PLANNING COMMISSION
DATE: 9/8/14
AGENDA ITEM: 5C – BUSINESS ITEM
CASE # 2014-46

ITEM: Hunter's Crossing Final Plat

SUBMITTED BY: Kyle Klatt, Planning Director

REVIEWED BY: Nick Johnson, City Planner
Jack Griffin, City Engineer

SUMMARY AND ACTION REQUESTED:

The Planning Commission is being asked to consider a Final Plat request from The Ryland Group for the first phase of a planned 51 unit residential development to be called Hunter's Crossing. The proposed subdivision will be located on 23.10 acres immediately east of Lake Elmo Avenue and approximately ¼ mile north of Interstate 94. The final plat includes 22 single-family lots located within the northern portion of the overall subdivision area. Staff is recommending approval of the request subject to compliance with the conditions listed in this report.

GENERAL INFORMATION

Applicant: The Ryland Group (Tracey Rust), 7599 Anagram Drive, Eden Prairie, MN

Property Owners: Nathan Landucci, 404 Lake Elmo Avenue North, Lake Elmo, MN

Location: Part of Section 36 in Lake Elmo, north of I-94, east of Lake Elmo Avenue, and south of the Cimarron Golf Course property. South of 404 Lake Elmo Avenue North. PID Number 36.029.21.32.0008

Request: Application for final plat approval of a 22 unit residential subdivision to be named Hunter's Crossing.

Existing Land Use and Zoning: Golf driving range and instruction and practice facility, including small nine-hole practice course. Current Zoning: LDR – Low Density Residential

Surrounding Land Use and Zoning: North – vacant land and Cimarron Manufactured Home Park; East – Trans-City industrial building; West – The Forest residential subdivision; South – currently vacant/agricultural but future site of proposed Air Lake Development business park; also two existing home sites located adjacent to development along Lake Elmo Avenue

Comprehensive Plan: Urban Low Density Residential (2.5 – 3.99 units per acre)

History: Sketch Plan reviewed by Planning Commission on 9/23/13. The site has historically been used for a golf driving range and practice facility. The City approved a Conditional Use Permit for the driving range in 1990, and this permit, which is still

active, has been amended at least twice since this date. At some point in the past, the home in the extreme northwestern portion of the site (and outside the area to be platted) was split off from the larger parcel. The preliminary plat was approved by the City Council on July 1, 2014.

Deadline for Action: Application Complete – 8/8/14
60 Day Deadline – 10/8/14
Extension Letter Mailed – No
120 Day Deadline – 12/8/14

Applicable Regulations: Chapter 153 – Subdivision Regulations
Article 10 – Urban Residential Districts (LDR)
§150.270 Storm Water, Erosion, and Sediment Control

REQUEST DETAILS

The City of Lake Elmo has received a request from The Ryland Group for final plat approval of the initial phase of the Hunter's Crossing residential subdivision. The area to be platted represents approximately half of the lots that were approved with the preliminary plat, and will include 22 single-family lots, outlots for storm water management facilities, and a larger outlot to be platted as part of the second addition. The City approved the Hunter's Crossing Preliminary Plat on July 1, 2014, and the final plat represents the northern portion of the overall area to be subdivided. The applicant has provided a detailed project narrative (attached) that provides summary of the request with information updated from the preliminary plat review where appropriate.

Hunter's Crossing will be located along the planned 5th Street minor collector route, and the preliminary plat indicated that the sole access into the development would be located off of 5th Street. One of the unique aspects of this project is that the planned location of 5th Street along the northern property line of the subdivision straddles the property line between the applicant's site and the adjacent property to the north. At this time, there has been no agreement reached between these two property owners to build 5th Street as a private improvement, therefore, the applicant is proposing to construct the southern half of this road as part of Hunter's Crossing, while leaving the northern portion to be constructed either when the northern property develops or when and if the City decides to complete this road as a public improvement project.

The final construction documents do include plans for 5th Street, but these plans note that it will be built as a future City project. Based on recent conversations with the City, the applicant has agreed to build the southern half of the road as noted above, but is proposing to complete this work as part of the second addition. This proposed phasing plan would result on the construction of a road of sufficient width to allow two-way traffic, but that would later be expanded to the City's full specifications for the road with one-lane of travel in each direction with turn lanes at full intersections. Because the applicant's portion of 5th Street would not be constructed until the second phase of the project, the applicant is proposing to use the existing access to the site as a temporary access for the first addition. The City's preliminary plat approval authorized the use of this temporary access to serve up to 25 lots, which falls within the number being proposed for the final plat. Washington County will also allow the temporary access provided this access is eliminated once 5th Street is in place.

