET
136R
 OF
153
 SHEETS



Date Printed: 8/23/2012
 WSB Filename: K:\0573-00\Cad\Plan\CD020295.xsd - CSAH 83REV.dgn

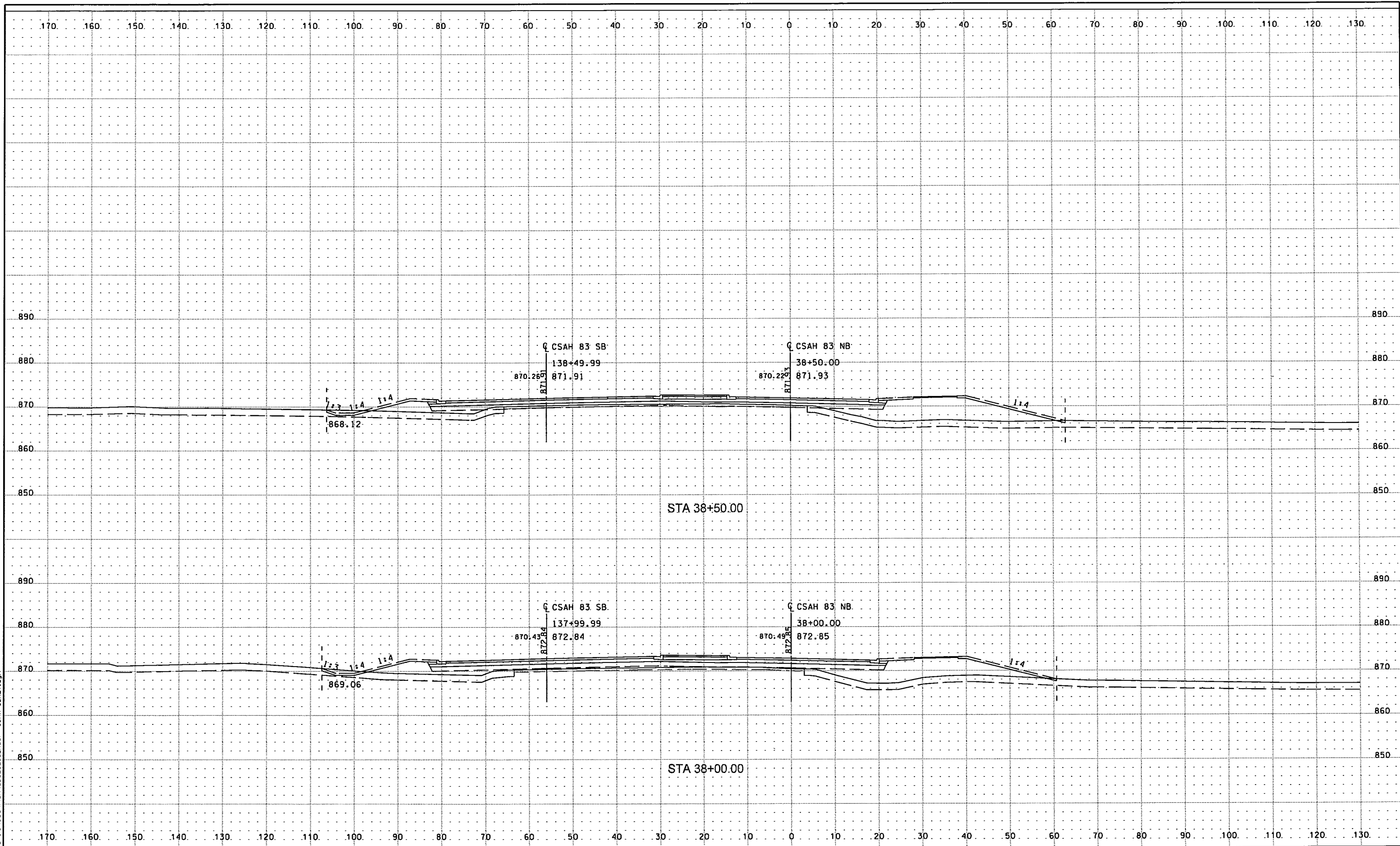
NO.	DATE	BY	CHK	REVISIONS
1	08/22/12	MEH	AJP	CURB AND CUTTER ADDED FROM STA 34+28 TO 35+58


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CITY OF RAMSEY, MINNESOTA
 STA 35+00.00 TO STA 35+50.00
CROSS SECTIONS - CSAH 83
 S.A.P. 199-020-010 / C.P. 12-20

SHEET
137R
 OF
153
 SHEETS



Date Printed: 8/23/2012
 WSB Filename: K:\01973-00\Cad\Plan\CDD020255_xsd1 - CSAH 83REV.dgn

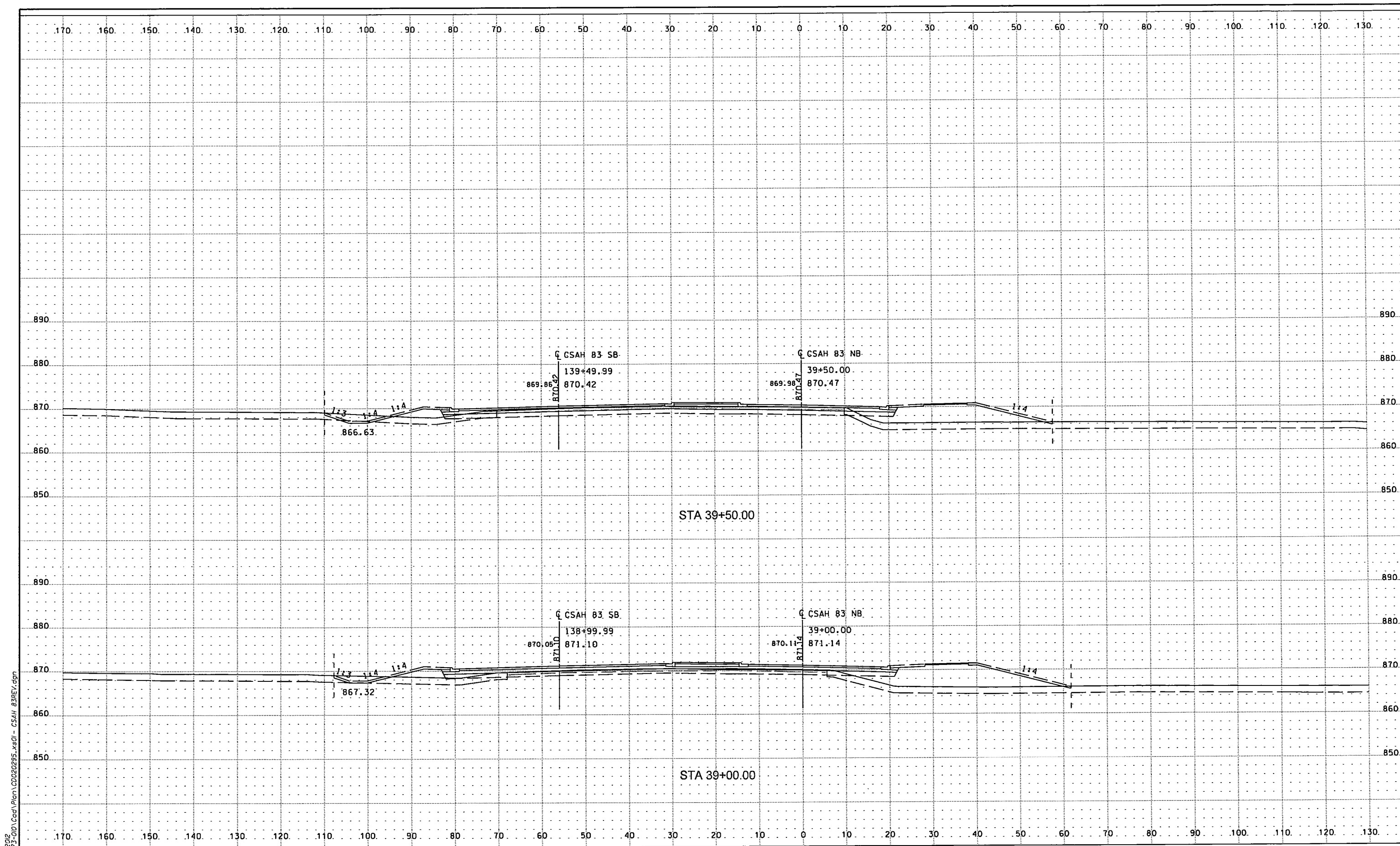
NO.	DATE	BY	CHK	REVISIONS
1	08/22/12	MEH	AJP	EAST SIDE BLVD AND TRAIL REVISED

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CITY OF RAMSEY, MINNESOTA
 STA 38+00.00 TO STA 38+50.00
CROSS SECTIONS - CSAH 83
 S.A.P. 199-020-010 / C.P. 12-20


SHEET 139R
 OF 153
 SHEETS



Date Printed: 8/23/2012
 WSB Filename: K:\01973-010\Cad\Plan\CD020295_x.spl - CSAH 83REV.dgn

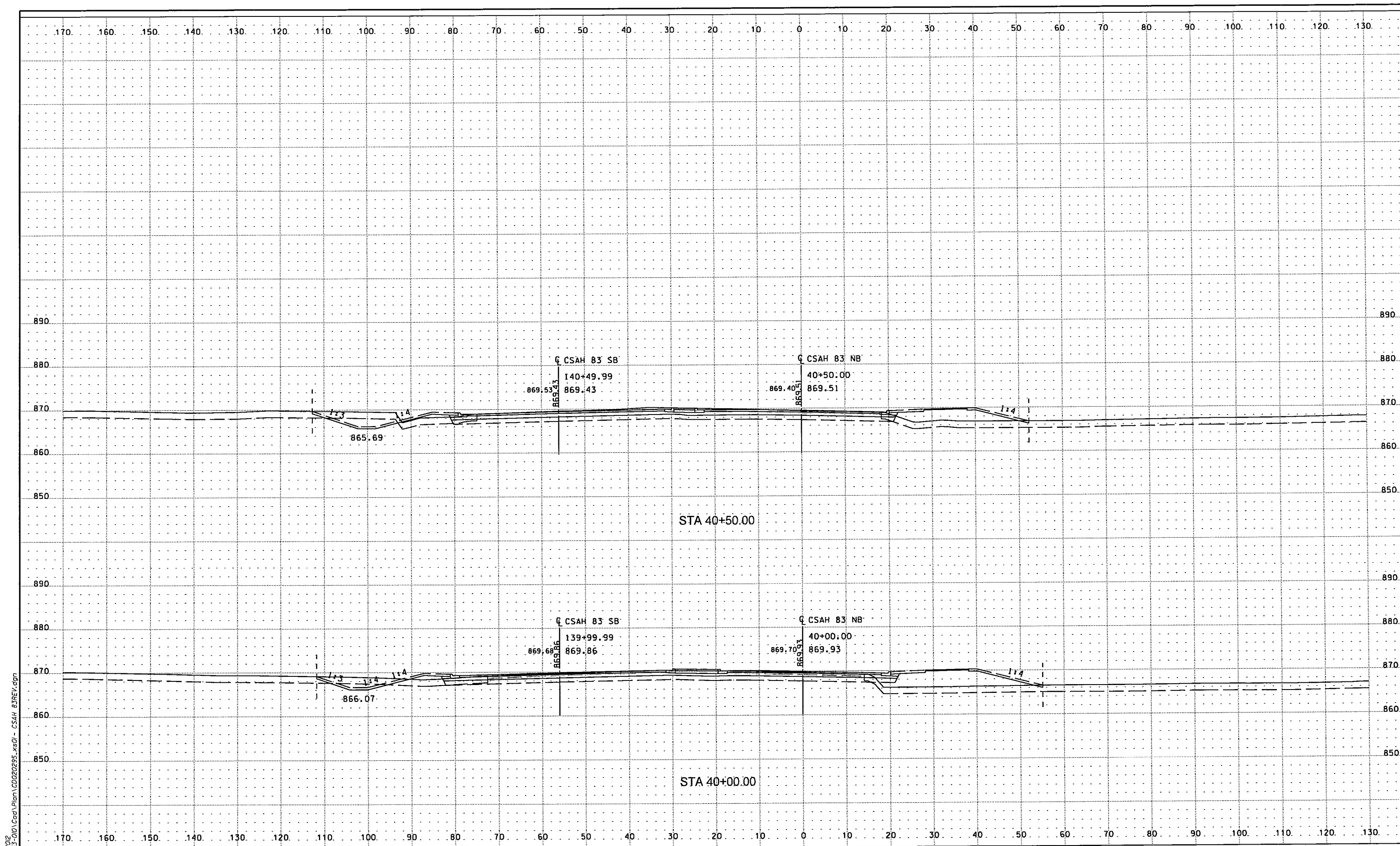
NO.	DATE	BY	CHK	REVISIONS
1	06/22/12	MEH	AJP	EAST SIDE BLVD AND TRAIL REVISED


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CITY OF RAMSEY, MINNESOTA
 STA 39+00.00 TO STA 39+50.00
CROSS SECTIONS - CSAH 83
 S.A.P. 199-020-010 / C.P. 12-20

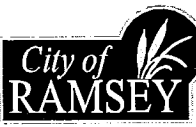
SHEET
140R
 OF
153
 SHEETS



Date Printed: 8/23/2012
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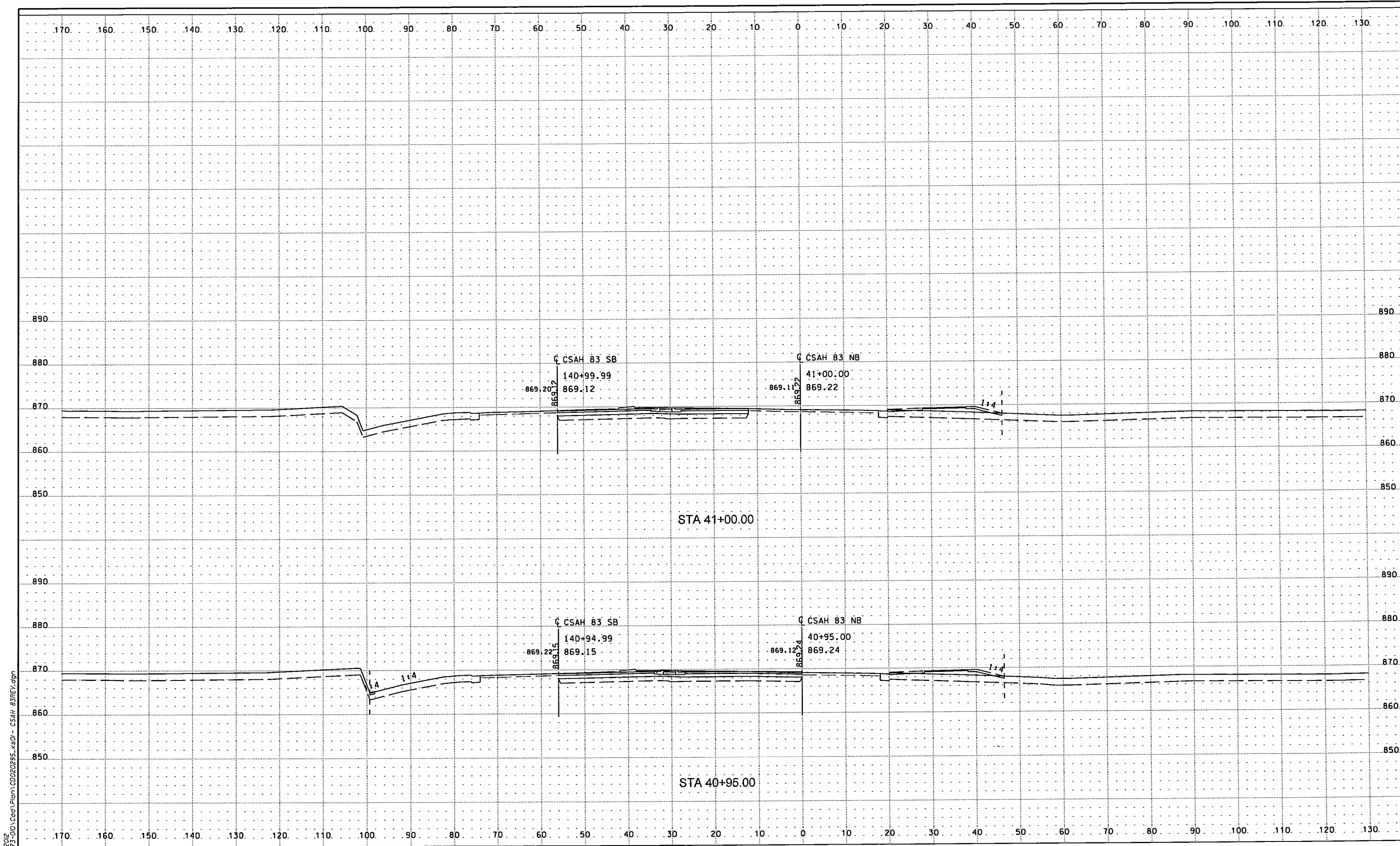
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CITY OF RAMSEY, MINNESOTA
 STA 40+00.00 TO STA 40+50.00
CROSS SECTIONS - CSAH 83
 S.A.P. 199-020-010 / C.P. 12-20


SHEET
141R
 OF
153
 SHEETS



Date Printed: 8/23/2012
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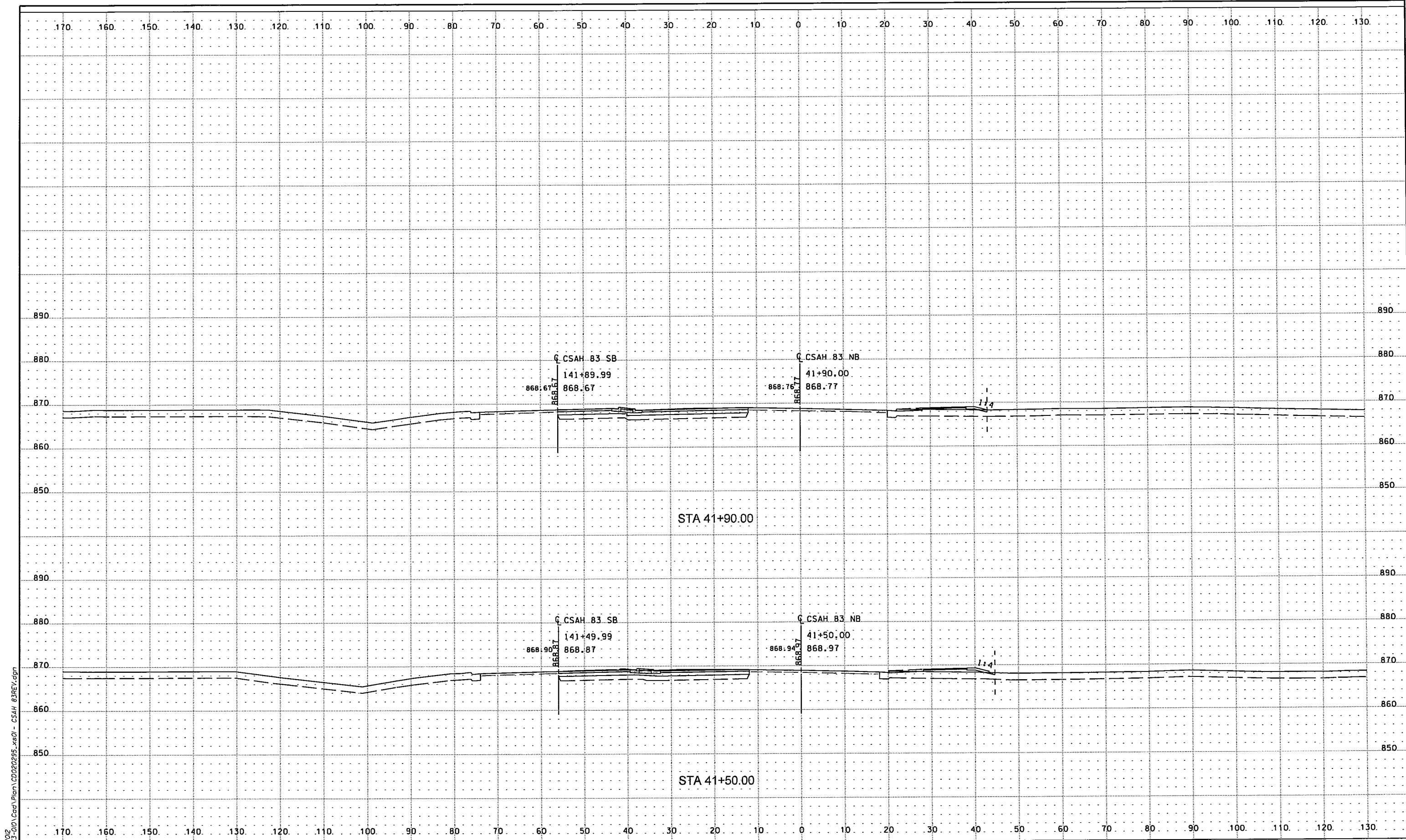
NO.	DATE	BY	CHK	REVISIONS
1	08/22/12	MEH	AJP	EAST SIDE BLVD AND TRAIL REVISED


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CITY OF RAMSEY, MINNESOTA
 STA 40+95.00 TO STA 41+00.00
CROSS SECTIONS - CSAH 83
 S.A.P. 199-020-010 / C.P. 12-20


SHEET
142R
 OF
153
 SHEETS



Date Printed: 8/23/2012
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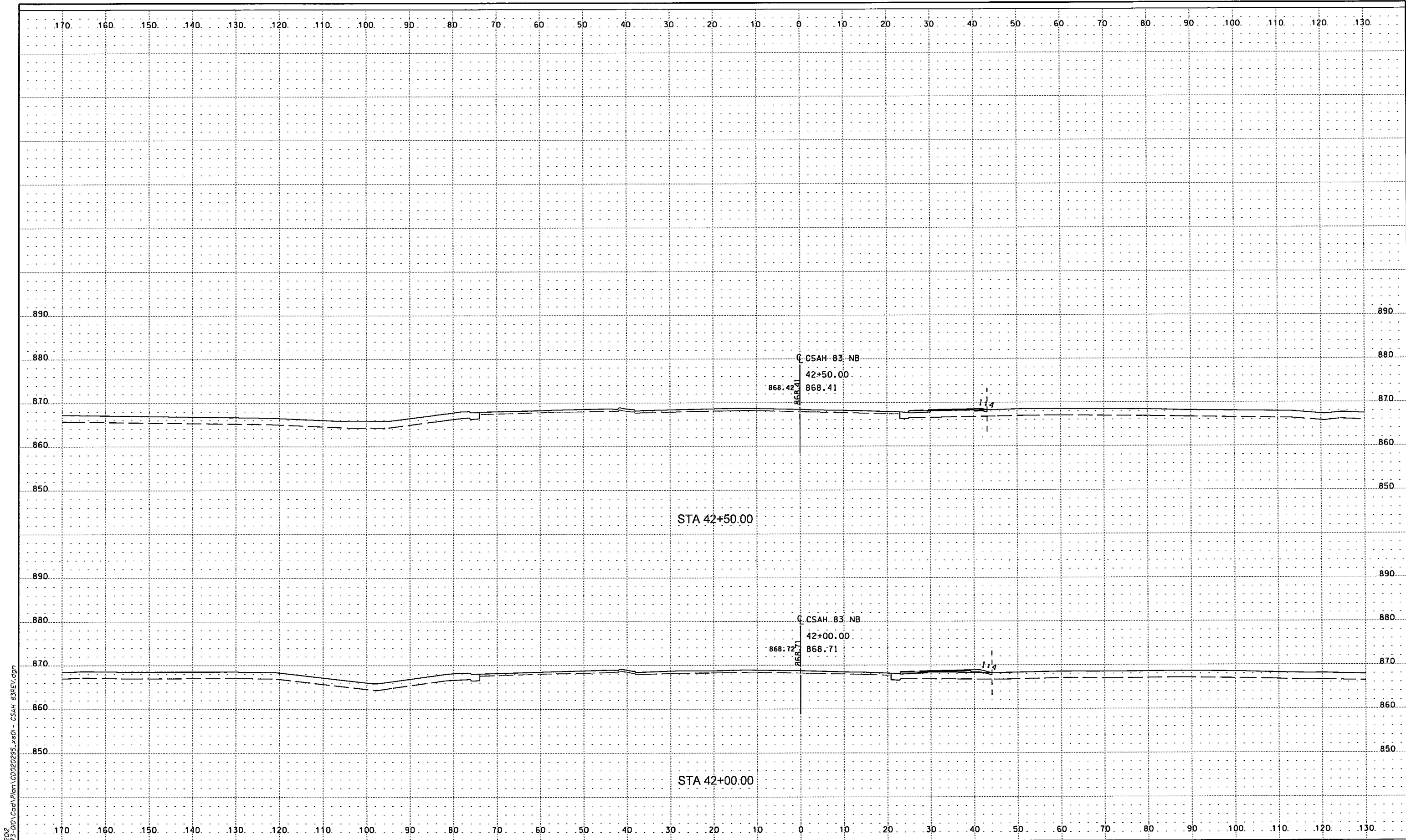
NO.	DATE	BY	CHK	REVISIONS
1	08/22/12	NEH	AJP	EAST SIDE BLVD AND TRAIL REVISED


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 STA 41+50.00 TO STA 41+90.00
CROSS SECTIONS - CSAH 83
 S.A.P. 199-020-010 / C.P. 12-20

SHEET
143R
 OF
153
 SHEETS



Date Printed: 8/23/2012
 WSP Filename: K:\01973-010\Card Plan\CD020295_x.s01 - CSAH 83REV.dgn

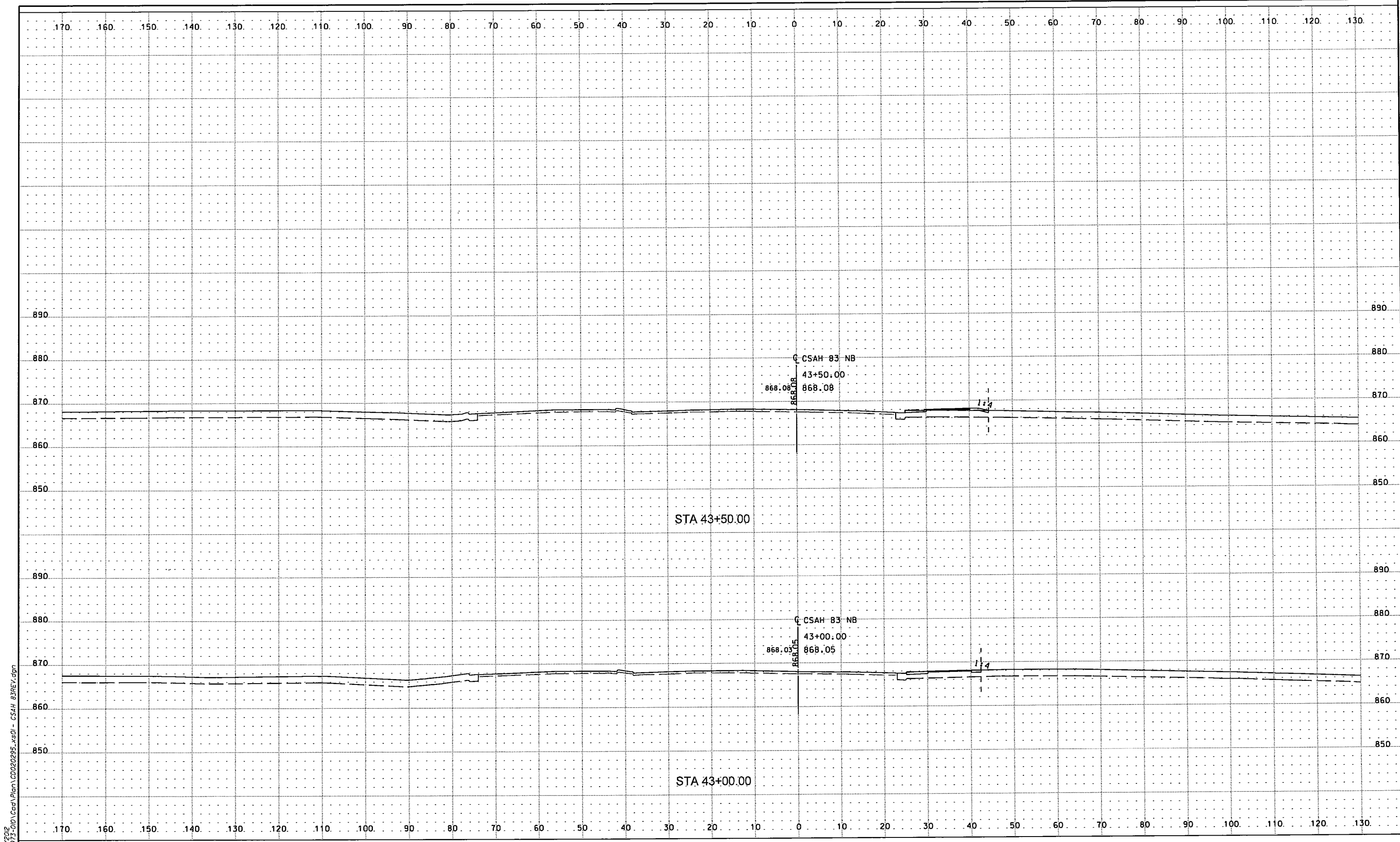
NO.	DATE	BY	CHK	REVISIONS
1	08/22/12	MEH	AJP	EAST SIDE BLVD AND TRAIL REVISED

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CITY OF RAMSEY, MINNESOTA
 STA 42+00.00 TO STA 42+50.00
CROSS SECTIONS - CSAH 83
 S.A.P. 199-020-010 / C.P. 12-20


SHEET
144R
 OF
153
 SHEETS



Date Printed: 8/23/2012
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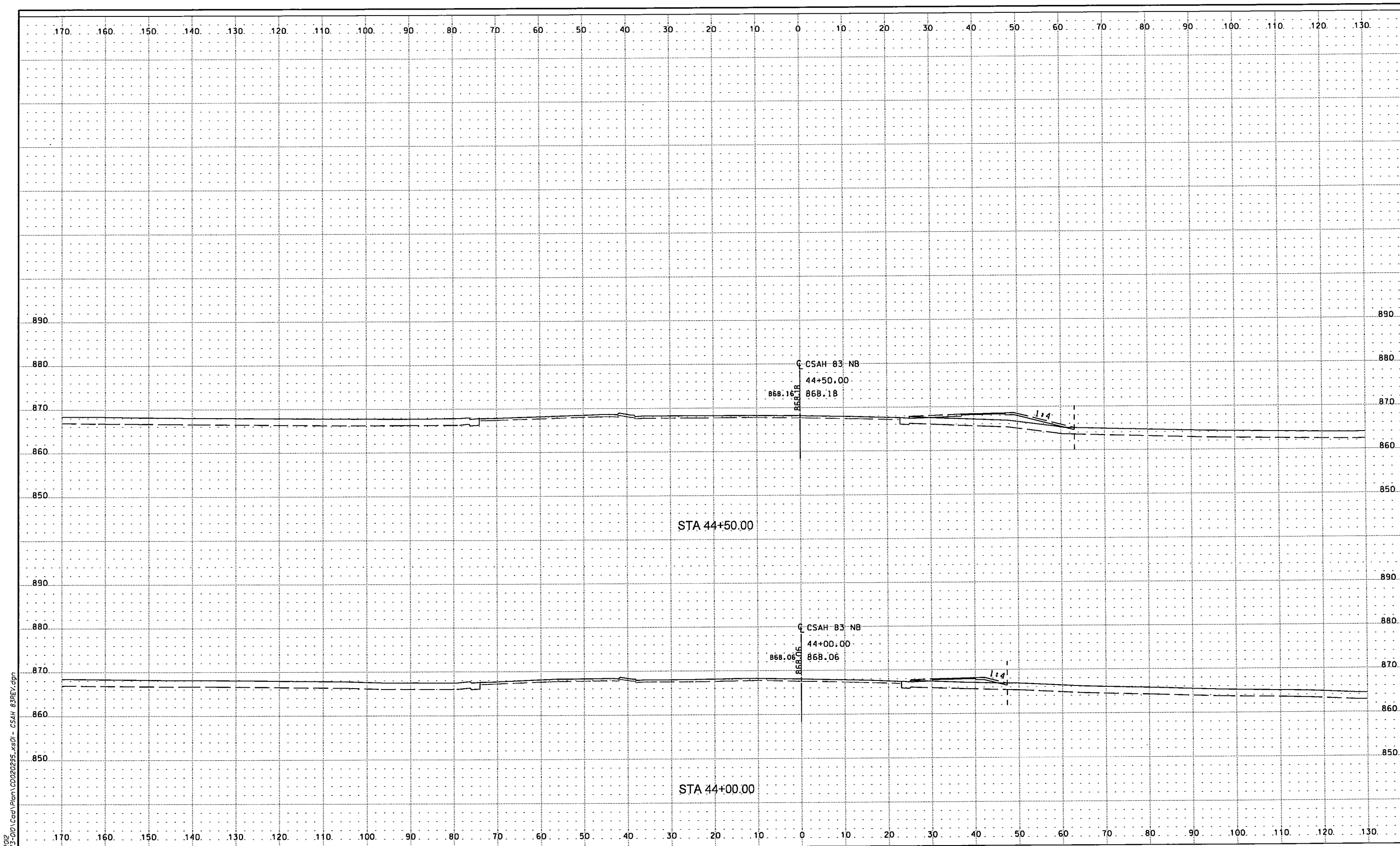
NO.	DATE	BY	CHK	REVISIONS
1	08/22/12	MEH	AJP	EAST SIDE BLVD AND TRAIL REVISED


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 STA 43+00.00 TO STA 43+50.00
CROSS SECTIONS - CSAH 83
 S.A.P. 199-020-010 / C.P. 12-20


SHEET
145R
 OF
153
 SHEETS



Date Printed: 8/23/2012
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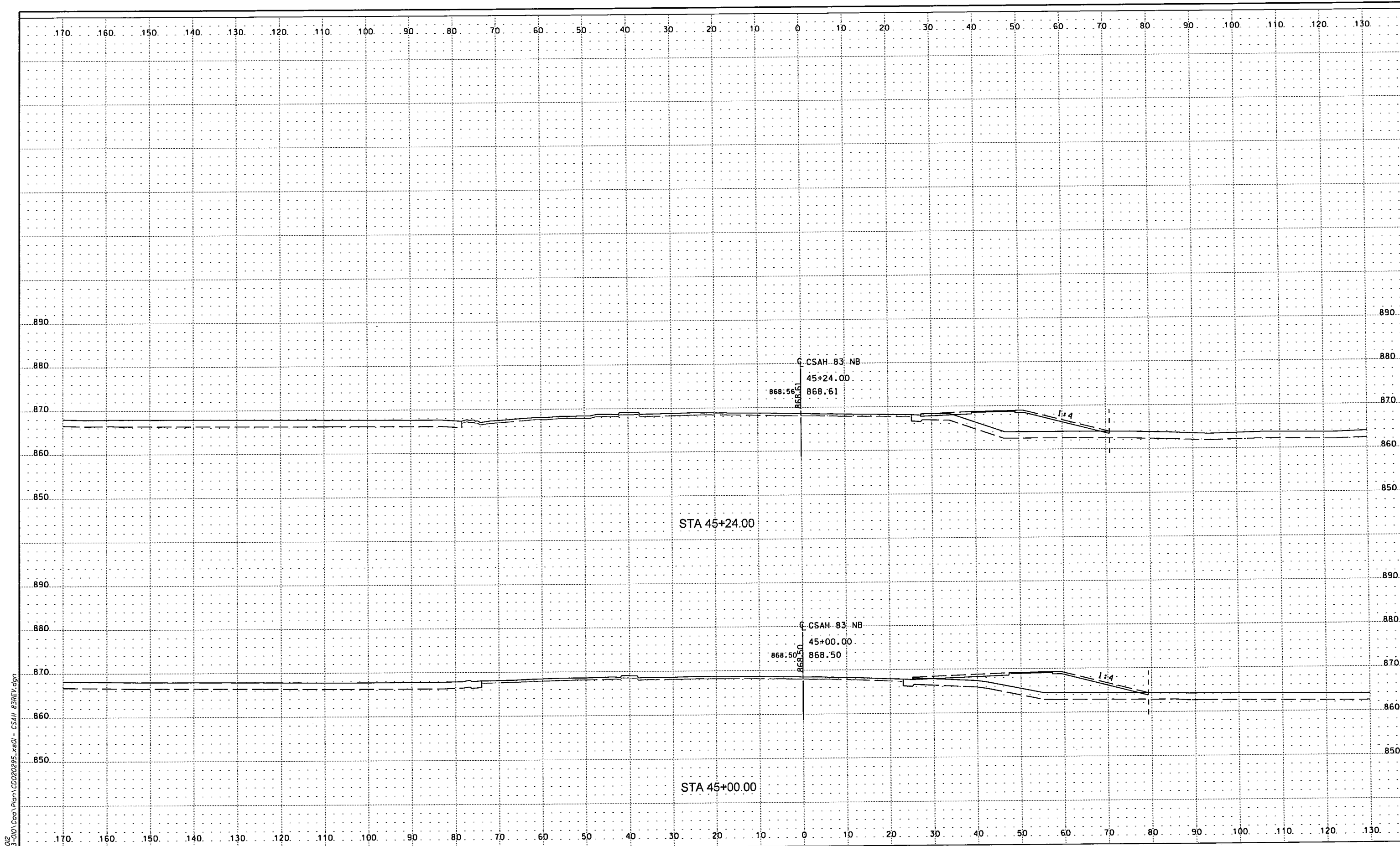
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1	08/22/12	MEH	AJP	EAST SIDE BLVD AND TRAIL REVISED


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CITY OF RAMSEY, MINNESOTA
 STA 44+00.00 TO STA 44+50.00
CROSS SECTIONS - CSAH 83
 S.A.P. 199-020-010 / C.P. 12-20


SHEET
146R
 OF
153
 SHEETS



Date Printed: 8/23/2012
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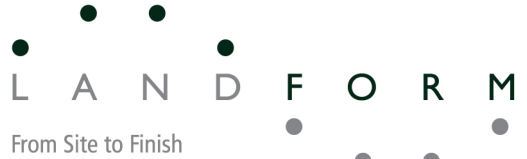
NO.	DATE	BY	CHK	REVISIONS
1	08/22/12	NEH	AJP	EAST SIDE BLVD AND TRAIL REVISED


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 STA 45+00.00 TO STA 45+24.00
CROSS SECTIONS - CSAH 83
 S.A.P. 199-020-010 / C.P. 12-20

SHEET
147R
 OF
153
 SHEETS



105 South Fifth Avenue Tel: 612-252-9070
Suite 513 Fax: 612-252-9077
Minneapolis, MN 55401 www.landform.net

CHANGE ORDER #2

DATE	August 09, 2012
PROJECT NAME	Sunwood Drive Realignment, SAP 199-104-010, CP 12-20
PROJECT NUMBER	RAM12019
CIVIL SHEETS ISSUED	1A, 8B-12B & Change Order 2 Tabulations
SPECIFICATIONS SECTION ISSUED	None

SHEET 1A: COVER SHEET

- a) ADDED sheets 8B through 12B to sheet index

SHEET 8B: ZEOLITE STREET STORM SEWER PLAN & PROFILE

- a) ADDED sheet, refer to tabulations for quantities

SHEET 9B: ZEOLITE STREET WATERMAIN & STREET PLAN AND PROFILE

- a) ADDED sheet, refer to tabulations for quantities

SHEET 10B: LAKE RAMSEY BORROW PIT OVERFLOW CHANNEL

- a) ADDED sheet, refer to tabulations for quantities

SHEET 11B: BUNKER LAKE BLVD TRAFFIC CONTROL

- a) ADDED sheet, refer to tabulations for quantities

SHEET 8B: ZEOLITE STREET CONSTRUCTION DETAILS

- a) ADDED sheet

Supplemental Information: Change Order #2 Tabulations

END OF CHANGE ORDER #2

If any of these items are unclear or in need of further clarification contact the Engineer at (612) 638-0243.