There are a few issues that the City is working to address concerning the construction of 5th Street in two phases, and most importantly, is asking the applicant and northern property owner to enter into

an agreement to identify an area to handle storm water runoff from the road. The City will otherwise maintain control over the future platting in this area so that no further platting will be allowed either on the applicant's property or on the site to the north without at least half of the road being completed. As part of the planned improvements for 5th Street, the applicant will need to comply with the comments from Washington County, and will need to incorporate improvements to Lake Elmo Avenue as part of this work.

Consistent with the approved preliminary plat, the final plat does not include two exception parcels along Lake Elmo Avenue, both of which will be provided with potential future connections to the streets internal to Hunter's Crossing. As depicted in the attached plans, the northeast exception parcel will have access to 4th Street via Outlot B; access to the other exception parcel will be platted as part of the second addition. In both cases, these parcels will still be allowed to access Lake Elmo Avenue until they are redeveloped at some point in the future (both are guided for Medium Density Residential development).

The applicant has provided an updated landscape plan with all of the other required plans, and this plan has been reviewed by the City's consulting landscape architect. In his review he notes that the applicant will need to either provide more trees with the project or increase the size of the ones that have been proposed. These changes will be fairly straight forward to make as the developer prepares final revisions to the construction plans. In terms of public park land dedication, the preliminary plat was approved without a specific land dedication, and instead, the developer is expected to pay a fee in lieu of land dedication. Consistent with recent City approvals, the applicant may request a reduction in these fees in exchange for the construction of public trails within the project.

Please note that the grading and utility plans do cover the entire preliminary plat area, and that the developer will be mass grading the entire site as part of these plans. The other street and utility plans also depict the entire site, and the City Engineer has asked for further clarification concerning which aspects of these plans will be constructed as part of the phase one improvements. The applicant has submitted detailed construction plans for related to sanitary sewer, water main, storm sewer, grading, drainage, erosion control, landscaping, and other details that have been reviewed by the City Engineer.

The City's subdivision ordinance establishes the procedure for obtaining final subdivision approval, in which case a final plat may only be reviewed after the City takes action on a preliminary plat. As long as the final plat is consistent with the preliminary approval, it must be approved by the City. Please note that the City's approval of the Hunter's Crossing Preliminary Plat did include a series of conditions that must be met by the applicant, which are addressed in the "Review and Analysis" section below. There are no public hearing requirements for a final plat.

The City's zoning map for all of the area included in the preliminary plat for Hunter's Crossing has previously been updated to be consistent with the City's Comprehensive Plan. All of the site is zone LDR – Urban Low Density Residential, and the proposed lots, setbacks, streets, and other plan elements have been found to be consistent with the LDR district requirements.

Staff has reviewed the final plat and found that it is consistent with the preliminary plat that was approved by the City. Please note that the final plat now includes proposed street names as recommended by the Planning Department. The City Engineer, Landscape Architect, and County Engineer have reviewed the final plat, and these comments are attached to this report. Although there are some additional revisions to the final construction plans that will need to be addressed by the applicant, the majority of these revisions can be made before the City releases the final plat for recording.

REVIEW AND ANALYSIS

The preliminary plat for Hunter's Crossing was approved with several conditions, which are indicated below along with Staff's comments on the status of each. The applicant has also provided a response to these conditions as part of the attached application narrative. Staff is recommending approval of the final plat with conditions intended to address the outstanding issues that will require additional review and/or documentation. In order to assist the Planning Commission with its review, Staff is also including a summary the critical issues that need to be resolved for the subdivision to move forward.

Critical Issues Summary:

1) The developer is proposing to construct half of 5th Street with their project, leaving the northern half to be constructed by another private party or of the City in the future. Staff has agreed that this is be best option for moving forward with development in this area given the unique site ownership and property boundaries that exist around the applicant's site. There is minimal risk to the City in taking this approach since it will be relatively straight-forward to demonstrate benefit to the northern property owner if the City decides to build the road and asses the costs back to the abutting property owner.