No.	Mat. No	Item	Units	Quantity	Unit Price	Total Price
1	2101.501	CLEARING	ACRE	0.67	\$ _____	\$ _____
2	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	390	\$ _____	\$ _____
3	2104.509	REMOVE 73" ARCH STORM SEWER BULKHEAD	EACH	1	\$ _____	\$ _____
4	2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LF	123	\$ _____	\$ _____
5	2105.501	COMMON EXCAVATION	CU YD	1,107	\$ _____	\$ _____
6	2105.535	SALVAGED TOPSOIL (LV)	CU YD	367	\$ _____	\$ _____
7	2105.535	TOPSOIL BORROW (LV)	CU YD	142	\$ _____	\$ _____
8	2105.601	DEWATERING	LUMP SUM	1	\$ _____	\$ _____
9	2211.503	AGGREGATE SHOULDERING (CV) CLASS 5 MODIFIED	CU YD	21.1	\$ _____	\$ _____
10	2211.503	AGGREGATE BASE (CV) CLASS 5 MODIFIED	CU YD	53.4	\$ _____	\$ _____
11	2360.501	TYPE SP 12.5 WEARING COURSE MIX (4,C)	TON	66.33	\$ _____	\$ _____
12	2501.525	73" SPAN RC PIPE-ARCH APRON	EACH	1	\$ _____	\$ _____
13	2501.602	TRASH GUARD FOR 73" ARCH APRON	EACH	1	\$ _____	\$ _____
14	2503.541	73" RC PIPE SEWER DESIGN 3006 CLIII	LF	210	\$ _____	\$ _____
15	2503.602	CONNECT TO EXISTING STROM SEWER	EACH	1	\$ _____	\$ _____
16	2503.603	CLEAN EXISTING STORM SEWER PIPE	LF	140	\$ _____	\$ _____
17	2504.602	CONNECT TO EXISTING WATERMAIN	EACH	6	\$ _____	\$ _____
18	2504.603	12" DIP WATERMAIN CLASS 52	LF	54	\$ _____	\$ _____
19	2504.604	4" POLYSTYRENE INSULATION	SQ YD	43	\$ _____	\$ _____
20	2504.608	DIP FITTINGS	LBS	3300	\$ _____	\$ _____
21	2506.501	CONSTRUCT DRAINAGE STRUCTURE DES 108-4020	EA	1	\$ _____	\$ _____
22	2506.516	CASTING ASSEMBLY	EA	1	\$ _____	\$ _____
23	2506.521	INSTALL CASTING	EA	1	\$ _____	\$ _____
24	2511.501	RANDOM CLASS III RIP-RAP	CU YD	16	\$ _____	\$ _____
25	2563.601	TRAFFIC CONTROL	LS	1	\$ _____	\$ _____
26	2573.502	SILT FENCE, TYPE MACHINE SLICED	LF	650	\$ _____	\$ _____
27	2575.523	EROSION CONTROL BLANKET, CATEGORY 3	SQ YD	50	\$ _____	\$ _____
28	2575.501	SEEDING	ACRE	0.67	\$ _____	\$ _____
29	2575.502	SEED MIXTURE 190	LBS	37.2	\$ _____	\$ _____
30	2582.502	4" SOLID LINE, WHITE-PAINT	LF	40	\$ _____	\$ _____
31	2582.502	4" DOUBLE SOLID LINE, YELLOW-PAINT	LF	92	\$ _____	\$ _____

MINNESOTA DEPARTMENT OF TRANSPORTATION ANOKA COUNTY

CONSTRUCTION PLAN FOR SUNWOOD DRIVE REALIGNMENT

LOCATED ON SUNWOOD DRIVE

STATE AID PROJ. NO. 199-104-010, CITY PROJECT 12-20

GROSS LENGTH 1404 FEET 0.26 MILES
 BRIDGES-LENGTH N/A FEET N/A MILES
 EXCEPTIONS-LENGTH N/A FEET N/A MILES
 NET LENGTH 1404 FEET 0.26 MILES
 REF. POINT WEST OF ZEOLITE
 TO REF POINT ARMSTRONG BLVD.

PLOTTED/REVISED: \$\$\$@DATE@\$\$\$

PLAN SYMBOLS

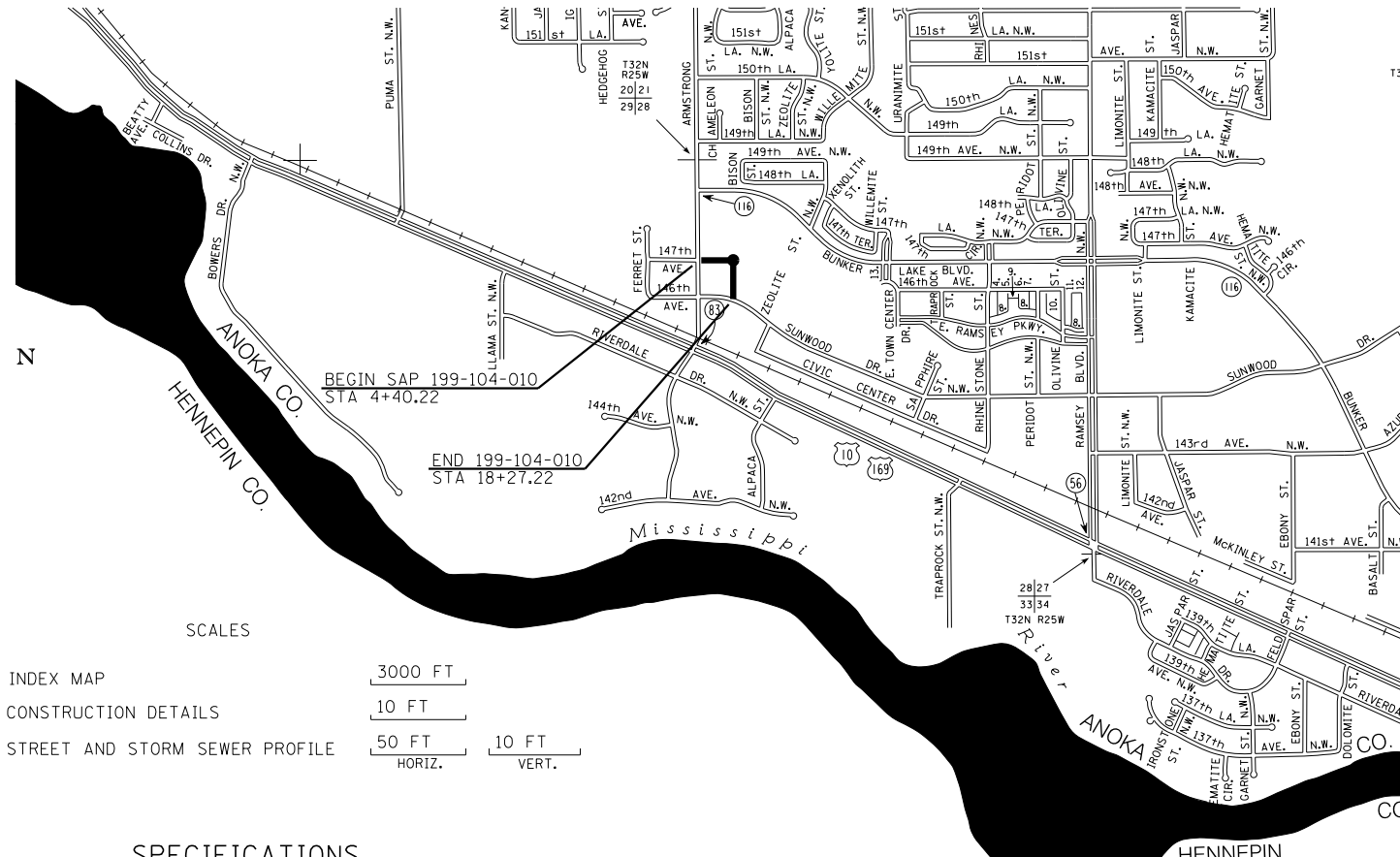
STATE LINE	=====
COUNTY LINE	-----
TOWNSHIP OR RANGE LINE	-----
SECTION LINE	-----
QUARTER LINE	-----
SIXTEENTH LINE	-----
SLOPE EASEMENT	-----
PRESENT RIGHT OF WAY LINE	-----
CONTROLLED ACCESS	-----
CORPORATE OR CITY LIMITS	-----
PROPERTY LINE	-----
TEMPORARY EASEMENT	-----
RAILROAD RIGHT OF WAY	-----
ROADWAY CENTERLINE	-----
RAILROAD	-----
RIVER OR CREEK	-----
DRAINAGE DITCH	-----
BRIDGE	-----
CULVERT	-----
DRAINTILE	-----
CAST IRON MONUMENT	-----
CONCRETE OR STONE MONUMENT	-----
MARSH OR SWAMP	-----
WOODS OR BRUSH	-----
DECIDUOUS TREE	-----
EVERGREEN TREE	-----
HEDGE	-----
BARBED WIRE FENCE	-----
CHAIN LINK FENCE	-----
WOVEN WIRE FENCE	-----
GUARDRAIL (CABLE)	-----
GUARDRAIL (PLATE BEAM)	-----
RETAINING WALL	-----
CATCH BASIN	-----
MANHOLE	-----
TRUNCATED DOME	-----

UTILITY SYMBOLS

POWER POLE LINE	-----
BURIED ELECTRICAL CABLE IN CONDUIT	-----
STEEL TOWER	-----
ANCHOR	-----
HANDHOLE	-----
GAS MAIN	-----
GAS VALVE	-----
SANITARY SEWER	-----
STORM SEWER	-----
TELEPHONE POLE	-----
BURIED TELEPHONE CABLE	-----
TELEPHONE CABLE IN CONDUIT	-----
FIRE HYDRANT	-----
WATER MAIN	-----
WATER VALVE	-----
STREET LIGHT	-----



N



SCALES

INDEX MAP	3000 FT
CONSTRUCTION DETAILS	10 FT
STREET AND STORM SEWER PROFILE	50 FT HORIZ. 10 FT VERT.

SPECIFICATIONS

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION 'STANDARD SPECIFICATIONS FOR CONSTRUCTION', SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES & SIGNING SHALL CONFORM TO THE MN MUTCD INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

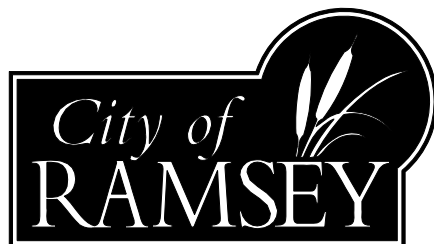
DESIGN DESIGNATION

Design ESALS	2032	= 947,000
ADT (Current Year) 2012		= N/A
ADT (Future Year) 2032		= 18,900
HCADT (Future Year) 2032		= 6%
Design		= 10 TONS
R Value		= 75
Functional Class		LOCAL COLLECTOR
No. of Traffic Lanes		= 4
No. of Parking Lanes		= 0
Shoulder Width		= 0'
Design Speed		30 MPH
D (Directional Distr.)		= 50/50
Based on Stopping Sight Distance		
Height of Eye 3.5' Height of Object 2.0'		

DESIGN DESIGNATION

Design ESALS	2032	= 947,000
ADT (Current Year) 2012		= 3200
ADT (Future Year) 2032		= 9,300
HCADT (Future Year) 2032		= 6%
Design		= 10 TONS
R Value		= 75
Functional Class		LOCAL COLLECTOR
No. of Traffic Lanes		= 3
No. of Parking Lanes		= 0
Shoulder Width		= 0'
Design Speed		30 MPH
D (Directional Distr.)		= 50/50
Based on Stopping Sight Distance		
Height of Eye 3.5' Height of Object 2.0'		

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY



INDEX

SHEET NO.	DESCRIPTION
1A	TITLE SHEET AND INDEX MAP
2A-3A	ESTIMATED QUANTITIES
4A	DRAINAGE TABULATION
5A	SOILS AND CONSTRUCTION NOTES
6A - 7A	TYPICAL SECTIONS
8A - 12A	CONSTRUCTION DETAILS
13A - 17A	STANDARD PLAN SHEETS
18A - 21A	ALIGNMENT PLAN AND TABULATION
22A - 23A	EXISTING CONDITIONS AND REMOVAL PLAN
24A - 28A	PROFILE AND STORM SEWER PLAN
29A - 34A	CONSTRUCTION PLAN
35A - 36A	SIGNING AND STRIPING PLAN
37A	STRIPING DETAILS
38A - 44A	SIGNING DETAILS
45A - 55A	CROSS SECTIONS
56A - 56A.4	STORM WATER POLLUTION PREVENTION PLAN
57A - 58A	WATERMAIN PLAN AND PROFILE
59A	WATERMAIN DETAILS
60A	OVERALL MASS GRADING/BORROW PLAN
61A	LAKE RAMSEY BORROW AREA
62A	LAKE RAMSEY BORROW AREA CROSS SECTIONS
63A - 64A	LANDSCAPE PLAN
65A	LANDSCAPE DETAILS
66A	LIGHTING PLAN
67A	IRRIGATION PLAN
1B - 2B	SUNWOOD RETAIL MASS GRADING, DRAINAGE, EROSION & SEDIMENT CONTROL PLAN
3B	SUNWOOD RETAIL MASS GRADING CROSS SECTIONS
4B	SUNWOOD RETAIL STORM SEWER PLAN AND PROFILE
5B	SUNWOOD RETAIL SANITARY SEWER PLAN AND PROFILE
6B	SUNWOOD RETAIL ACCESS DRIVE AND PROFILE
7B	SUNWOOD RETAIL CONSTRUCTION DETAILS
8B	ZEOLITE STREET STORM SEWER PLAN AND PROFILE
9B	ZEOLITE STREET WATERMAIN & STREET PLAN AND PROFILE
10B	LAKE RAMSEY BORROW PIT OVERFLOW CHANNEL
11B	ZEOLITE STREET AND BUNKER LAKE BLVD. TRAFFIC CONTROL
12B	ZEOLITE STREET CONSTRUCTION DETAILS

THIS PLAN CONTAINS 83 SHEETS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: ROBERT G. SCHUNICHT LICENSE # 12105

DATE: 08-07-12 SIGNATURE: Robert G. Schunicht

DESIGN SQUAD _____

APPROVED _____ DATE _____
CITY OF RAMSEY ENGINEER

APPROVED _____ DATE _____
ANOKA COUNTY ENGINEER

DISTRICT STATE AID ENGINEER; REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY _____ DATE _____

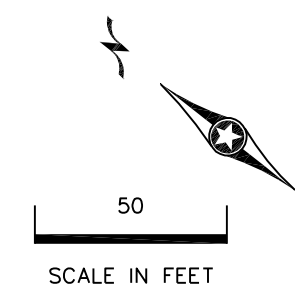
APPROVED FOR STATE AID FUNDING; STATE AID ENGINEER _____ DATE _____

S.A.P. 199-104-010

C.P. 12-20
SHEET NO. 1A OF 12B SHEETS

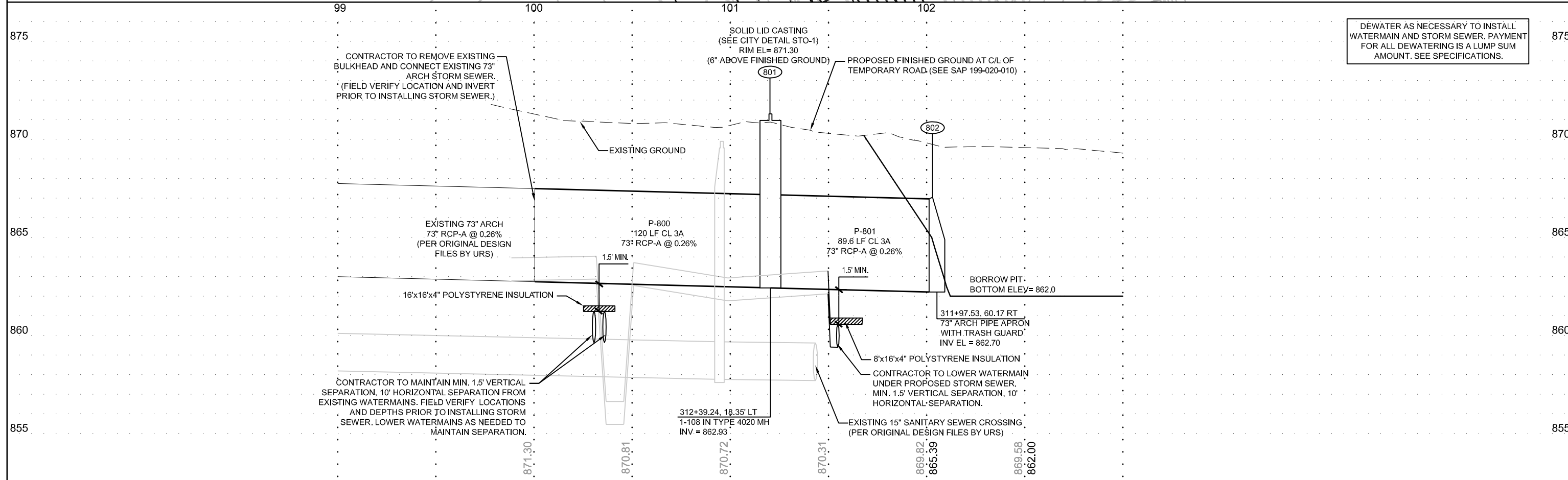
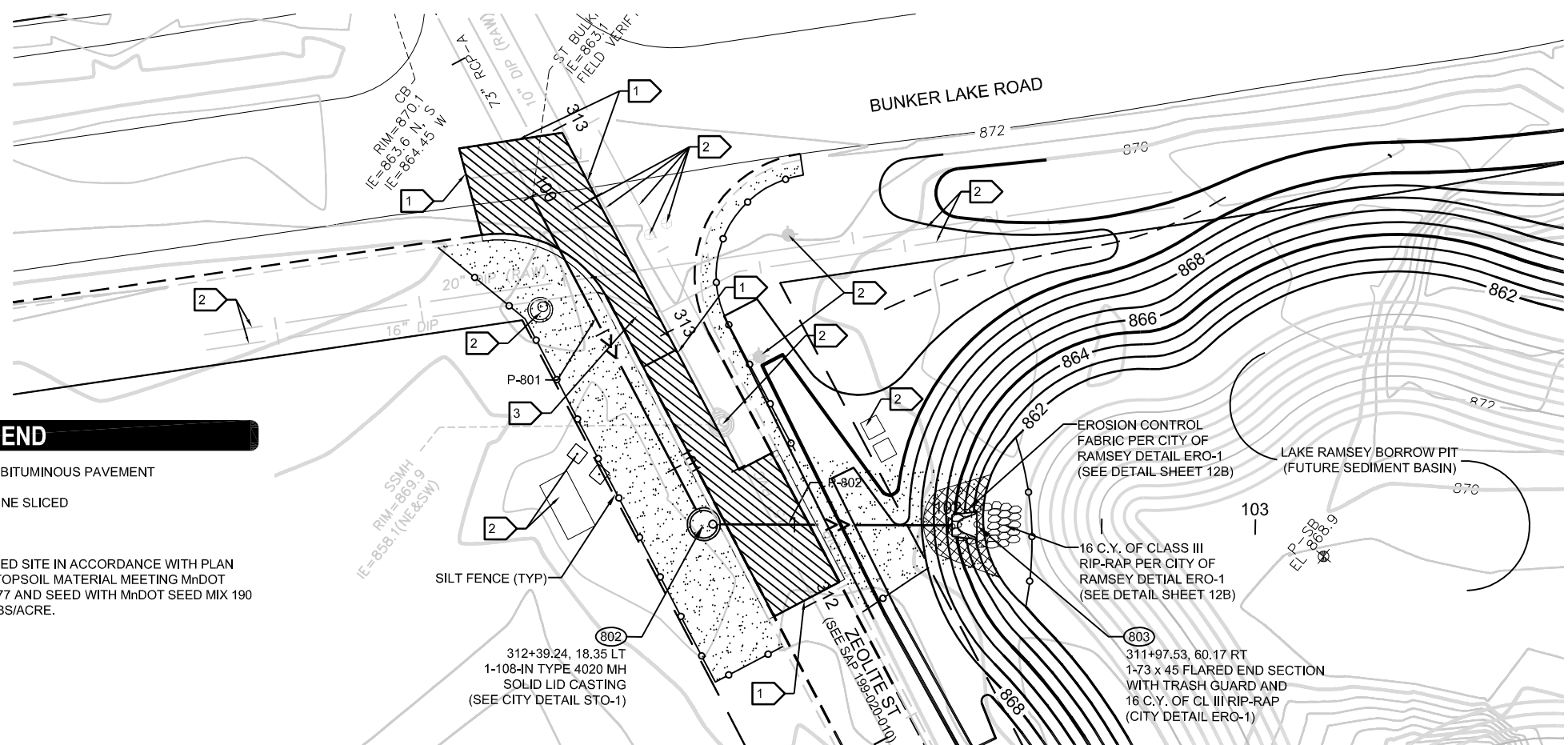
NOTES

- 1 SAWCUT EXISTING BITUMINOUS PAVEMENT (FULL DEPTH) PER COUNTY/CITY STANDARDS AND SPECIFICATION.
- 2 PROTECT STRUCTURES & UTILITIES. DAMAGE SHALL BE REPAIRED TO EQUAL OR BETTER CONDITION AT NO ADDITIONAL COST.
- 3 ROADWAY RESTORATION (SEE SHEET 9B)
4. CONTACT UTILITY SERVICE PROVIDERS FOR FIELD LOCATION OF SERVICES <72> HOURS PRIOR TO BEGINNING DEMOLITION AND CLEARING.
5. INSTALL PERIMETER SEDIMENT CONTROLS PRIOR TO BEGINNING WORK AND MAINTAIN FOR DURATION OF CONSTRUCTION. REMOVE CONTROLS AFTER AREAS CONTRIBUTING RUN OFF ARE PERMANENTLY STABILIZED AND DISPOSE OF OFF SITE.
6. REFER TO SHEET 11B FOR TRAFFIC CONTROL.
7. HAUL DEMOLITION DEBRIS OFF-SITE TO A FACILITY APPROVED BY REGULATORY AUTHORITIES FOR THE HANDLING OF DEMOLITION DEBRIS, UNLESS NOTED OTHERWISE.
8. SWEEP ADJACENT STREETS CLEAN DAILY.
9. PIPE LENGTHS SHOWN ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE OR END OF END SECTION.
10. INSTALL TRACER WIRE WITH UTILITIES PER CITY REQUIREMENTS AND SPECIFICATIONS.
11. REFER TO GEOTECHNICAL REPORT PREPARED BY NORTHERN TECHNOLOGIES, INC. DATED 01/31/12, FOR ADDITIONAL INFORMATION ON BACKFILL MATERIAL AND GROUNDWATER CONDITIONS.
12. CONTRACTOR TO CLEAN AND REMOVE SILT FROM EXISTING 73" ARCH STORM SEWER PIPE (APPROX. 140 L.F.) PIPE SHOULD BE FREE OF SILT AND DEBRIS.



LEGEND

- REMOVE EXISTING BITUMINOUS PAVEMENT
- SILT FENCE, MACHINE SLICED
- 8" BIOROLL
- RESTORE DISTURBED SITE IN ACCORDANCE WITH PLAN AND PLACE 4" OF TOPSOIL MATERIAL MEETING MnDOT SPECIFICATION 3877 AND SEED WITH MnDOT SEED MIX 190 AT A RATE OF 60 LBS/ACRE.



DEWATER AS NECESSARY TO INSTALL WATERMAIN AND STORM SEWER. PAYMENT FOR ALL DEWATERING IS A LUMP SUM AMOUNT. SEE SPECIFICATIONS.

SUNWOOD DRIVE REALIGNMENT
 SUNWOOD DRIVE
 RAMSEY, MINNESOTA

PROJ. NO.	RAM12019	DATE	7/25/2012	REVISION	CHANGE ORDER #1	REVIEW	RGS
DESIGNED BY:	RTS	8/07/2012		CHANGE ORDER #2			RGS
CHECKED BY:	CNC						
APPROVED BY:	RGS						

I hereby certify that this plan was prepared by me, or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the state of MINNESOTA.

Robert Schumert
 ROBERT SCHUMERT
 Registration No. 4043
 DATE: 06/01/2012

LANDFORM
 From Site to Finish

105 South Fifth Avenue
 Suite 513
 Minneapolis, MN 55401

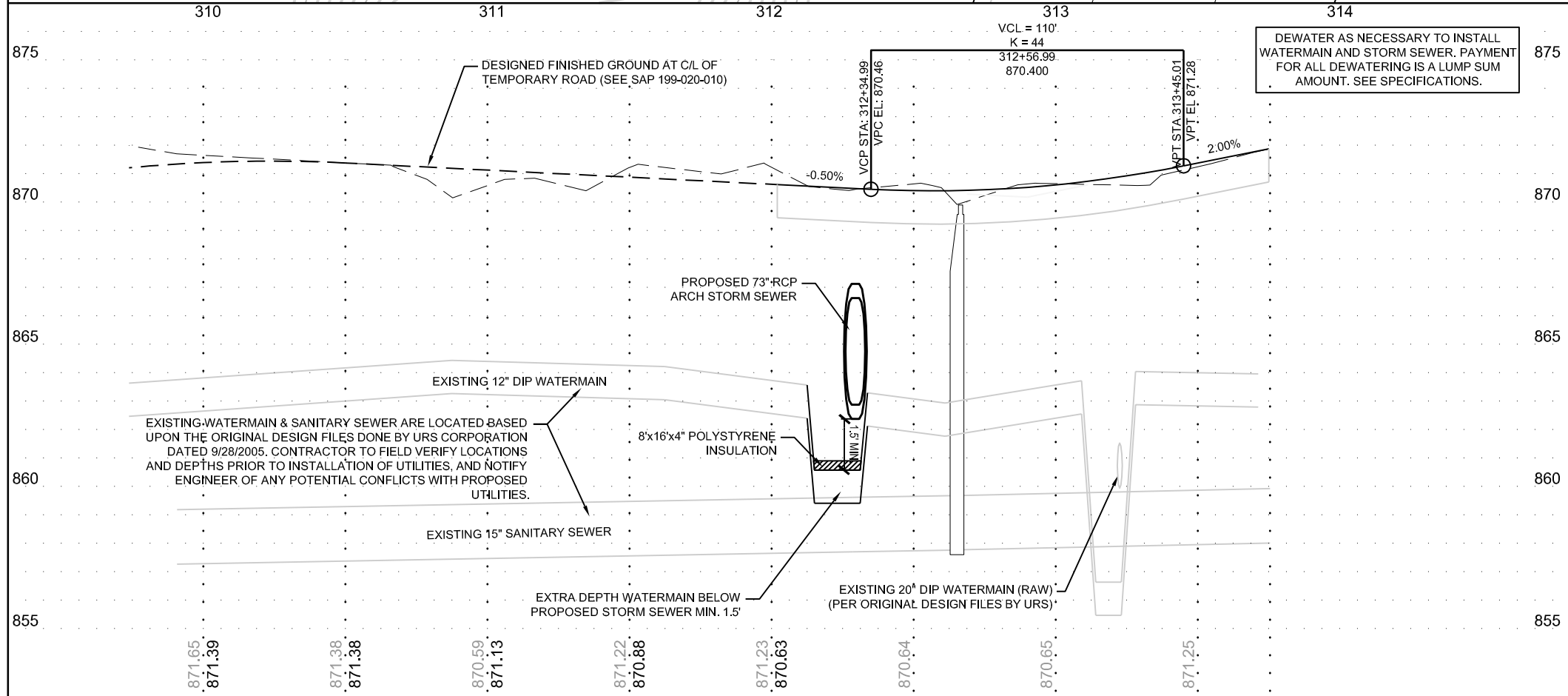
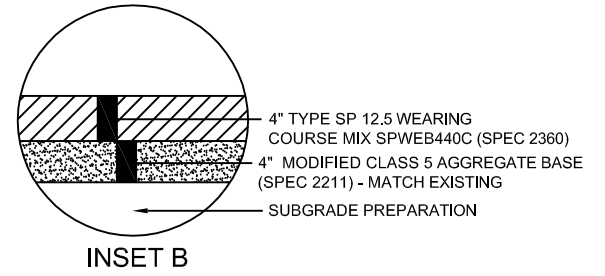
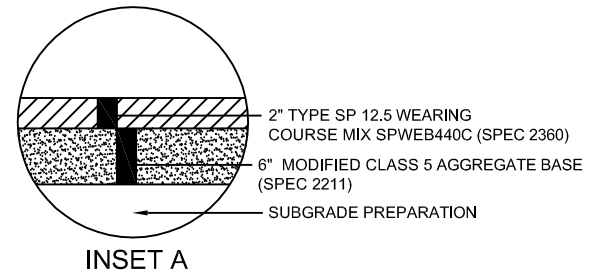
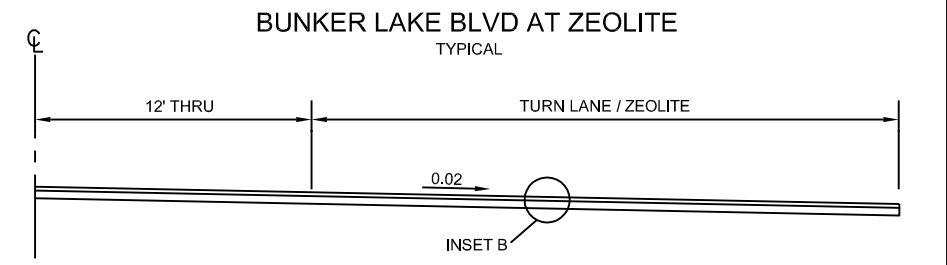
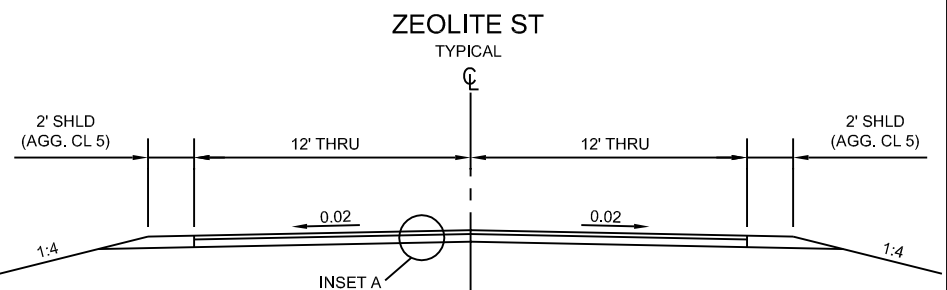
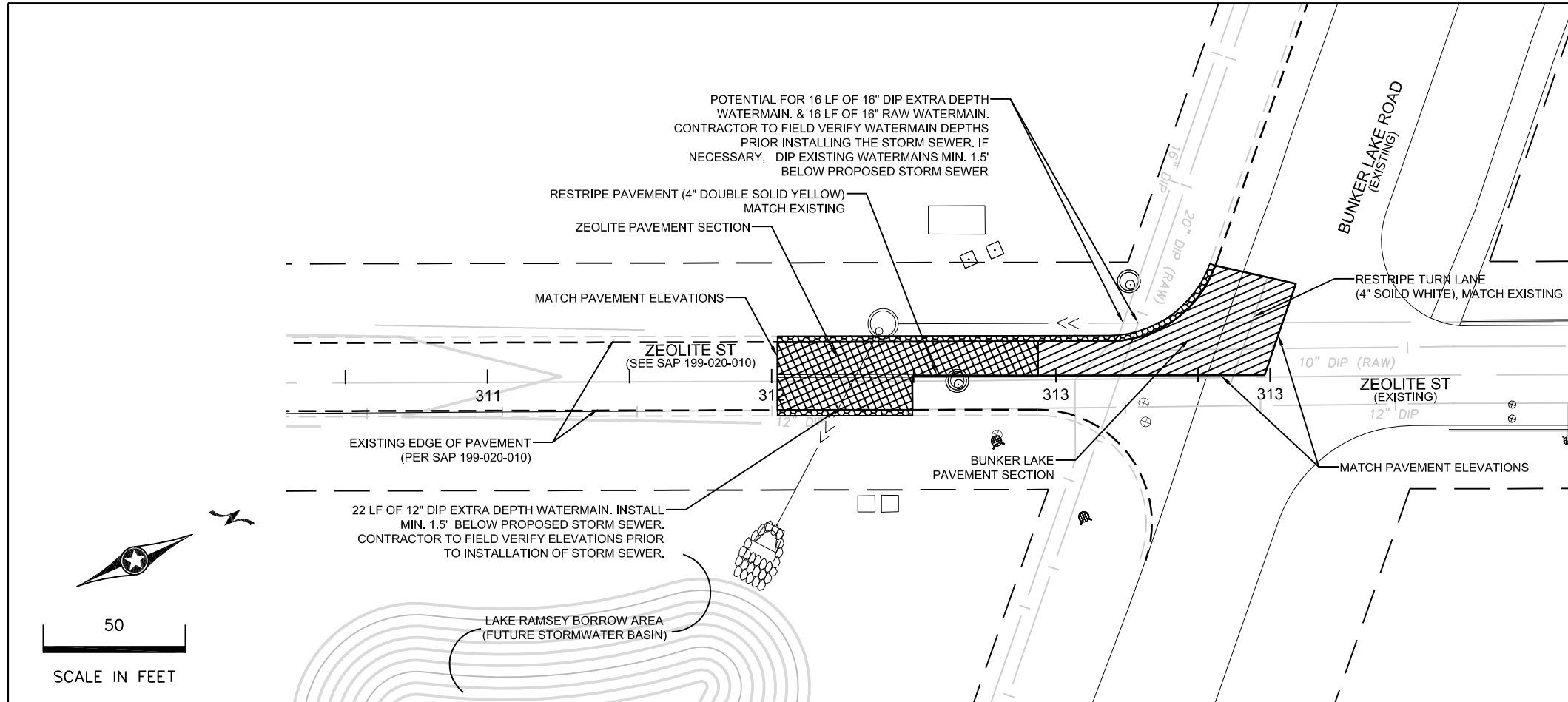
Tel: 612-252-9070
 Fax: 612-252-9077
 Web: landform.net

STORM SEWER PLAN AND PROFILE
 ZEOLITE STREET

S.A.P. NO. 199-104-010, C.P. NO. 12-20

SHEET NO. 8B / 12B

© LANDFORM 2012



LEGEND	
	ZEOLITE PAVEMENT SECTION (SEE ZEOLITE TYPICAL SECTION)
	BUNKER LAKE BLVD. SECTION (SEE BUNKER LAKE BLVD. TYPICAL SECTION)
	AGGREGATE SHOULDER, (SEE TYPICAL SECTIONS)



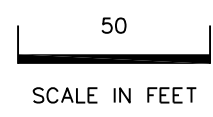
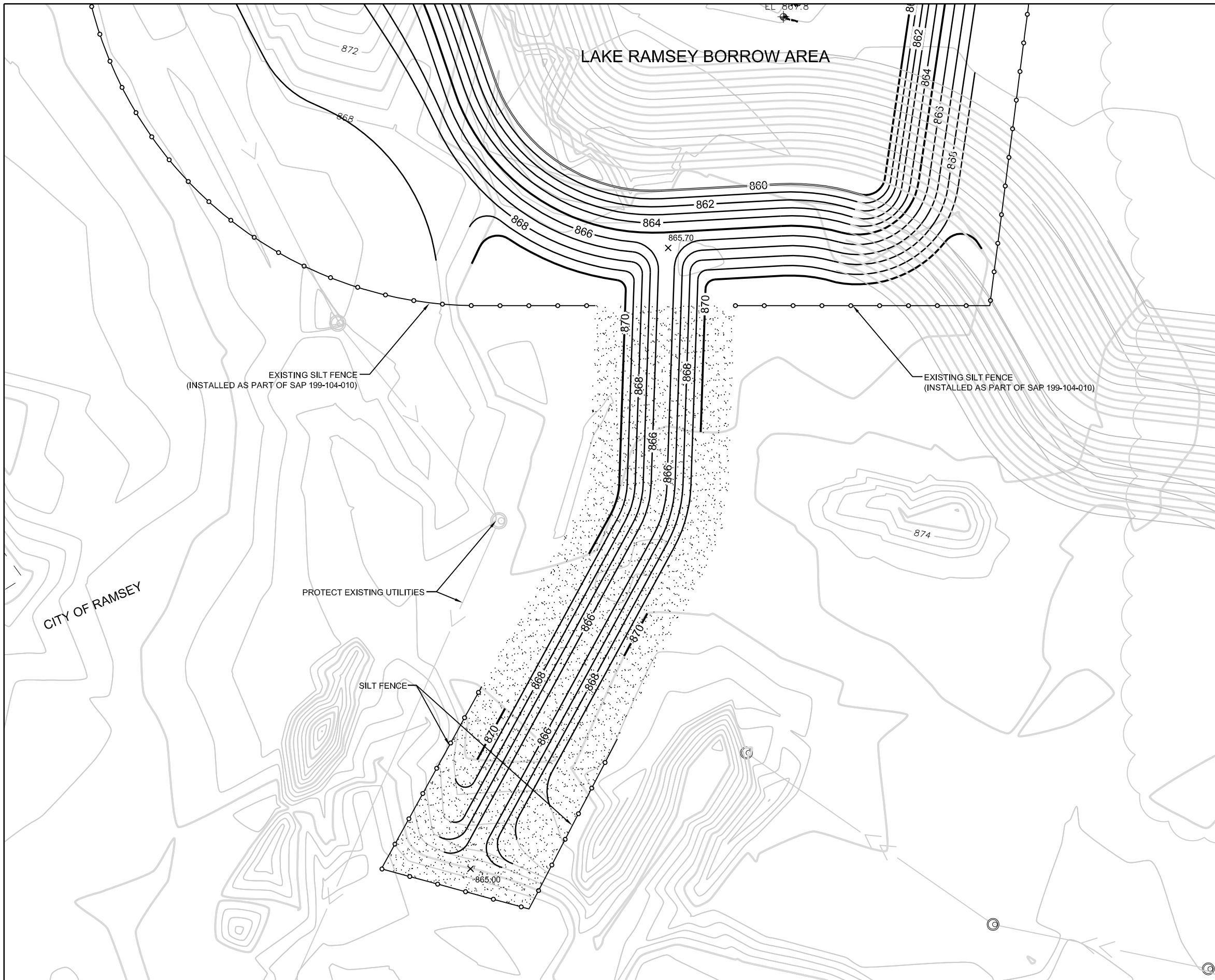
SUNWOOD DRIVE REALIGNMENT
SUNWOOD DRIVE
RAMSEY, MINNESOTA

PROJ. NO.	RAM12019	DATE	7/25/2012	REVISION	RGS
DESIGNED BY:	RTS	8/07/2012	CHANGE ORDER #1	RGS	
CHECKED BY:	CNC		CHANGE ORDER #2	RGS	
APPROVED BY:	RGS				

I hereby certify that this plan was prepared by me, or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the state of MINNESOTA.
Robert Schumert
NAME: ROBERT SCHUMERT
Registration No: 4043
DATE: 06/01/2012

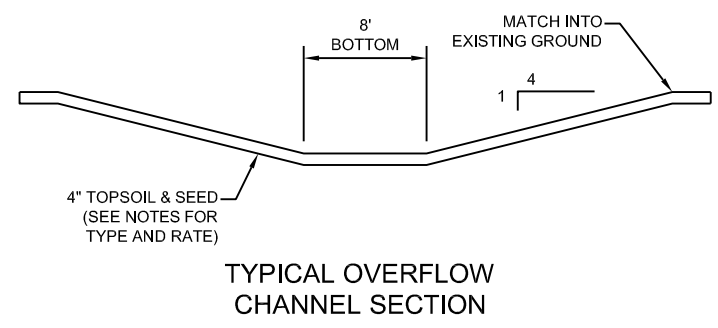
LANDFORM
From Site to Finish
105 South Fifth Avenue
Suite 513
Minneapolis, MN 55401
Tel: 612-252-9070
Fax: 612-252-9077
Web: landform.net

**WATERMAIN & STREET PLAN AND PROFILE
ZEOLITE STREET**
S.A.P. NO. 199-104-010, C.P. NO. 12-20
SHEET NO. 9B / 12B



LEGEND

- SILT FENCE, MACHINE SLICED
- RESTORE DISTURBED SITE IN ACCORDANCE WITH PLAN AND PLACE 4" OF TOPSOIL MATERIAL MEETING MnDOT SPECIFICATION 3877 AND SEED WITH MnDOT SEED MIX 190 AT A RATE OF 60 LBS/ACRE.



CITY OF RAMSEY

EXISTING SILT FENCE
(INSTALLED AS PART OF SAP 199-104-010)

EXISTING SILT FENCE
(INSTALLED AS PART OF SAP 199-104-010)

PROTECT EXISTING UTILITIES

SILT FENCE

SUNWOOD DRIVE REALIGNMENT
SUNWOOD DRIVE
RAMSEY, MINNESOTA

PROJ. NO.	RAM12019
DESIGNED BY:	RTS
CHECKED BY:	CNC
APPROVED BY:	RGS

DATE	7/25/2012
8/07/2012	

REVISION	CHANGE ORDER #1
	CHANGE ORDER #2

REVIEW	RGS
	RGS

I hereby certify that this plan was prepared by me, or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the state of MINNESOTA.