2) 5th Street will be constructed with the second addition, at which time the applicant will need to prepare plans for the southern portion of this road that comply with City standards and also comply with Washington County requirements for the intersection of 5th Street and Lake Elmo Avenue. The City is working with both the applicant and property owner to the north to secure an agreement concerning the storm water facilities needed to build the road. This agreement will be completed prior to a final plat for second addition.

3) The applicant will need to secure an easement from the property owner to the east related to storm water discharge in the southwest portion of the site. This property owner has not objected to the proposed easement, and this is an issue that can be finalized prior to release of the final plat for recording.

4) All other recommended conditions of approval relate to final details that must be addressed by the applicant and can be handled prior to release of the final plat for recording.

Preliminary Plat Conditions – With Staff Update Comments (updated information in bold italics):

1) Within six months of preliminary plat approval, the applicant shall complete the following: a) the applicant shall provide adequate title evidence satisfactory to the City Attorney; and b) the applicant shall pay all fees associated with the preliminary plat. The above conditions shall be met prior to the City accepting an application for final plat and prior to the commencement of any grading activity on the site. ***Comments: a) all title work will need to be submitted and reviewed by the City Attorney before City officials sign the final plat; b) the applicant has submitted an escrow payment related to the preliminary plat application that is being used to cover Staff and consultant expenses related to the City's review.***

2) The landscape plan and tree preservation plan shall be reviewed and approved by an independent forester or landscape architect in advance of the approval of a final plat and final construction plans. ***Comment: the plans have been reviewed by the City's landscape architecture consultant***

and his review is included as an attachment to this report. The applicant will need to further revise the landscape plan to comply with the City's landscape ordinance by either adding more trees or increasing the size of the proposed trees. Staff has found that the proposed plan is generally acceptable and complies with the City's expectations and requirements for street trees, and screening and buffering of adjacent properties. This is an issue that can be resolved through further discussions between the City and developer.

3) The final landscape plan shall incorporate additional planting where feasible adjacent to the shared property lines with the parcels at 404 and 275 Lake Elmo Avenue North. ***Comments: The final landscape plan includes additional plantings along the southwestern property boundary. The number of plantings along the northwestern property boundary is similar to the preliminary plat; however, the location of the future access in this location (Outlot B) limits the developer's ability to add substantially more plantings along this boundary.***

4) The applicant shall be responsible for updating the final construction plans to include the construction of all improvements within the Lake Elmo Avenue (CSAH 17) right-of-way as required by Washington County and further described in the review letter received from the County dated June 17, 2014. The required improvements shall include, but not be limited to the construction of a northbound right turn lane and southbound center tum lane. ***Comments: Because the plans for 5th Street will be more fully developed as part of the second addition, this condition will be revised to note the most recent County review comments and to further clarify that the Lake Elmo Avenue improvements will be constructed with the 5th Street project in the future.***

5) The developer shall follow all of the rules and regulations spelled out in the Wetland Conservation Act, and shall acquire the needed permits from the Valley Branch Watershed District prior to the commencement of any grading or development activity on the site. ***Comments: The applicant has received a permit from the Valley Branch Watershed District (attached) for the grading work proposed in the final plans. This permit includes conditions that must be met prior to the commencement of any grading work on the site.***

6) The applicant shall enter into a maintenance agreement with the City that clarifies the individuals or entities responsible for any landscaping installed in areas outside of land dedicated as public park and open space on the final plat. ***Comments: The applicant has indicated that there will be a homeowner's association created for this development; the declarations and HOA documents should be recorded with the final plat. A maintenance agreement and evidence that the HOA has been established should be retained as a condition of approval for the final plat.***

7) The developer shall be required to pay a fee in lieu of park land dedication equivalent to the fair market value for the amount of land that is required to be dedicated for such purposes in the City's Subdivision Ordinance less the amount of land that is accepted for park purposes by the City. Any cash payment in lieu of land dedication shall be paid by the applicant prior to the release of the final plat for recording. ***Comments: The applicant will be required to pay the required fee in lieu of land dedication to recording the final plat. Because the project is being split into at least two final plats, the park fees will be pro-rated based on the percentage of lots being platted within the overall development.***

8) Any land under which paved public trails are located will be accepted as park land provided the developer constructs said paved trails as part of the public improvements for the subdivision. ***Comments: Staff is recommending that this condition be merged with the above condition for the final plat.***