Robert Schumert
ROBERT SCHUMERT
 PROFESSIONAL ENGINEER
 Registration No. 1403
 DATE: 06/01/2012

LANDFORM
From Site to Finish

105 South Fifth Avenue
Suite 513
Minneapolis, MN 55401

Tel: 612-252-9070
Fax: 612-252-9077
Web: landform.net

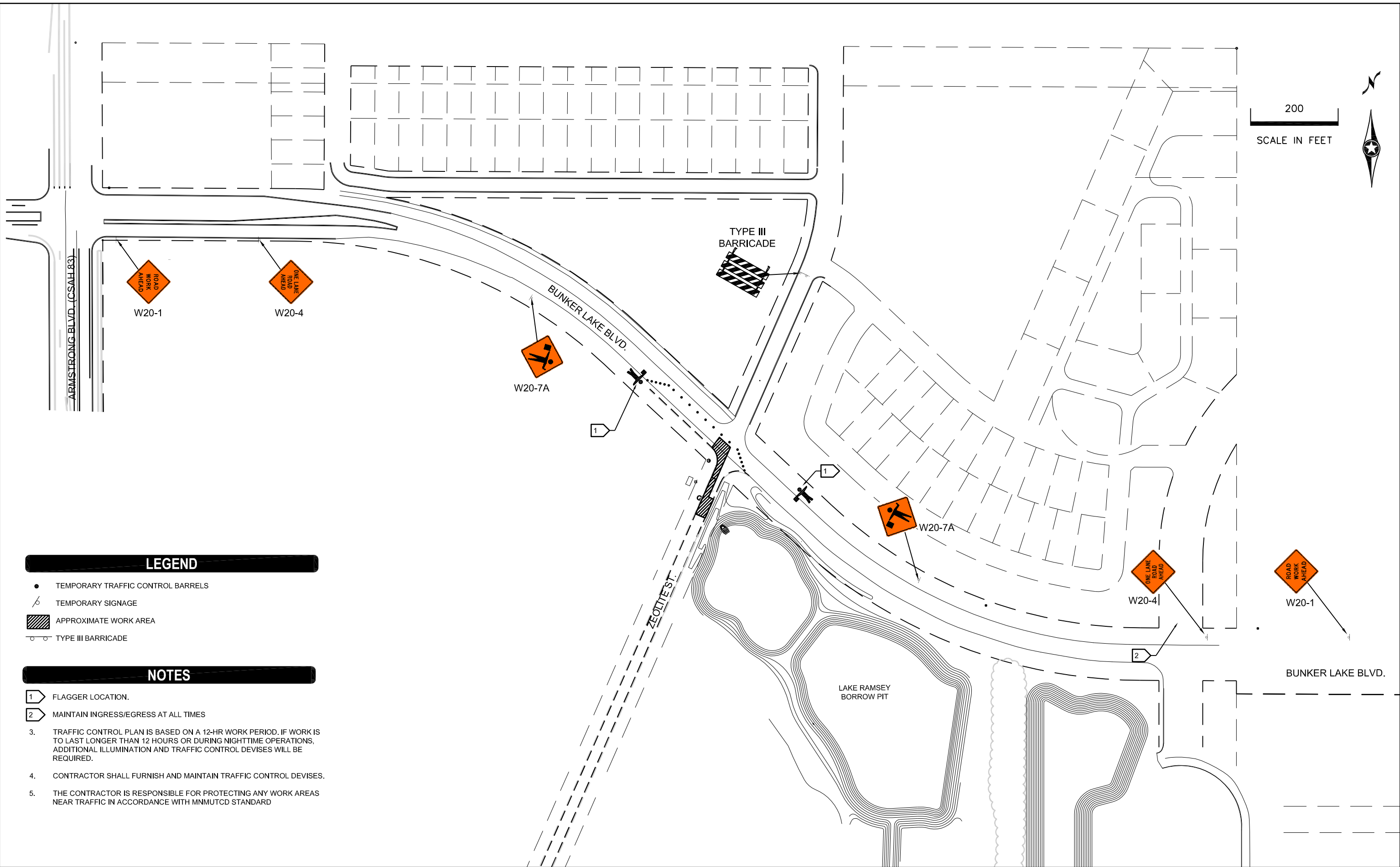
LAKE RAMSEY BORROW PIT OVERFLOW CHANNEL

S.A.P. NO. 199-104-010, C.P. NO. 12-20

SHEET NO. 10B / 12B



200
SCALE IN FEET



LEGEND

- TEMPORARY TRAFFIC CONTROL BARRELS
- ⚡ TEMPORARY SIGNAGE
- ▨ APPROXIMATE WORK AREA
- ⊕ TYPE III BARRICADE

NOTES

- 1 FLAGGER LOCATION.
- 2 MAINTAIN INGRESS/EGRESS AT ALL TIMES
3. TRAFFIC CONTROL PLAN IS BASED ON A 12-HR WORK PERIOD. IF WORK IS TO LAST LONGER THAN 12 HOURS OR DURING NIGHTTIME OPERATIONS, ADDITIONAL ILLUMINATION AND TRAFFIC CONTROL DEVICES WILL BE REQUIRED.
4. CONTRACTOR SHALL FURNISH AND MAINTAIN TRAFFIC CONTROL DEVICES.
5. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH MNMUTCD STANDARD

SUNWOOD DRIVE REALIGNMENT
SUNWOOD DRIVE
RAMSEY, MINNESOTA

PROJ. NO. RAM12019
DESIGNED BY: RTS
CHECKED BY: CNC
APPROVED BY: RGS

DATE
7/25/2012
8/07/2012

REVISION
CHANGE ORDER #1
CHANGE ORDER #2

REVIEW
RGS
RGS

I hereby certify that this plan was prepared by me, or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the state of MINNESOTA.
Robert Schumert
NAME: ROBERT SCHUMERT
Registration No. 403
DATE: 06/01/2012

LANDFORM
From Site to Finish
105 South Fifth Avenue
Suite 513
Minneapolis, MN 55401
Tel: 612-252-9070
Fax: 612-252-9077
Web: landform.net

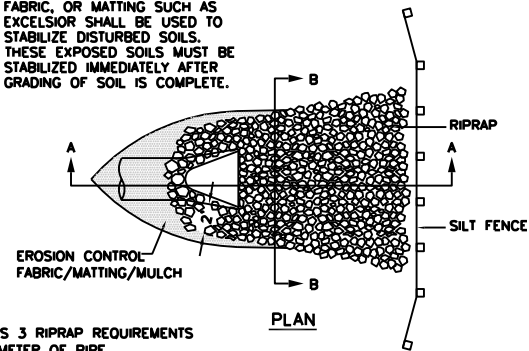
TRAFFIC CONTROL PLAN
BUNKER LAKE BLVD.

S.A.P. NO. 199-104-010, C.P. NO. 12-20

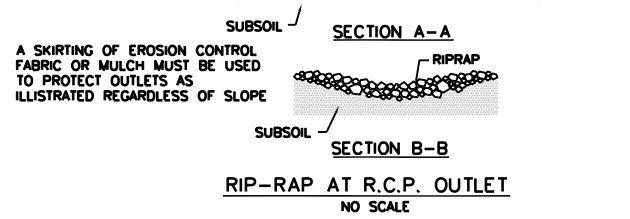
SHEET NO. 11B / 12B



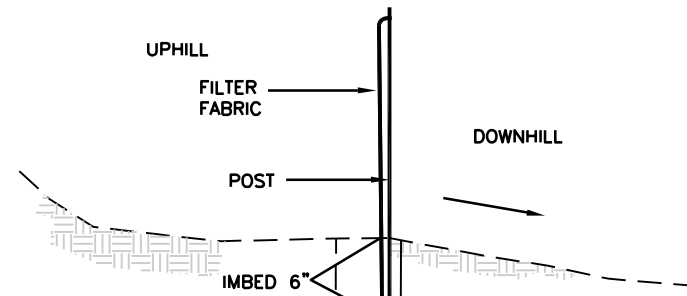
ON SLOPES 4:1 OR GREATER, ANCHOR OR STRAIGHT DISKED STRAW MULCH, SEEDED NETTING, FABRIC, OR MATTING SUCH AS EXCELSIOR SHALL BE USED TO STABILIZE DISTURBED SOILS. THESE EXPOSED SOILS MUST BE STABILIZED IMMEDIATELY AFTER GRADING OF SOIL IS COMPLETE.



CLASS 3 RIPRAP REQUIREMENTS /DIAMETER OF PIPE
 12" TO 24" 4 CUBIC YARDS
 27" TO 33" 8 CUBIC YARDS
 36" TO 48" 12 CUBIC YARDS
 54" AND UP 16 CUBIC YARDS
 (ONE CUBIC YARD IS APPROX. 2,800 LBS.)

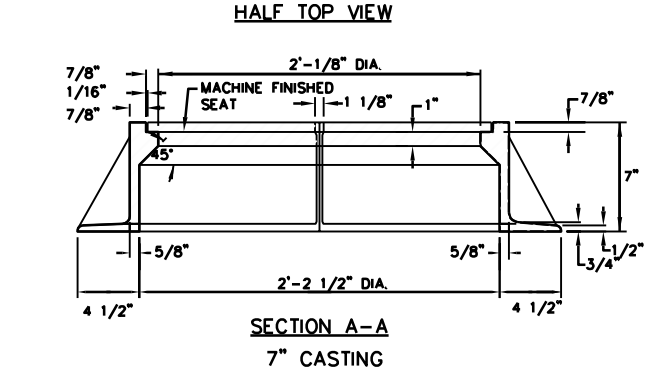
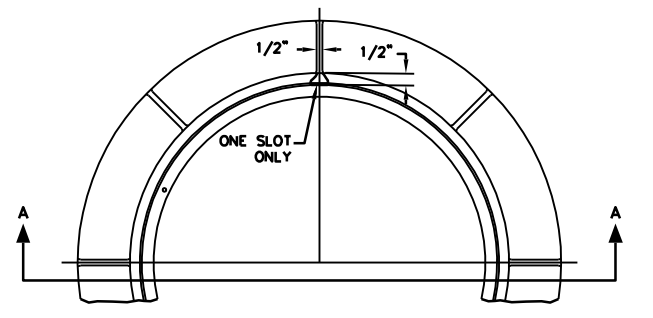


APPROVED		STANDARD DETAILS RIP - RAP
DATE	9-2011	CITY PLATE No. ERO-1



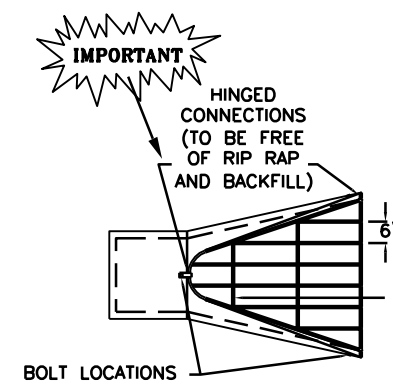
FABRIC ANCHORAGE TRENCH BACKFILL WITH TAMPED NATURAL SOIL
 MINIMUM TRENCH 6" wide by 6" deep
 INSTALL AS PER FILTER FABRIC MANUFACTURER'S RECOMMENDATIONS
SILT FENCE DETAIL
 NO SCALE

APPROVED		STANDARD DETAILS SILT FENCE
DATE	2-2005	CITY PLATE No. ERO-3



APPROVED		STANDARD DETAILS RING CASTING FOR NON-INLET STRUCTURE
DATE	7-93	CITY PLATE No. STO-1

NOTE: GUARDS MUST BE INCORPORATED ON ALL INSTALLATIONS EXCEPT WHERE SPECIFICALLY ALLOWED OTHERWISE BY THE CITY ENGINEER.

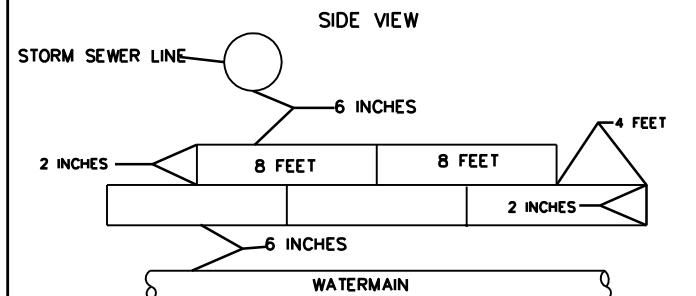
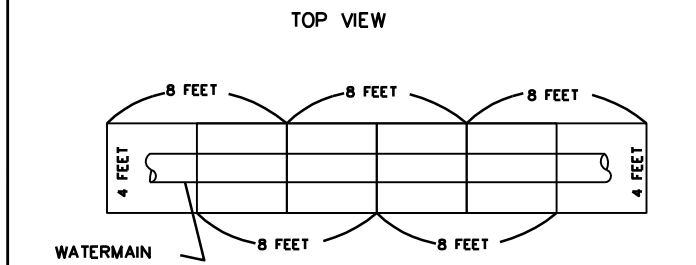


ALL GUARDS TO HAVE (1) CROSS BAR - 60" AND UP TO HAVE (2) EQUALLY SPACED

PIPE SIZE	BOLT DIA.	BAR SIZE
12"-24"	5/8"	5/8"
27"-48"	3/4"	3/4"
54"-90"	1"	1"
22"-29"	5/8"	5/8"
36"-59"	3/4"	3/4"
65"-88"	1"	1"

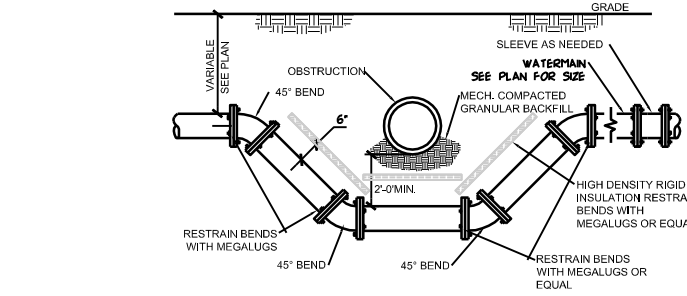
NOTE: COATINGS ARE AS SPECIFIED ELSEWHERE

APPROVED		STANDARD DETAILS TRASH GUARD
DATE	2-2006	CITY PLATE No. STO-12



NOTES: 1) SHEETS ARE 2 INCHES BY 4 FEET BY 8 FEET
 2) SURFACE PREPARATION SHALL BE SMOOTH AND ROCK FREE
 3) JOINTS WILL BE OVERLAPPED BY 4 FEET
 4) POLYSTYRENE INSULATION OR APPROVED EQUAL

APPROVED		STANDARD DETAILS UTILITY INSULATION
DATE	4/2004	CITY PLATE No. WAT-5



- USE MEGALUG THRUST RESTRAINTS ON ALL FITTINGS.
- ON NEW CONSTRUCTION RESTRAIN A MINIMUM OF TWO PIPE JOINTS (40 LF) LEFT AND RIGHT OF THE LOWERING.
- ANTI CORROSIVE COATING REQUIRED ON ALL BOLT AND RESTRAINT ASSEMBLIES.
- INSTALL POLYETHYLENE FILM WRAP AROUND ALL PIPE INCLUDED IN THE LOWERING.

WATERMAIN LOWERING W/ INSULATION
 NO SCALE

CITY OF RAMSEY
 SUNWOOD DRIVE REALIGNMENT
 SUNWOOD DRIVE
 RAMSEY, MINNESOTA

PROJ. NO.	RAM12019	DATE	7/25/2012	REVISION		REVIEW	
DESIGNED BY:	RTS	8/07/2012	8/07/2012	CHANGE ORDER #1		RGS	
CHECKED BY:	CNC			CHANGE ORDER #2		RGS	
APPROVED BY:	RGS						

I hereby certify that this plan was prepared by me, or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the state of MINNESOTA.
Robert Schumert
 NAME: ROBERT SCHUMERT
 Registration No. 1005
 DATE: 06/01/2012

LANDFORM
 From Site to Finish
 105 South Fifth Avenue
 Suite 513
 Minneapolis, MN 55401
 Tel: 612-252-9070
 Fax: 612-252-9077
 Web: landform.net

CONSTRUCTION DETAILS
 ZEOLITE STREET
 S.A.P. NO. 199-104-010, C.P. NO. 12-20
 SHEET NO. 12B / 12B



**NORTH PINE
AGGREGATE INC.**

14551 Lake Drive | Forest Lake, MN 55025 | 651.464.6802

To:	City Of Ramsey	Contact:	Shane Nelson
Address:	7550 Sunwood Drive NW Ramsey, MN 55303	Phone:	(763) 427-1410
		Fax:	(763) 427-5543
Project Name:	CSAH 83 & 147th Ave Change Order #2	Bid Number:	12-072
Project Location:	Zeolite & Bunker, Ramsey, MN	Bid Date:	9/5/2012

Item #	Item Description	Estimated Quantity	Unit	Unit Price	Total Price
1	Mobilization	1.00	LS	\$2,500.00	\$2,500.00
2	Clearing	0.67	ACRE	\$4,155.00	\$2,783.85
3	Remove Bituminous Pavement	390.00	SY	\$3.80	\$1,482.00
4	Remove 73" Arch Storm Sewer Bulkhead	1.00	EACH	\$455.00	\$455.00
5	Sawing Bituminous Pavement (Full Depth)	123.00	LF	\$3.90	\$479.70
6	Common Excavation	1,107.00	CY	\$4.75	\$5,258.25
7	Salvaged Topsoil (LV)	367.00	CY	\$1.35	\$495.45
8	Topsoil Borrow (LV)	142.00	CY	\$3.85	\$546.70
9	Dewatering	1.00	LS	\$14,000.00	\$14,000.00
10	Aggregate Shouldering (CV) Class 5 Modified	21.10	CY	\$53.75	\$1,134.13
11	Aggregate Base (CV) Class 5 Modified	53.40	CY	\$40.75	\$2,176.05
12	Type SP 12.5 Wearing Course Mix (4,C)	66.33	TON	\$128.25	\$8,506.82
13	73" Span RC Pipe-Arch Apron	1.00	EACH	\$6,100.00	\$6,100.00
14	Trash Guard For 73" Arch Apron	1.00	EACH	\$2,800.00	\$2,800.00
15	73" Pipe Sewer Design 3006 CL II	210.00	LF	\$347.00	\$72,870.00
16	Connect To Existing Storm Sewer	1.00	EACH	\$1,755.00	\$1,755.00
17	Clean Existing Storm Sewer Pipe	140.00	LF	\$24.91	\$3,487.40
18	Connect To Existing Watermain	6.00	EACH	\$1,800.00	\$10,800.00
19	12" DIP Watermain Class 52	54.00	LF	\$189.00	\$10,206.00
20	4" Polystyrene Insulation	43.00	SY	\$63.00	\$2,709.00
21	DIP Fittings	3,300.00	LB	\$3.35	\$11,055.00
22	Construct Drainage Structure DES 108-4020	1.00	EACH	\$12,750.00	\$12,750.00
23	Casting Assembly	1.00	EACH	\$800.00	\$800.00
24	Install Casting	1.00	EACH	\$150.00	\$150.00
25	Random Class III Rip Rap	16.00	CY	\$95.00	\$1,520.00
26	Traffic Control	1.00	LS	\$3,500.00	\$3,500.00
27	Silt Fence, Type Machine Sliced	650.00	LF	\$1.66	\$1,079.00
28	Erosion Control Blanket, Category 3	50.00	SY	\$2.50	\$125.00
29	Seeding	0.67	ACRE	\$2,550.00	\$1,708.50
30	Seed Mixture 190	37.20	LB	\$4.25	\$158.10
31	4" Solid Line, White-Paint	40.00	LF	\$3.25	\$130.00
32	4" Double Solid Line, Yellow-Paint	92.00	LF	\$6.45	\$593.40

Total Bid Price: \$184,114.35

Notes:

- **If 73" Arch Pipe Class II is Not Acceptable, Please add \$14,500.00 for Class III (Item 15)**
- Price does not include: Site Surveying; Soil Testing; Concrete Curb & Gutter; Sidewalk; Detours; Building or Structure Demolition; Hidden or Buried Debris; Hazardous Materials Removal; Street Sweeping; Import and/or Export of Dirt; Site Utilities other than those listed above; Any Permits; Moving of Small Utilities; Any Subsoil Corrections or Trench Borrow



**NORTH PINE
AGGREGATE INC.**

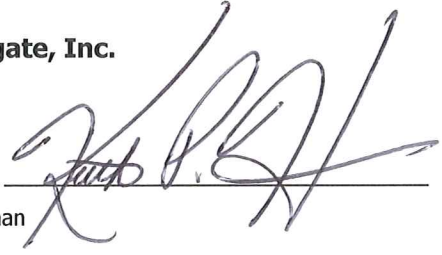
14551 Lake Drive | Forest Lake, MN 55025 | 651.464.6802

To: City Of Ramsey	Contact: Shane Nelson
Address: 7550 Sunwood Drive NW Ramsey, MN 55303	Phone: (763) 427-1410 Fax: (763) 427-5543
Project Name: CSAH 83 & 147th Ave Change Order #2	Bid Number: 12-072
Project Location: Zeolite & Bunker, Ramsey, MN	Bid Date: 9/5/2012

- Pricing is based on the engineer(s) plans dated: Change Order 2 Plans 8-7-12
- Proposal is valid for a period of 30 days from date of proposal.
- This proposal assumes an average topsoil depth of 1.0 foot.
- Any delays due to incomplete surveying or improper surveying could result in additional charges.
- Price does not include lowering/moving small utilities. If there are utilities not properly represented on plans, price is subject to change.
- All grading needs to be verified by civil engineer as grading is completed.