9) The temporary access to Lake Elmo A venue must be eliminated when access to 5th Street is provided. The City will not issue building permits for more than 25 lots within Hunter's Crossing until such time that the temporary access is closed. ***Comments: this condition will allow the developer to plat the requested 22 homes as part of the first edition before 5th Street is constructed. Only three additional lots may be platted and built upon before 5th Street is constructed.***

10) The applicant must enter into a separate grading agreement with the City prior to the commencement of any grading activity in advance of final plat and plan approval. The City Engineer shall review any grading plan that is submitted in advance of a final plat, and said plan shall document extent of any proposed grading on the site. ***Comments: the applicant is seeking approval to commence grading consistent with this condition; the City will likely be issuing a permit for this work prior to the City Council action on the final plat.***

11) All required modifications to the plans as requested by the City Engineer in a review letter dated May 23, 2014 shall be incorporated into the plans prior to consideration of a final plat. ***Comments: Revised plans have been submitted for review, and the attached comments from the City Engineer provide a response to the updated plans. All final revisions and modifications as requested by the City Engineer must be addressed by the applicant before the plat will be released for recording. The majority of the Engineer's comments will require minor modifications to the plans and specifications and are not unusual at this detailed level of review.***

12) The applicant is encouraged to preserve or re-use as many trees as possible that are currently located on the property and to incorporate these trees as part of the landscape plan for the subdivision. ***Comments: Given the tight confines of the project area and the need to meet City and watershed district storm water requirements, there are relatively few opportunities to incorporate existing trees into the development. The applicant has stated that they will preserve or re-use trees if possible.***

13) The applicant shall provide written consent from the adjacent property owner to the north agreeing to the grading and storm sewer work depicted on this property. ***Comments: The applicant has stated that they will work with this property owner if any grading is necessary to construct the 5th Street improvements. The City is also working to complete a separate agreement with these property owners to address this issue.***

14) Water improvements must be available to serve the subdivision. ***Comments: The City Council has ordered these improvements as part of the Lake Elmo Avenue water project, which satisfies this condition. Ryland has agreed to pay the Water Availability Charge for the entire development prior to recording the final plat.***

15) The applicant shall pay a Water Availability Charge consistent with the Lake Elmo Fee Schedule for the entire development prior to the release of the final plat for recording, regardless of project phasing. ***Comments: Please see note above.***

Staff is recommending that the conditions noted above that pertain to the final plat and that have not yet been addressed by the applicant should be adopted with the final plat. The City Engineer's review letter does identify several issues that need to be addressed by the developer in order for the City to deem the final plans complete; however, all of these concerns are related to the construction plans and should not have any bearing on the final plat. Staff is recommending that City Officials not sign the final plat mylars until the City's construction plan review is finalized and all necessary easements are documented on the final plat.

Based on the above Staff report and analysis, Staff is recommending approval of the final plat with several conditions intended to address the outstanding issues noted above and to further clarify the City's expectations in order for the developer to proceed with the recording of the final plat.

The recommended conditions are as follows:

Recommended Conditions of Approval:

1) Final grading, drainage, and erosion control plans, utility plans, sanitary and storm water management plans, and street and utility construction plans shall be reviewed and approved by the City Engineer prior to the recording of the Final Plat. All changes and modifications to the plans requested by the City Engineer in review memo dated 9/3/14 shall be incorporated into these documents before they are approved.

2) The developer shall provide evidence in a form satisfactory to the City Attorney that warrants it has fee interest in area included in the Hunter's Crossing Final Plat.

3) Prior to the execution of the Final Plat by City officials, the Developer shall enter into a Developer's Agreement acceptable to the City Attorney and approved by the City Council that delineates who is responsible for the design, construction, and payment of the required improvements with financial guarantees therefore.

4) All easements as requested by the City Engineer and Public Works Department shall be documented on the Final Plat prior to the execution of the final plat by City Officials.

5) A Common Interest Agreement concerning management of the common areas of Hunter's Crossing and establishing a homeowner's association shall be submitted in final form to the Community Development Director before a building permit may be issued for any structure within this subdivision. The applicant shall also enter into a maintenance agreement with the City that clarifies the individuals or entities responsible for any landscaping installed in areas outside of land dedicated as public park and open space on the final plat

6) The final landscape plan shall be updated to address the comments from the City's consulting landscape architect in a review letter to the City dated 9/5/14.