Payment Terms:

Net due upon receipt of billing. A 1.5% per month service charge will be assessed on unpaid balance.

<p>ACCEPTED: The above prices, specifications and conditions are satisfactory and are hereby accepted.</p> <p>Buyer: _____</p> <p>Signature: _____</p> <p>Date of Acceptance: _____</p>	<p>CONFIRMED: North Pine Aggregate, Inc.</p> <p>Authorized Signature: </p> <p>Estimator: Keith Herman</p>
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Public Works Committee

5. 9.

Meeting Date: 09/18/2012

Submitted For: Shane Nelson

By: Shane Nelson, Engineering/Public Works

Title:

Review of Miscellaneous Storm Water Appurtenances in the Vicinity of Lake Ramsey

Background:

We have observed several large storm water appurtenances in the vicinity of Lake Ramsey. We understand that most of these structures are remnants from the original development. We have completed an inventory (attached) and have determined what items are usable or salvageable and which items should be recycled or discarded. In addition to the pipe, it appears that this area is becoming a dump site for discarding used silt fence, concrete rubble and other miscellaneous items.

Notification:

n/a

Observations:

The structures near the intersection of Zeolite and Bunker Lake Blvd are very visible. The large diameter top slabs and bottom slabs are likely salvageable and one of each could possibly be used for the trunk storm sewer on Zeolite. The large diameter manhole structures are in usable condition; however the City does not currently have a use for them and may not have a use for them in the future.

The rest of the pipe is somewhat screened by the tree line on the east side of Lake Ramsey. The pipe that is damaged has no real value. These pipes and structures should be crushed with the rubble being removed from the site and recycled.

The pipe that is salvageable is only good if the City has a use for it. If the pipe is moved several times, we anticipate that it will get damaged. Most of the pipe is too heavy for the City to move using its equipment.

It will be necessary to move the pipe if Lake Ramsey is continued to the east. As the COR continues to develop, we understand that Lake Ramsey will continue to be excavated to the east for fill.

Funding Source:

We anticipate that the HRA would be the funding source

Staff Recommendation:

Staff is recommending removing all of the damaged and unusable material from the site to clean it up for future use, so as not to be a concern for future development.

We are seeking direction on the salvageable or usable material. These items could be removed or remain in place and made available to future site developer's within the COR.

Committee Action:

We are seeking a recommendation on what options to explore, if any, for the remnant pieces of pipe and manholes in the vicinity of Lake Ramsey.

Attachments

Inventory

Pic 1

Pic 2

Pic 3

Pic 4

Form Review

Inbox	Reviewed By	Date
Grant Riemer	Grant Riemer	09/12/2012 11:35 AM
Kurt Ulrich	Kurt Ulrich	09/13/2012 03:04 PM
Form Started By: Shane Nelson		Started On: 09/11/2012 01:32 PM
	Final Approval Date: 09/13/2012	

**Lake Ramsey Area
Storm Sewer Inventory**

Salvagable Material		
Item	Description	Quantity
1	36" Flared End Section	1
2	72" Top Slab -w/ 27" Opening	1
3	48" Top Slab -w/ 2' x 3' Opening	1
4	72" Top Slab -w/ 2' x 3' Opening	1
5	36" Grate	1
6	24" Flared End Section w/ Safety Grate	1
7	24" Section of Concrete Pipe	1
8	96" Dia. x 12" MH Riser	2
9	18" Riser for 2' x 3' Catch Basin	1
10	36"x 60" HDPE Pipe Reducer	1
11	20' Long - 4" Ductile Iron Pipe	2
12	1' x 24' x 1/2" Piece of Steel	1
13	20' Long - 30" HDPE Pipe	1
14	Water Valve Extensions	6
15	48" Section of Concrete Pipe	4
16	60" Section of Concrete Pipe	1
17	9' Diameter Concrete MH Structures - 7' High	2
18	11' Diameter Bottom Slabs	2
19	11' Diameter Top Slabs w/ 2' x 3' opening	2

Damaged or Nonuseable Material		
Item	Description	Quantity
1	36" Flared End Section w/ grate	1
2	18" Arch Pipe Flared End Section	1
3	24" Section of Concrete Pipe	1
4	36" Section of Concrete Pipe	3
5	48" Section of Concrete Pipe	1
6	60" Section of Concrete Pipe	1
7	84" Section of Concrete Pipe	1
8	24" Section of Concrete Arch Pipe	1
9	48" Section of Concrete Arch Pipe	1
10	2' x 3' Catch Basin Base	1
11	84" Dia. x 12" MH Riser	1
12	Pile of Used Silt Fence	n/a
13	2 Piles of Concrete Pieces	n/a
14	Pieces of Plastic Pipe	n/a









Public Works Committee

6. 1.

Meeting Date: 09/18/2012

Submitted For: Grant Riemer

By: Grant Riemer, Engineering/Public Works

Title:

Follow up Information on Radar Speed Signs

Background:

At the July 17th Public Works Committee meeting, staff was directed to research the cost of radar speed signs and their possible use for traffic control in the COR especially near the intersection and crosswalk at Sapphire St/Sunwood Dr. The following prices and information was provided by Traffic Logix Corp:

The following is pricing on our SafePace 100 depending on which option you choose in regards to powering the sign:

SP 100 with AC Power: \$1,999

SP 100 with 3-Cell Battery (two weeks of power) : \$2,299

SP 100 with 4-Cell Battery (four weeks of power) : \$2,399

SP 100 with Solar Panel and 3-Cell Battery back-up : \$2,599

This sign is very low weight and extremely portable. The pricing above reflects standard brackets and hose clamps to band onto an existing pole (ideally 4" in diameter). However, if you would like a more sophisticated bracket, we can supply you with a universal mounting bracket for an additional \$125. The universal bracket comes with one pole plate but you can purchase additional ones for \$49.

Our larger sign, the Safe Pace 400 is what we recommend for roads with posted speed limits above 35 MPH. Our SafePace 400 radar sign has a static "YOURSPEED" message and highly visible 15" LED digits displaying vehicle speeds. Digits and/or a speed violator strobe can be programmed to flash at designated speeds. The following is pricing on these signs (2 year warranty, 10 year warranty on LEDs):

SafePace 400 (AC Power) : \$3,299

SafePace 400 (Solar powered with back-up batteries) : \$3,999

I have attached product sheets for all models. Data collection software is priced at \$400. With this software you will be able to generate reports for traffic analysis. I've attached some sample data reports for your reference. I should mention this is a feature that must be added at the time of the purchase and cannot be added in later.

Notification:

Observations:

Funding Source:

Traffic Engineering cost center 0260

Staff Recommendation:

Informational only

Committee Action:

Informational only no action required

Attachments

SP100 Product Sheet

SP400 Product Sheet

SafePace Sample Reports

Form Review

Inbox	Reviewed By	Date
Kurt Ulrich	Kurt Ulrich	09/13/2012 03:04 PM
Form Started By: Grant Riemer		Started On: 08/22/2012 12:49 PM
	Final Approval Date: 09/13/2012	

TRAFFIC LOGIX

SafePace 100 Radar Speed Sign



The Traffic Logix SafePace 100 is the radar speed sign that fits your budget. This compact radar speed sign offers exceptional visibility and power efficiency in a lightweight and portable solution. Featuring the options you need at remarkably affordable pricing, the SafePace 100 is the sign you'll want to use again and again to keep your neighborhoods safe.

Features

- **Affordable:** Priced low enough for any budget.
- **Portable:** At 21 lbs, the lightweight sign is quick and simple to transport and can be mounted in minutes.
- **Energy Efficient:** The ultra low power sign utilizes the most power-efficient radar technology available. The sign can function up to four weeks autonomously with optional battery power.
- **Optimal Visibility:** Unique light enhancing, anti-glare lens system as well as automatic ambient light adjustment provide brilliant visibility even in poor lighting conditions.
- **User Friendly Software Interface:** Easy-to-use management software lets you set sign parameters, download traffic data, and generate statistical reports.

Ideal for use in:

- Residential neighborhoods
- Private communities
- School zones
- Shopping centers
- Corporate campuses
- Construction zones

sign with a convenient on-board switch.

- **On-Sign Programming:** Commonly used settings, such as display speed range and digit/strobe flashing threshold speed, can be programmed directly on



- **Vandalism Resistant:** With a 1/4" durable aluminum protective cover and individual optical lenses shielding each LED, the sign is well protected against theft or vandalism.



Individual Protective Lenses
Close-up View of Sign Digit

- **Stealth Mode:** Collect baseline traffic data while speed display appears blank to motorists.
- **Speed Violator Strobe:** Programmable flashing strobe to alert speeding drivers comes standard with every sign.



Data Collection, Analysis & Reporting

Accurate Traffic Statistics at Your Fingertips

With the SafePace 100 data collection feature, capture important traffic data such as vehicle count, speed, date and time. Stored data can be easily downloaded and generated into statistical reports and charts for analysis. Data can be stored by location, making the SafePace 100 the perfect choice when selecting a radar sign with data collection for use in single or multiple locations.

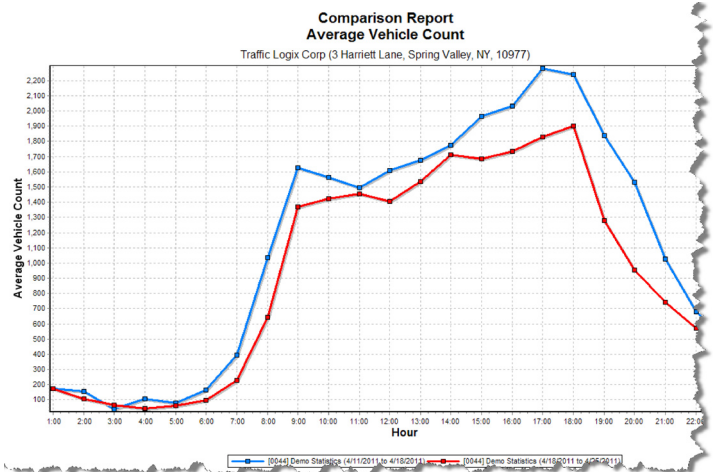
Statistics Summary Report

Location: Traffic Logix Corp
 Address: 3 Harriett Lane, Spring Valley, NY, 10977
 Speed Limit: 25

Data Session: Demo Statistics
 Report Period: 4/4/2011 to 4/10/2011
 Total Vehicle Count: 23,966

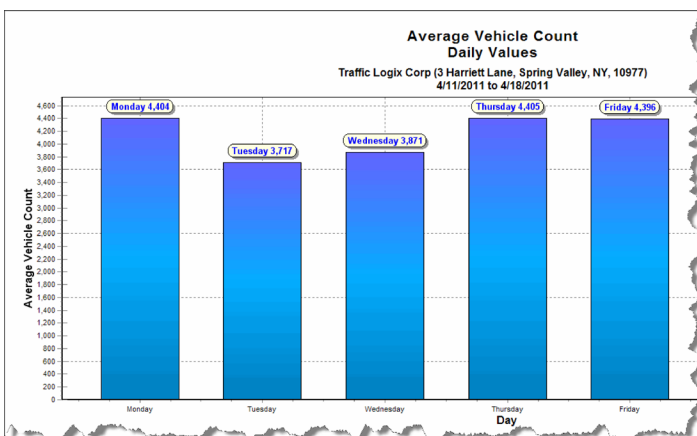
Hour	Total Vehicles	Average Vehicles	Total Violations	% Violations	Min. Speed	Max. Speed	Avg. Speed	85% Speed
00-01	163	23	161	99%	18	43	32	32
01-02	95	14	95	100%	26	43	32	37
02-03	57	8	52	92%	8	38	30	32
03-04	36	5	33	91%	18	38	32	37
04-05	34	5	24	76%	8	38	28	37
05-06	98	14	65	74%	13	53	30	32
06-07	290	41	207	75%	13	43	29	32
07-08	926	132	703	82%	8	43	30	32
08-09	1,524	218	1,274	86%	8	48	31	32
09-10	1,536	219	1,180	80%	8	48	29	32
10-11	1,442	206	1,172	83%	13	48	30	32
11-12	1,535	219	1,271	84%	8	48	30	32
12-13	1,661	237	1,398	85%	8	48	30	32
13-14	1,660	237	1,387	81%	8	43	29	32

Traffic Statistics Report



Period Comparison Graph

- Traffic data collected and stored by location
- Statistical reports & charts
 - Summary report
 - Weekly report
 - Period comparison report
 - Variety of report parameters including:
 - Average/total vehicle count, speed & number of violations
 - Percentage of speed violations
 - 85th percentile speed
 - Minimum & maximum speed
 - Vehicle count by speed
- Reports can be printed directly or exported into CSV format, MS Excel, Adobe Acrobat PDF, HTML, and Bitmap image formats



Average Vehicle Count



Sign Options

Data Collection: Built-in data engine collects traffic statistics including vehicle speed and count, allowing you to create valuable reports for analysis

Universal Mounting Bracket: Optional bracket makes mounting quick and easy, allowing you to use one sign at multiple locations. Bracket locks and unlocks with the turn of a key.

Battery Power: Lithium ion batteries offers extended operation with choice of 9.6V, 10Ah battery for two week performance or 12.8V, 15Ah battery for four week performance before recharge under normal operating conditions.



Folding Sign Plate

Solar Power: Complete and compact solar power system available.

Folding Sign Plate: Sign is available with smaller "Your Speed" sign plate that folds compactly for convenient relocation.



Universal mounting bracket

Specifications

- Sign size with full "Your Speed" sign plate: 23.0" (w) x 29.0" (h)
- Sign size with foldable "Your Speed" sign plate: 21.5" (w) x 30.3" (h)
- Digit height: 11.0"
- Sign depth: 3.0"
- Protective aluminum cover thickness: 0.25"
- Range: 300-400 ft
- Sign weight: 21.0 lbs with AC Power
- Power supply: AC Power (standard), Battery or Solar Power Optional
- Operating temperature: -40F - 185F



About Traffic Logix

Established in 2004 to provide traffic calming solutions to slow traffic on residential streets, Traffic Logix has since become a market leader and innovator.

Our dynamic line of products has evolved to include a complete line of interlocking rubber solutions such as speed humps, tables, and cushions, flexible rubber curbing, and a range of radar speed signs and options including driver feedback signs, variable message signs, a school zone system, variable speed limit signs, and now the compact, portable SafePace 100.

Traffic Logix is the only company of its kind offering a complete toolbox of traffic calming solutions including both rubber and radar products.

With solutions installed on thousands of streets across North America, Mexico, and Europe, Traffic Logix continues to lead the way to protect our streets on which we live.



3 Harriet Lane, Spring Valley, New York 10977
PHONE (866)915-6449 | FAX (866)995-6449
www.trafficlogix.com | info@trafficlogix.com



TRAFFIC LOGIX


SafePace 400 Radar Speed Sign

Traffic Logix' new SafePace 400 radar speed sign offers advanced technology and a full range of functionality to satisfy your radar sign needs.

With outstanding features such as easy-to-use management software, sign scheduling, data collection, robust statistical reporting, low power consumption and unique vandal resistant construction, the SafePace 400 is an excellent choice to help reduce speeding and make our streets safer.



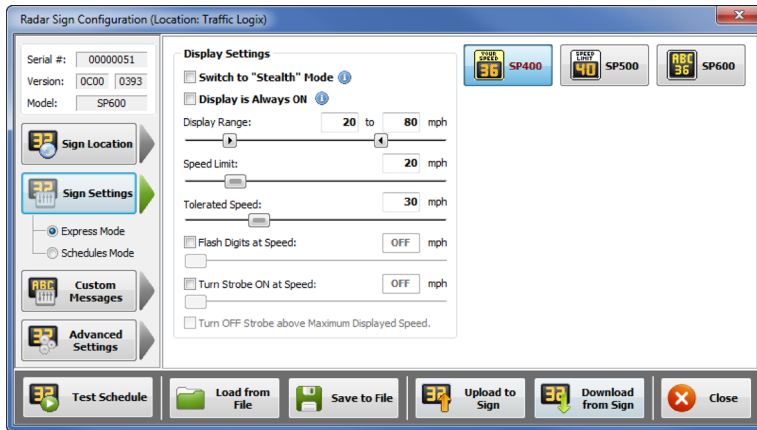
Features

- **MUTCD compliant** with static "YOUR SPEED" message and highly visible 15" LED digits displaying vehicle speed
- Display digits and/or speed violator strobe can be programmed to flash at designated speeds
- **Bluetooth** and **WiFi** compatible
- Complete 24/7, 365 day scheduling with unlimited holiday exception days
- Unique light enhancing, anti glare lens system provides **brilliant visibility** even in poor lighting
- **Optional data collection with robust reporting module** generates standardized reports for traffic analysis while including custom reporting options for more advanced users
- Includes **integrated flashing speed violator strobe** to alert speeding drivers
-  Ultra **low power consumption** including the most power-efficient radar technology available and optional solar power
- **Superior construction** and durability for long-lasting performance
- High strength aluminum sign face and individual optical lenses to **protect against vandalism and theft**
- **Stealth Mode** allows the sign to collect baseline traffic data while speed display appears blank to motorists
- Optional **integrated school zone beacon** system



Software Features

The SafeSpace Pro software application offers an easy-to-use interface to help manage your SafeSpace 400, analyze collected traffic statistics, and prepare and print traffic reports.



Manage Sign Settings

System Requirements

- Operating System: Windows XP, Windows Vista or Windows 7
- Screen Resolution: 1024 x 600 pixels or higher
- Communication Interface: Bluetooth Class 1 adapter (supplied) or WiFi
- Disk Space: A minimum of 15 Megabytes of free disk space

SafeSpace Pro allows you to:

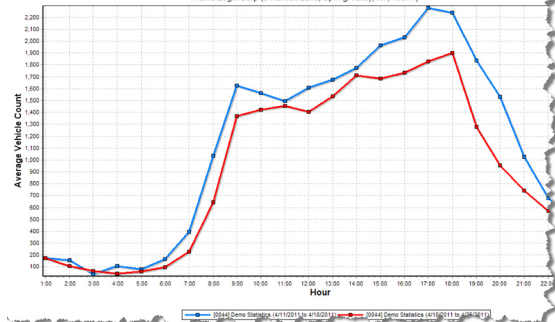
- Read and write sign configuration and schedules to/from the sign
- Set sign parameters such as display range, digits and strobe flashing speeds, detection range, and operating modes
- Download or import collected traffic statistics
- Create, review and print a variety of reports and charts based on downloaded and imported statistics
- Share collected traffic statistics with others

Statistics Summary Report

Hour	Total Vehicles	Average Vehicles	Total Violations	% Violations	Min. Speed	Max. Speed	Avg. Speed	85% Speed
00-01	163	23	161	99 %	18	43	32	32
01-02	95	14	95	100 %	28	43	32	37
02-03	57	8	52	92 %	8	38	30	32
03-04	36	5	33	91 %	18	38	32	37
04-05	34	5	24	76 %	8	38	28	37
05-06	98	14	65	74 %	13	53	30	32
06-07	290	41	207	75 %	13	43	29	32
07-08	926	132	703	82 %	8	43	30	32
08-09	1,524	218	1,274	86 %	8	48	31	32
09-10	1,538	219	1,180	80 %	8	48	29	32
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11-12	1,535	219	1,271	84 %	8	48	30	32
12-13	1,661	237	1,398	85 %	8	48	30	32
13-14	1,660	237	1,387	81 %	8	48	29	32

Traffic Statistics Report

Comparison Report Average Vehicle Count



Period Comparison Graph



Statistics Summary Report

Technician Name: John Smith

Location: Traffic Logix Corp

Data Session: Demo Statistics

Address: 3 Harriett Lane, Spring Valley, NY, 10977

Report Period: 4/11/2011 to 4/17/2011

Speed Limit: 30

Total Vehicle Count: 26,370



Hour	Total Vehicles	Average Vehicles	Total Violations	% Violations	Min. Speed	Max. Speed	Avg. Speed	85% Speed
00-01	176	25	56	44 %	8	43	27	32
01-02	156	22	27	32 %	8	38	24	32
02-03	39	6	13	23 %	8	38	27	32
03-04	107	15	21	58 %	8	38	28	37
04-05	79	11	11	43 %	8	38	25	32
05-06	165	24	31	29 %	8	38	25	27
06-07	394	56	143	41 %	13	43	28	32
07-08	1,034	148	467	49 %	8	48	30	32
08-09	1,628	233	756	49 %	8	43	30	32
09-10	1,563	223	628	42 %	8	48	29	32
10-11	1,494	213	569	40 %	8	43	29	32
11-12	1,609	230	670	41 %	8	48	28	32
12-13	1,678	240	710	43 %	8	43	29	32
13-14	1,775	254	767	44 %	8	48	29	32
14-15	1,963	280	832	44 %	8	43	29	32
15-16	2,033	290	907	46 %	8	43	29	32
16-17	2,280	326	955	42 %	8	48	27	32
17-18	2,239	320	979	43 %	8	48	27	32
18-19	1,837	262	778	46 %	8	43	27	32
19-20	1,533	219	607	43 %	8	43	27	32
20-21	1,027	147	362	40 %	8	43	27	32
21-22	679	97	273	46 %	8	48	28	32
22-23	495	71	182	45 %	8	43	28	32
23-24	387	55	118	53 %	8	43	27	32
	26,370	3,767	10,862	43 %	8	43	28	32