7) The developer shall provide written authorization from the property owner to the east of Hunter's Crossing to allow the proposed drainage improvements and discharge of storm water on to their property. A utility easement across the affected property is one option for compliance with this condition.

8) The final construction plans for any additional final plat within Hunter's Crossing shall include, at a minimum, the southern portion of 5th Street. At this time these plans are

prepared they shall include the construction of all improvements within the Lake Elmo Avenue (CSAH 17) right-of-way as required by Washington County and further described in the review letter received from the County dated September 2, 2014.

9) The developer is encouraged to incorporate elements from the Lake Elmo Theming Study into the final design of the community mailboxes within Hunter's Crossing.

10) The developer shall pay a fee in lieu of park land dedication equivalent to the fair market value for the amount of land that is required to be dedicated for such purposes in the City's Subdivision Ordinance less the amount of land that is accepted for park purposes (or trails) by the City. Any cash payment in lieu of land dedication shall be pro-rated based on the percentage of the overall lots to be platted within the subdivision and shall be paid by the applicant prior to the release of the final plat for recording.

11) The applicant shall deed Outlots A, B, and E to the City upon recording of the final plat.

DRAFT FINDINGS

Staff is recommending that the Planning Commission consider the following findings with regards to the proposed Hunter's Crossing Final Plat:

- That the Final Plat is consistent with the Preliminary Plat and Plans as approved by the City of Lake Elmo on July 1, 2014.

- That the Final Plat is consistent with the Lake Elmo Comprehensive Plan and the Future Land Use Map for this area.

- That the Final Plat complies with the City's Urban Low Density Residential zoning district.

- That the Final Plat complies with all other applicable zoning requirements, including the City's landscaping, storm water, sediment and erosion control and other ordinances.

- That the Final Plat complies with the City's subdivision ordinance.

- That the Final Plat is consistent with the City's engineering standards with the plan revisions as requested by the City Engineer.

RECCOMENDATION:

Staff recommends that the Planning Commission recommend approval of the Final Plat for Hunter's Crossing with the 11 conditions of approval as listed in the Staff report. Suggested motion:

"Move to recommend approval of the Hunter's Crossing Final Plat with the 11 conditions of approval as drafted by Staff"

ATTACHMENTS:

1. Application Form
2. Application Narrative
3. Lot Information Summary
4. Tree Inventory
5. City Engineer Review Letter
6. Landscape Architecture Review Letter
7. Washington County Review Comments
8. Valley Branch Watershed District Permit
9. Fire Department Review Comments
10. Hunter's Crossing Final Plat
11. Construction Plans: Final Grading Plan
12. Construction Plans: Utility and Street Construction
13. Final Landscape Plans

ORDER OF BUSINESS:

- Introduction ..... Planning Staff
- Report by Staff ..... Planning Staff
- Questions from the Commission ..... Chair & Commission Members
- Open the Public Hearing ..... Chair
- Close the Public Hearing ..... Chair
- Discussion by the Commission ..... Chair & Commission Members
- Action by the Commission ..... Chair & Commission Members

Date Received: _____
Received By: _____
LU File #: _____

THE CITY OF
LAKE ELMO

651-747-3900
3800 Laverne Avenue North
Lake Elmo, MN 55042

FINAL PLAT APPLICATION

Applicant: Ryland Homes
Address: 7599 Anagram Drive Eden Prairie MN 55344
Phone #: 952 229 6063
Email Address: trust@ryland.com

Fee Owner: Nathan Landucci
Address: 13230 20th St Ct. N.
Phone #: 651 894 2582
Email Address: landucnl@hotmail.com

Property Location (Address and Complete (long) Legal Description:
404 Lake Elmo Drive N

General information of proposed subdivision:
22 lot residential subdivision

In signing this application, I hereby acknowledge that I have read and fully understand the applicable provisions of the Zoning Ordinance and current administrative procedures. I further acknowledge the fee explanation as outlined in the application procedures and hereby agree to pay all statements received from the City pertaining to additional application expense