Count by Speed Bins

Speed	Count
0...5	1,734
5...10	873
10...15	916
15...20	2,965
20...25	9,020
25...30	8,991
30...35	1,720
35...40	143
40...45	8
Total:	26,370

Average Vehicle Count

Technician Name: John Smith

Location: Traffic Logix Corp

Data Session: Demo Statistics

Address: 3 Harriett Lane, Spring Valley, NY, 10977

Report Period: 4/11/2011 to 4/17/2011

Speed Limit: 30

Total Vehicle Count: 26,370



Hour	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Average Weekday	Average Weekend	Average Week	Average Speed	85% Speed
00-01	16	10	52	14	12	29	43	21	36	25	27	32
01-02	3	8	60	3	10	17	55	17	36	22	24	32
02-03	4	2	6	5	1	16	5	4	10	6	27	32
03-04	5	3	76	3	6	7	7	19	7	15	28	37
04-05	3	5	57	7	3	1	3	15	2	11	25	32
05-06	31	27	53	26	13	10	5	30	8	24	25	27
06-07	98	68	62	62	66	25	13	71	19	56	28	32
07-08	207	205	171	230	142	58	21	191	40	148	30	32
08-09	283	305	254	316	295	113	62	291	88	233	30	32
09-10	290	259	191	253	285	195	90	256	142	223	29	32
10-11	268	229	168	233	293	203	100	238	152	213	29	32
11-12	258	200	178	233	330	251	159	240	205	230	28	32
12-13	265	219	200	284	328	204	178	259	191	240	29	32
13-14	323	228	245	287	302	199	^H 191	277	195	254	29	32
14-15	356	298	288	353	328	180	160	325	170	280	29	32
15-16	364	328	302	353	358	147	181	341	164	290	29	32
16-17	369	^H 357	^H 382	383	376	237	176	373	206	326	27	32
17-18	^H 426	317	354	^H 402	^H 395	193	152	379	172	320	27	32
18-19	304	203	262	344	256	^H 353	115	274	234	262	27	32
19-20	232	185	218	264	218	320	96	223	208	219	27	32
20-21	152	108	146	141	130	275	75	135	175	147	27	32
21-22	80	80	76	103	99	178	63	88	120	97	28	32
22-23	45	40	57	73	88	150	42	61	96	71	28	32
23-24	22	33	13	33	62	186	38	33	112	55	27	32
TOTAL:	4,404	3,717	3,871	4,405	4,396	3,547	2,030	4,161	2,788	3,767	28	32

Average Speed

Technician Name: John Smith

Location: Traffic Logix Corp

Data Session: Demo Statistics

Address: 3 Harriett Lane, Spring Valley, NY, 10977

Report Period: 4/11/2011 to 4/17/2011

Speed Limit: 30

Total Vehicle Count: 26,370



Hour	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Average Weekday	Average Weekend	Average Week	Average Speed	85% Speed
00-01	^H 32	30	13	31	^H 33	31	20	28	26	27	27	32
01-02	30	^H 31	10	26	^H 33	29	12	26	20	24	24	32
02-03	30	23	17	29	28	32	27	25	30	27	27	32
03-04	30	^H 31	9	^H 33	32	32	28	27	30	28	28	37
04-05	16	22	11	28	28	^H 38	^H 33	21	36	25	25	32
05-06	23	24	13	26	26	33	31	22	32	25	25	27
06-07	26	28	28	28	29	32	28	28	30	28	28	32
07-08	29	29	29	29	29	31	32	29	32	30	30	32
08-09	30	29	30	28	29	30	32	29	31	30	30	32
09-10	28	27	29	28	29	30	31	28	30	29	29	32
10-11	28	26	29	29	29	30	31	28	30	29	29	32
11-12	29	23	28	29	29	30	30	28	30	28	28	32
12-13	28	29	28	29	29	31	32	29	32	29	29	32
13-14	29	29	28	29	29	31	30	29	30	29	29	32
14-15	29	29	29	29	29	25	32	29	28	29	29	32
15-16	29	29	30	30	30	27	31	30	29	29	29	32
16-17	29	29	30	29	30	13	32	29	22	27	27	32
17-18	29	28	30	30	30	13	32	29	22	27	27	32
18-19	30	26	31	30	30	12	32	29	22	27	27	32
19-20	31	21	30	31	31	10	32	29	21	27	27	32
20-21	31	26	30	30	30	11	30	29	20	27	27	32
21-22	30	30	30	31	30	12	31	30	22	28	28	32
22-23	31	29	31	31	31	12	30	31	21	28	28	32
23-24	^H 32	22	^H 33	32	31	10	30	30	20	27	27	32
AVG:	29	27	25	29	30	24	30	28	27	28	28	32

Average Number of Speed Violations

Technician Name: John Smith

Location: Traffic Logix Corp

Data Session: Demo Statistics

Address: 3 Harriett Lane, Spring Valley, NY, 10977

Report Period: 4/11/2011 to 4/17/2011

Speed Limit: 30

Total Vehicle Count: 26,370



Hour	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Average Weekday	Average Weekend	Average Week	Average Speed	85% Speed
00-01	10	5	4	7	8	16	6	7	11	8	27	32
01-02	1	5	1	0	9	5	6	3	6	4	24	32
02-03	3	0	1	1	0	8	0	1	4	2	27	32
03-04	2	2	1	3	4	5	4	2	4	3	28	37
04-05	0	1	2	3	2	1	2	2	2	2	25	32
05-06	8	3	3	6	1	7	3	4	5	4	25	27
06-07	24	22	27	21	27	16	6	24	11	20	28	32
07-08	83	90	80	102	66	33	13	84	23	67	30	32
08-09	126	^H 144	128	129	128	59	42	131	50	108	30	32
09-10	108	86	70	96	113	100	55	95	78	90	29	32
10-11	100	50	55	94	115	97	58	83	78	81	29	32
11-12	106	45	58	117	140	^H 124	80	93	102	96	28	32
12-13	97	82	57	115	135	113	111	97	112	101	29	32
13-14	120	101	76	142	128	118	82	113	100	110	29	32
14-15	142	132	114	141	128	68	107	131	88	119	29	32
15-16	139	142	130	166	154	67	109	146	88	130	29	32
16-17	152	128	^H 172	172	193	19	^H 119	163	69	136	27	32
17-18	^H 179	123	166	^H 182	^H 206	20	103	171	62	140	27	32
18-19	161	74	154	165	133	8	83	137	46	111	27	32
19-20	124	51	106	146	117	1	62	109	32	87	27	32
20-21	95	35	63	67	66	5	31	65	18	52	27	32
21-22	43	36	39	61	53	6	35	46	20	39	28	32
22-23	23	19	32	36	49	1	22	32	12	26	28	32
23-24	15	12	11	24	34	2	20	19	11	17	27	32
TOTAL:	1,861	1,388	1,550	1,996	2,009	899	1,159	1,758	1,032	1,553	28	32

Percentage of Speed Violations

Technician Name: John Smith

Location: Traffic Logix Corp

Data Session: Demo Statistics

Address: 3 Harriett Lane, Spring Valley, NY, 10977

Report Period: 4/11/2011 to 4/17/2011

Speed Limit: 30

Total Vehicle Count: 26,370

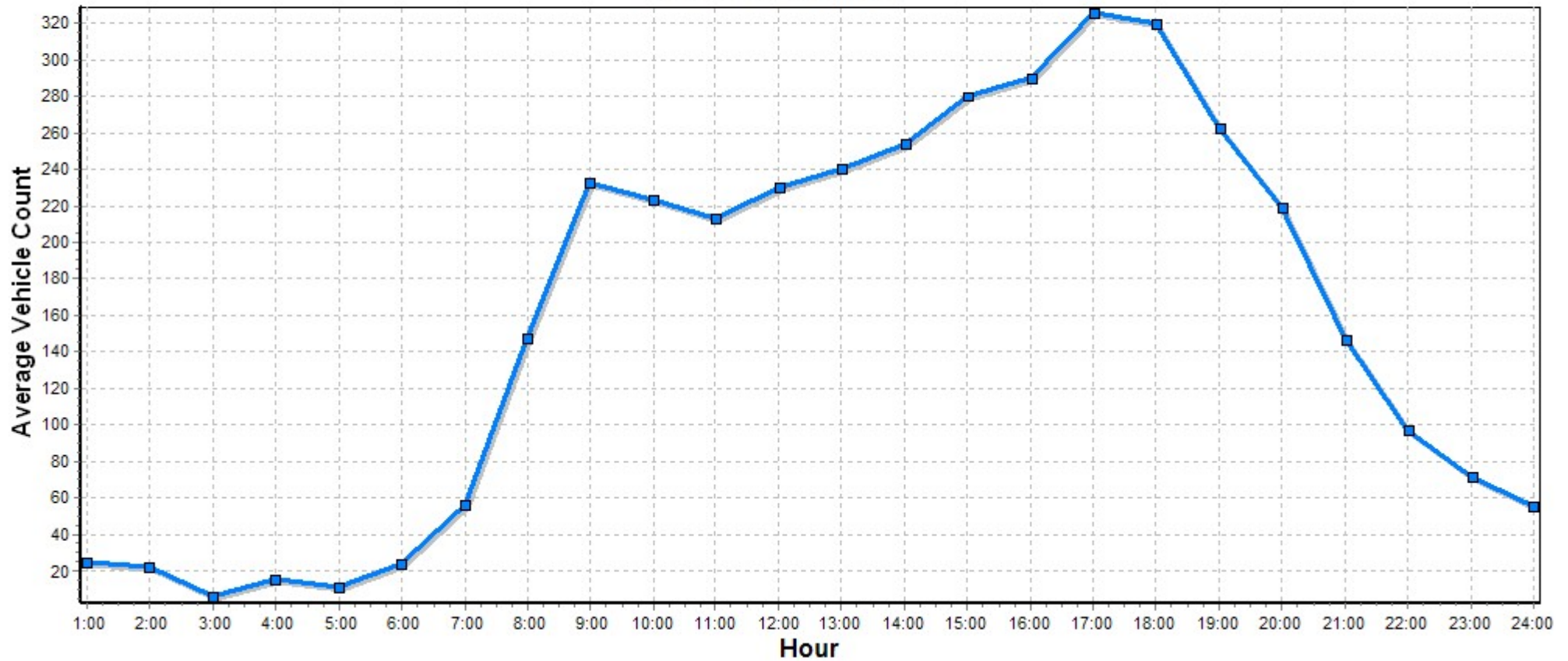


Hour	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Average Weekday	Average Weekend	Average Week	Average Speed	85% Speed
00-01	62%	50%	8%	50%	67%	55%	14%	47%	34%	44%	27	32
01-02	33%	62%	2%	0%	^H 90%	29%	11%	37%	20%	32%	24	32
02-03	^H 75%	0%	17%	20%	0%	50%	0%	22%	25%	23%	27	32
03-04	40%	^H 67%	1%	^H 100%	67%	71%	57%	55%	64%	58%	28	37
04-05	0%	20%	4%	43%	67%	^H 100%	67%	27%	84%	43%	25	32
05-06	26%	11%	6%	23%	8%	70%	60%	15%	65%	29%	25	27
06-07	24%	32%	44%	34%	41%	64%	46%	35%	55%	41%	28	32
07-08	40%	44%	47%	44%	46%	57%	62%	44%	60%	49%	30	32
08-09	45%	47%	50%	41%	43%	52%	68%	45%	60%	49%	30	32
09-10	37%	33%	37%	38%	40%	51%	61%	37%	56%	42%	29	32
10-11	37%	22%	33%	40%	39%	48%	58%	34%	53%	40%	29	32
11-12	41%	22%	33%	50%	42%	49%	50%	38%	50%	41%	28	32
12-13	37%	37%	28%	40%	41%	55%	62%	37%	58%	43%	29	32
13-14	37%	44%	31%	49%	42%	59%	43%	41%	51%	44%	29	32
14-15	40%	44%	40%	40%	39%	38%	67%	41%	52%	44%	29	32
15-16	38%	43%	43%	47%	43%	46%	60%	43%	53%	46%	29	32
16-17	41%	36%	45%	45%	51%	8%	68%	44%	38%	42%	27	32
17-18	42%	39%	47%	45%	52%	10%	68%	45%	39%	43%	27	32
18-19	53%	36%	59%	48%	52%	2%	^H 72%	50%	37%	46%	27	32
19-20	53%	28%	49%	55%	54%	0%	65%	48%	32%	43%	27	32
20-21	62%	32%	43%	48%	51%	2%	41%	47%	22%	40%	27	32
21-22	54%	45%	51%	59%	54%	3%	56%	53%	30%	46%	28	32
22-23	51%	48%	56%	49%	56%	1%	52%	52%	26%	45%	28	32
23-24	68%	36%	^H 85%	73%	55%	1%	53%	63%	27%	53%	27	32
AVG:	43%	37%	36%	45%	48%	38%	53%	42%	45%	43%	28	32



Average Vehicle Count Hourly Values

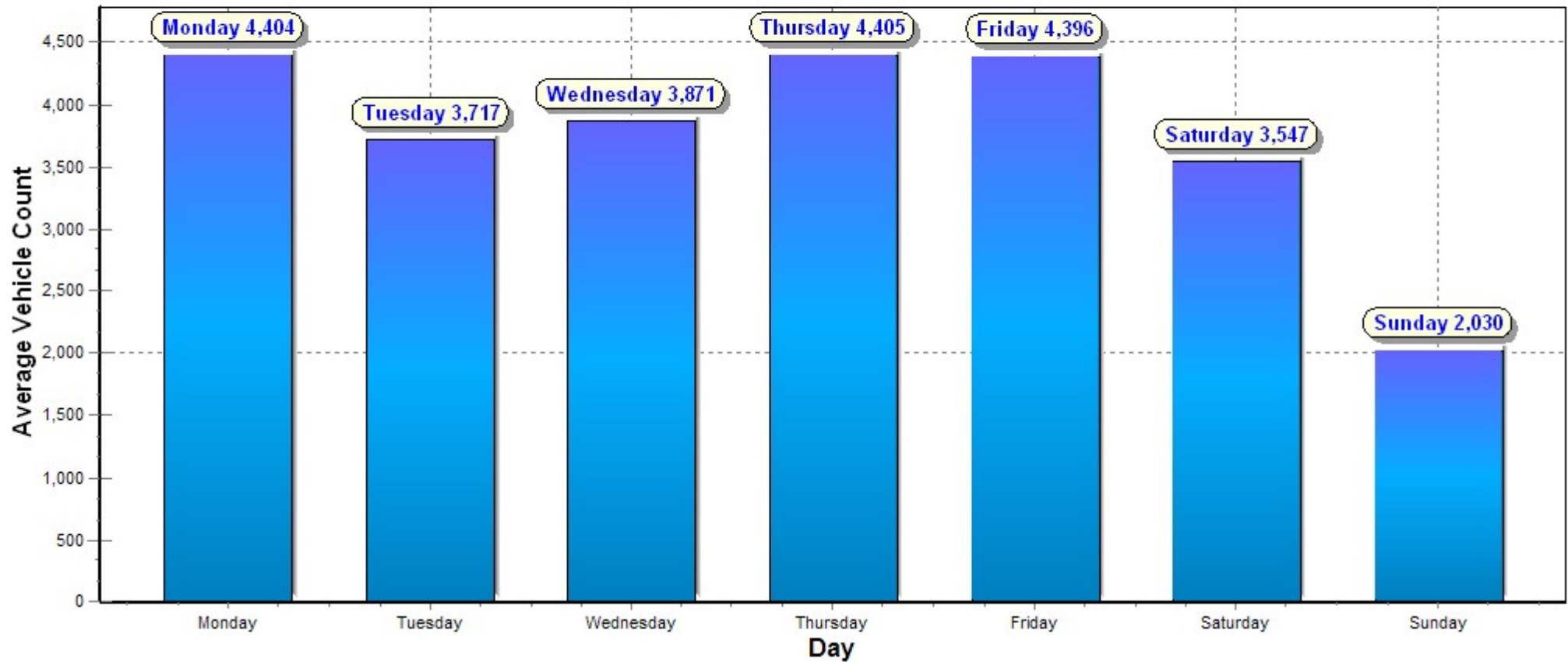
Traffic Logix Corp (3 Harriett Lane, Spring Valley, NY, 10977)
4/11/2011 to 4/18/2011





Average Vehicle Count Daily Values

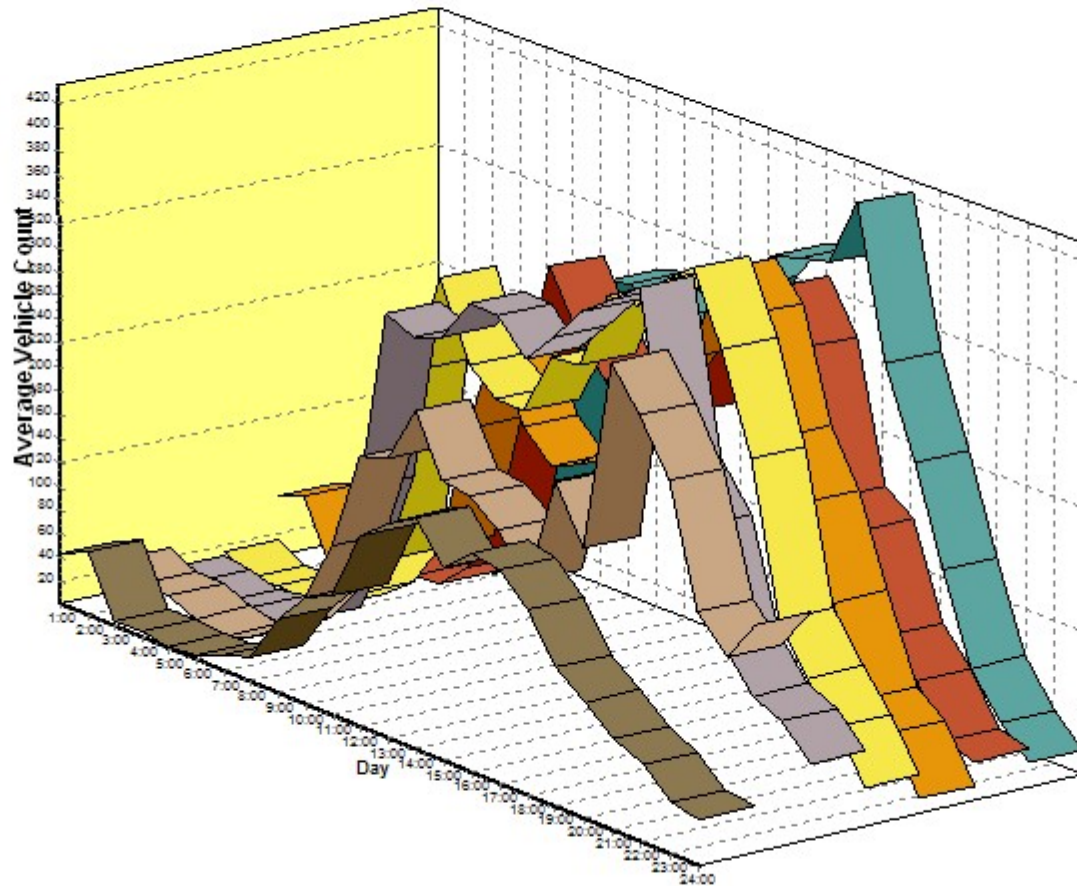
Traffic Logix Corp (3 Harriett Lane, Spring Valley, NY, 10977)
4/11/2011 to 4/18/2011





Average Vehicle Count

Traffic Logix Corp (3 Harriett Lane, Spring Valley, NY, 10977)
4/11/2011 to 4/18/2011



- Monday
- Tuesday
- Wednesday
- Thursday
- Friday
- Saturday
- Sunday

Count by Speed Bins

Technician Name: John Smith

Location: Traffic Logix Corp

Address: 3 Harriett Lane, Spring Valley, NY, 10977

Data Session: Demo Statistics

Report Period: 4/11/2011 to 4/17/2011

Speed Limit: 30

Total Vehicle Count: 26,370



		0...5	5...10	10...15	15...20	20...25	25...30	30...35	35...40	40...45	Total
4/11/2011	1:00:00 AM	0	0	0	0	6	9	0	1	0	16
	2:00:00 AM	0	0	0	0	2	1	0	0	0	3
	3:00:00 AM	0	0	0	1	0	3	0	0	0	4
	4:00:00 AM	0	0	0	0	3	2	0	0	0	5
	5:00:00 AM	1	0	1	1	0	0	0	0	0	3
	6:00:00 AM	1	7	2	8	5	7	1	0	0	31
	7:00:00 AM	0	7	9	30	28	19	5	0	0	98
	8:00:00 AM	0	1	11	32	80	70	12	1	0	207
	9:00:00 AM	0	5	10	37	105	96	26	4	0	283
	10:00:00 AM	0	6	28	44	104	82	24	2	0	290
	11:00:00 AM	0	2	21	46	99	85	13	2	0	268
	12:00:00 PM	1	3	15	37	96	92	14	0	0	258
	1:00:00 PM	1	7	15	41	104	77	19	1	0	265
	2:00:00 PM	1	3	12	57	130	101	17	2	0	323
	3:00:00 PM	0	6	19	59	130	106	32	4	0	356
	4:00:00 PM	0	3	16	51	155	121	17	1	0	364
	5:00:00 PM	0	8	15	46	148	122	27	3	0	369
	6:00:00 PM	0	5	19	43	180	155	23	0	1	426
	7:00:00 PM	1	4	4	30	104	128	29	4	0	304
	8:00:00 PM	0	1	3	15	89	106	18	0	0	232
9:00:00 PM	0	0	1	6	50	83	12	0	0	152	
10:00:00 PM	0	1	2	5	29	39	3	1	0	80	
11:00:00 PM	0	0	0	2	20	20	3	0	0	45	
	Total	6	69	203	591	1,667	1,524	295	26	1	4,382
4/12/2011	12:00:00 AM	0	0	0	1	6	13	2	0	0	22
	1:00:00 AM	0	0	0	1	4	4	1	0	0	10
	2:00:00 AM	0	0	0	0	3	5	0	0	0	8
	3:00:00 AM	0	0	1	0	1	0	0	0	0	2
	4:00:00 AM	0	0	0	0	1	2	0	0	0	3
	5:00:00 AM	0	1	1	2	0	1	0	0	0	5
	6:00:00 AM	1	3	1	12	7	2	1	0	0	27
	7:00:00 AM	0	1	8	15	22	14	8	0	0	68
	8:00:00 AM	2	0	12	34	67	81	7	1	1	205
	9:00:00 AM	0	3	13	38	107	125	19	0	0	305
	10:00:00 AM	7	10	19	40	97	77	8	1	0	259
	11:00:00 AM	10	5	14	47	103	45	5	0	0	229
	12:00:00 PM	44	18	4	24	65	40	5	0	0	200
	1:00:00 PM	0	2	13	37	85	64	16	2	0	219
2:00:00 PM	0	1	13	24	89	85	15	1	0	228	

		0...5	5...10	10...15	15...20	20...25	25...30	30...35	35...40	40...45	Total
4/12/2011	3:00:00 PM	0	3	14	42	107	111	19	2	0	298
	4:00:00 PM	1	2	8	42	133	124	18	0	0	328
	5:00:00 PM	1	4	11	54	159	115	13	0	0	357
	6:00:00 PM	14	1	11	36	132	104	17	2	0	317
	7:00:00 PM	33	2	5	20	69	63	11	0	0	203
	8:00:00 PM	70	10	1	11	42	45	5	1	0	185
	9:00:00 PM	13	3	1	15	41	31	4	0	0	108
	10:00:00 PM	0	0	2	10	32	32	4	0	0	80
	11:00:00 PM	3	0	0	1	17	14	5	0	0	40
	Total	199	69	152	506	1,389	1,197	183	10	1	3,706
4/13/2011	12:00:00 AM	12	1	0	0	8	10	2	0	0	33
	1:00:00 AM	28	17	0	0	3	2	1	1	0	52
	2:00:00 AM	49	8	0	0	2	1	0	0	0	60
	3:00:00 AM	2	2	0	0	1	1	0	0	0	6
	4:00:00 AM	66	7	0	0	2	0	1	0	0	76
	5:00:00 AM	35	15	4	0	1	2	0	0	0	57
	6:00:00 AM	35	3	2	8	2	3	0	0	0	53
	7:00:00 AM	0	1	7	10	17	22	4	1	0	62
	8:00:00 AM	0	3	17	17	54	69	11	0	0	171
	9:00:00 AM	0	4	6	24	92	108	20	0	0	254
	10:00:00 AM	0	1	9	33	78	65	4	1	0	191
	11:00:00 AM	0	1	6	25	81	51	4	0	0	168
	12:00:00 PM	1	3	11	32	73	52	6	0	0	178
	1:00:00 PM	0	1	13	42	87	54	3	0	0	200
	2:00:00 PM	0	2	13	37	117	67	9	0	0	245
	3:00:00 PM	0	1	14	48	111	101	13	0	0	288
	4:00:00 PM	0	0	15	31	126	107	23	0	0	302
	5:00:00 PM	0	3	8	28	171	151	18	3	0	382
	6:00:00 PM	0	0	6	38	144	144	20	2	0	354
	7:00:00 PM	0	2	4	23	79	131	22	1	0	262
8:00:00 PM	1	0	2	18	91	88	18	0	0	218	
9:00:00 PM	0	0	3	11	69	53	8	2	0	146	
10:00:00 PM	0	0	0	6	31	35	4	0	0	76	
11:00:00 PM	0	0	0	5	20	26	6	0	0	57	
Total	229	75	140	436	1,460	1,343	197	11	0	3,891	
4/14/2011	12:00:00 AM	0	0	0	0	2	9	1	1	0	13
	1:00:00 AM	0	0	0	1	6	6	0	1	0	14
	2:00:00 AM	0	0	0	1	2	0	0	0	0	3
	3:00:00 AM	0	0	0	1	3	0	1	0	0	5
	4:00:00 AM	0	0	0	0	0	3	0	0	0	3
	5:00:00 AM	0	0	1	2	1	2	1	0	0	7
	6:00:00 AM	0	3	1	9	7	5	1	0	0	26
	7:00:00 AM	0	0	6	15	20	18	3	0	0	62
	8:00:00 AM	2	4	9	22	91	86	15	1	0	230
	9:00:00 AM	2	5	23	54	103	106	21	2	0	316
10:00:00 AM	2	3	12	51	89	77	17	2	0	253	

	0...5	5...10	10...15	15...20	20...25	25...30	30...35	35...40	40...45	Total	
4/14/2011	11:00:00 AM	1	7	11	38	82	78	14	2	0	233
	12:00:00 PM	1	5	15	30	65	98	17	1	1	233
	1:00:00 PM	0	4	10	44	111	98	14	3	0	284
	2:00:00 PM	1	2	16	38	88	121	21	0	0	287
	3:00:00 PM	0	2	8	53	149	120	21	0	0	353
	4:00:00 PM	0	2	8	35	142	139	27	0	0	353
	5:00:00 PM	1	5	19	54	132	142	26	4	0	383
	6:00:00 PM	1	4	13	42	160	148	31	3	0	402
	7:00:00 PM	0	4	10	39	126	136	27	2	0	344
	8:00:00 PM	0	0	1	17	100	120	23	3	0	264
	9:00:00 PM	0	2	2	11	59	55	10	2	0	141
	10:00:00 PM	0	0	0	5	37	51	9	0	1	103
	11:00:00 PM	0	0	0	7	30	29	6	1	0	73
	Total	11	52	165	569	1,605	1,647	306	28	2	4,385
4/15/2011	12:00:00 AM	0	0	1	1	7	18	6	0	0	33
	1:00:00 AM	0	0	0	0	4	5	1	2	0	12
	2:00:00 AM	0	0	0	0	1	8	1	0	0	10
	3:00:00 AM	0	0	0	0	1	0	0	0	0	1
	4:00:00 AM	0	0	0	1	1	2	2	0	0	6
	5:00:00 AM	0	0	1	0	0	2	0	0	0	3
	6:00:00 AM	0	0	0	7	5	1	0	0	0	13
	7:00:00 AM	0	1	1	14	23	20	7	0	0	66
	8:00:00 AM	1	0	9	21	45	58	7	1	0	142
	9:00:00 AM	0	1	18	44	104	110	13	5	0	295
	10:00:00 AM	1	6	8	50	107	92	19	2	0	285
	11:00:00 AM	0	1	13	50	114	96	19	0	0	293
	12:00:00 PM	1	5	18	48	118	112	25	3	0	330
	1:00:00 PM	0	2	18	55	118	108	25	2	0	328
	2:00:00 PM	1	3	11	34	125	103	24	1	0	302
	3:00:00 PM	1	2	14	54	129	114	14	0	0	328
	4:00:00 PM	0	1	7	39	157	130	24	0	0	358
	5:00:00 PM	0	3	10	45	125	160	33	0	0	376
	6:00:00 PM	0	1	10	38	140	167	38	1	0	395
	7:00:00 PM	0	2	6	25	90	109	23	1	0	256
8:00:00 PM	0	0	3	17	81	95	18	4	0	218	
9:00:00 PM	0	2	3	16	43	53	11	2	0	130	
10:00:00 PM	0	0	4	7	35	45	7	1	0	99	
11:00:00 PM	0	0	0	5	34	38	11	0	0	88	
Total	5	30	155	571	1,607	1,646	328	25	0	4,367	
4/16/2011	12:00:00 AM	0	0	1	7	20	26	7	1	0	62
	1:00:00 AM	0	0	0	1	12	12	4	0	0	29
	2:00:00 AM	0	0	1	2	9	4	1	0	0	17
	3:00:00 AM	0	0	0	0	8	3	5	0	0	16
	4:00:00 AM	0	0	0	0	2	4	1	0	0	7
	5:00:00 AM	0	0	0	0	0	0	1	0	0	1
6:00:00 AM	0	0	0	0	3	4	3	0	0	10	

	0...5	5...10	10...15	15...20	20...25	25...30	30...35	35...40	40...45	Total	
4/16/2011	7:00:00 AM	0	1	0	1	7	9	5	2	0	25
	8:00:00 AM	0	0	3	9	13	22	8	3	0	58
	9:00:00 AM	0	0	6	13	35	42	14	3	0	113
	10:00:00 AM	0	4	10	28	53	77	19	3	1	195
	11:00:00 AM	0	2	8	23	73	74	21	2	0	203
	12:00:00 PM	1	3	8	19	96	91	32	1	0	251
	1:00:00 PM	0	0	6	16	69	87	25	1	0	204
	2:00:00 PM	0	0	2	16	63	86	26	6	0	199
	3:00:00 PM	40	11	1	10	50	54	12	2	0	180
	4:00:00 PM	20	5	0	10	45	60	7	0	0	147
	5:00:00 PM	156	40	2	2	18	19	0	0	0	237
	6:00:00 PM	131	30	2	1	9	16	4	0	0	193
	7:00:00 PM	190	127	13	1	14	7	1	0	0	353
	8:00:00 PM	194	110	7	1	7	1	0	0	0	320
	9:00:00 PM	182	69	2	3	14	5	0	0	0	275
	10:00:00 PM	101	55	3	5	8	6	0	0	0	178
	11:00:00 PM	82	52	1	4	10	1	0	0	0	150
Total	1,097	509	76	172	638	710	196	24	1	3,423	
4/17/2011	12:00:00 AM	131	47	1	2	3	1	1	0	0	186
	1:00:00 AM	12	8	0	3	14	6	0	0	0	43
	2:00:00 AM	41	4	1	0	3	5	1	0	0	55
	3:00:00 AM	0	0	0	1	4	0	0	0	0	5
	4:00:00 AM	1	0	0	0	2	4	0	0	0	7
	5:00:00 AM	0	0	0	0	1	1	1	0	0	3
	6:00:00 AM	0	0	0	0	2	3	0	0	0	5
	7:00:00 AM	0	1	0	5	1	5	0	1	0	13
	8:00:00 AM	0	0	0	1	7	9	3	1	0	21
	9:00:00 AM	0	0	0	5	15	29	10	3	0	62
	10:00:00 AM	0	0	0	7	28	46	9	0	0	90
	11:00:00 AM	0	1	3	7	31	44	13	1	0	100
	12:00:00 PM	0	3	3	12	61	64	13	2	1	159
	1:00:00 PM	0	0	2	4	61	89	22	0	0	178
	2:00:00 PM	0	0	5	29	75	63	18	0	1	191
	3:00:00 PM	0	0	1	5	47	84	22	1	0	160
	4:00:00 PM	0	2	3	9	58	86	21	2	0	181
	5:00:00 PM	0	1	2	8	46	95	21	2	1	176
	6:00:00 PM	0	0	1	4	44	82	19	2	0	152
	7:00:00 PM	1	0	1	6	24	60	20	3	0	115
8:00:00 PM	0	0	0	2	32	54	8	0	0	96	
9:00:00 PM	0	0	1	4	39	28	3	0	0	75	
10:00:00 PM	1	0	0	1	26	31	3	1	0	63	
11:00:00 PM	0	2	1	2	15	17	5	0	0	42	
Total	187	69	25	117	639	906	213	19	3	2,178	
4/18/2011	12:00:00 AM	0	0	0	3	15	18	2	0	0	38
	Total	0	0	0	3	15	18	2	0	0	38
Grand Total	1,734	873	916	2,965	9,020	8,991	1,720	143	8	26,370	

Comparison Report

Technician Name: John Smith

Location: Traffic Logix Corp

Data Session 1: [0044] Demo Statistics

Period 1: 4/11/2011 to 4/17/2011

Address: 3 Harriett Lane, Spring Valley, NY, 10977

Data Session 2: [0044] Demo Statistics

Period 2: 4/18/2011 to 4/24/2011

Speed Limit: 30



Summary

Day	Avg. Vehicle Count			Average Speed			Avg. Number of Speed Violations			% of Speed Violations		
	<u>Period 1</u>	<u>Period 2</u>	<u>Difference</u>	<u>Period 1</u>	<u>Period 2</u>	<u>Difference</u>	<u>Period 1</u>	<u>Period 2</u>	<u>Difference</u>	<u>Period 1</u>	<u>Period 2</u>	<u>Difference</u>
Monday	4,404	4,002	-402	29	29	0	1,861	1,511	-350	45 %	40 %	-5 %
Tuesday	3,717	3,349	-368	27	30	3	1,388	1,485	97	38 %	48 %	10 %
Wednesday	3,871	3,800	-71	25	30	5	1,550	1,715	165	36 %	50 %	14 %
Thursday	4,405	3,957	-448	29	30	1	1,996	1,796	-200	47 %	46 %	-1 %
Friday	4,396	3,282	-1,114	30	30	0	2,009	1,537	-472	50 %	50 %	0 %
Saturday	3,547	1,996	-1,551	24	29	5	899	978	79	40 %	47 %	7 %
Sunday	2,030	1,536	-494	30	31	1	1,159	933	-226	55 %	61 %	6 %
Average:	3,767	3,132	-635	28	30	2	1,552	1,422	-130	44 %	49 %	5 %

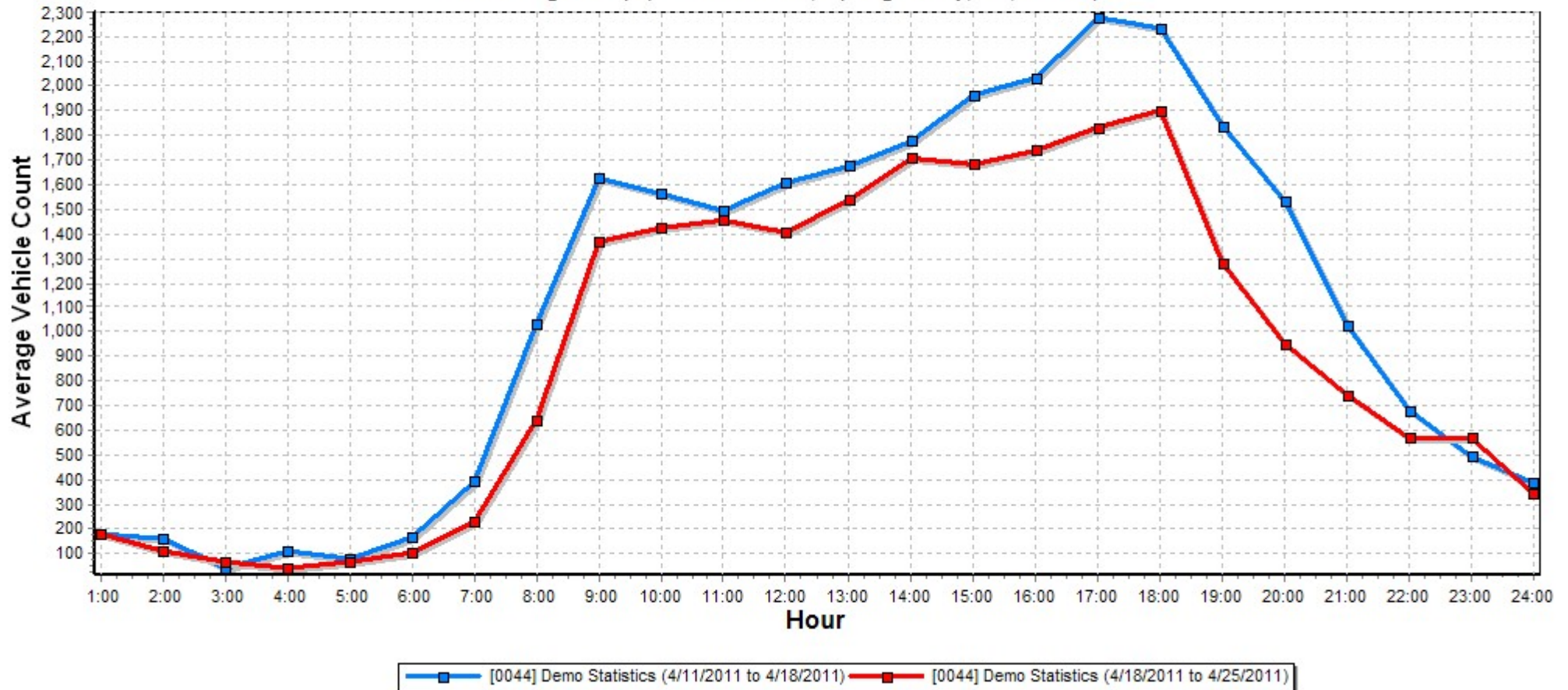
Speed Bins Statistics

Speed	Total Vehicle Count			% of Vehicle Count			Total Speed Violations			% of Speed Violations		
	<u>Period 1</u>	<u>Period 2</u>	<u>Difference</u>	<u>Period 1</u>	<u>Period 2</u>	<u>Difference</u>	<u>Period 1</u>	<u>Period 2</u>	<u>Difference</u>	<u>Period 1</u>	<u>Period 2</u>	<u>Difference</u>
0 - 5	1,734	212	-1,522	7 %	1 %	-6 %	0	0	0	0 %	0 %	0 %
5 - 10	873	255	-618	3 %	1 %	-2 %	0	0	0	0 %	0 %	0 %
10 - 15	916	919	3	3 %	4 %	1 %	0	0	0	0 %	0 %	0 %
15 - 20	2,965	2,723	-242	11 %	12 %	1 %	0	0	0	0 %	0 %	0 %
20 - 25	9,020	7,858	-1,162	34 %	36 %	2 %	0	0	0	0 %	0 %	0 %
25 - 30	8,991	8,122	-869	34 %	37 %	3 %	0	0	0	0 %	0 %	0 %
30 - 35	1,720	1,695	-25	7 %	8 %	1 %	1,720	1,695	-25	92 %	92 %	1 %
35 - 40	143	128	-15	1 %	1 %	0 %	143	128	-15	8 %	7 %	-1 %
40 - 45	8	8	0	0 %	0 %	0 %	8	8	0	0 %	0 %	0 %
45 - 50	0	2	2	0 %	0 %	0 %	0	2	2	0 %	0 %	0 %
Total:	26,370	21,922	-4,448	100 %	100 %	0 %	1,871	1,833	-38	100 %	100 %	0 %



Comparison Report Average Vehicle Count

Traffic Logix Corp (3 Harriett Lane, Spring Valley, NY, 10977)





Comparison Report Average Vehicle Count

Traffic Logix Corp (3 Harriett Lane, Spring Valley, NY, 10977)