Signature of applicant: Stacy Kust Date: 8/7/14

Fee Owner Signature See attached Date: _____

Date Received: _____
Received By: _____
LU File #: _____

THE CITY OF LAKE ELMO

651-747-3900
3800 Laverne Avenue North
Lake Elmo, MN 55042

FINAL PLAT APPLICATION

Applicant: Ryland Homes
Address: 7599 Anagram Drive Eden Prairie MN 55344
Phone #: 952 229 6063
Email Address: trust@ryland.com

Fee Owner: Nathan Landucci
Address: 13230 20th St Ct. N.
Phone #: 651 894 2582
Email Address: landucnl@hotmail.com

Property Location (Address and Complete (long) Legal Description:
404 Lake Elmo Drive N

General information of proposed subdivision:
22 lot residential subdivision

In signing this application, I hereby acknowledge that I have read and fully understand the applicable provisions of the Zoning Ordinance and current administrative procedures. I further acknowledge the fee explanation as outlined in the application procedures and hereby agree to pay all statements received from the City pertaining to additional application expense.

Signature of applicant: _____ Date: 8/7/14

Fee Owner Signature _____ Date: 8/7/14

THE CITY OF
LAKE ELMO

Lake Elmo City Hall
651-747-3900
3800 Laverne Avenue North
Lake Elmo, MN 55042

AFFIRMATION OF SUFFICIENT INTEREST

I hereby affirm that I **am the fee title owner** of the below described property or that I have written authorization from the owner to pursue the described action.

Name of applicant Nathan Landucci
(Please Print)

Street address/legal description of subject property

404 Lake Elmo Drive N.

Signature

8/7/14
Date

If you are not the fee owner, attach another copy of this form which has been completed by the fee owner or a copy of your authorization to pursue this action.

If a corporation is fee title holder, attach a copy of the resolution of the Board of Directors authorizing this action.

If a joint venture or partnership is the fee owner, attach a copy of agreement authorizing this action on behalf of the joint venture or partnership.

THE CITY OF
LAKE ELMO

Lake Elmo City Hall
651-747-3900
3800 Laverne Avenue North
Lake Elmo, MN 55042

ACKNOWLEDGEMENT OF RESPONSIBILITY

This is to certify that I am making application for the described action by the City and that I am responsible for complying with all City requirements with regard to this request. This application should be processed in my name and I am the party whom the City should contact regarding any matter pertaining to this application.

I have read and understand the instructions supplied for processing this application. The documents and/or information I have submitted are true and correct to the best of my knowledge. I will keep myself informed of the deadlines for submission of material and of the progress of this application.

I understand that this application may be reviewed by City staff and consultants. I further understand that additional information, including, but not limited to, traffic analysis and expert testimony may be required for review of this application. I agree to pay to the City upon demand, expenses, determined by the City, that the City incurs in reviewing this application and shall provide an escrow deposit to the City in an amount to be determined by the City. Said expenses shall include, but are not limited to, staff time, engineering, legal expenses and other consultant expenses.

I agree to allow access by City personnel to the property for purposes of review of my application.

Signature of applicant Tracey L Rust Date 8/7/14

Name of applicant Tracey L. Rust Phone (952) 229-6063
(Please Print)

Name and address of Contact (if other than applicant) _____

_____

_____

_____

RYLAND HOMES®

TWIN CITIES DIVISION

7599 Anagram Drive
Eden Prairie, MN 55344

952.229.6000 Tel
952.229.6024 Fax

www.ryland.com

August 8, 2014

Kyle Klatt
Planning Director
City of Lake Elmo
3800 Laverne Ave. N.
Lake Elmo, MN 55042

RE: Hunters Crossing – Final Plat Application

Dear Mr. Klatt:

Ryland Homes is pleased to submit to the City of Lake Elmo a Final Plat application for Hunters Crossing located on the east side of Lake Elmo Ave. N. approximately ¼ mile north of Intestate Hwy 94. The following written statements are being provided as part of the submittal requirements for the development:

A. Contact Information
   a. Property Owner/Seller: Nathan Landucci
      404 Lake Elmo Ave. N.
      Lake Elmo, MN 55042
      (651) 894-2582

   b. Developer/Buyer/Applicant: The Ryland Group – Tracey Rust
      7599 Anagram Drive
      Eden Prairie, MN 55344
      (952) 229-6063

   c. Engineer/Surveyor: Pioneer Engineering – Paul Cherne
      2422 Enterprise Drive
      Mendota Heights, MN 55120
      (651) 251-0630

B. Site Data
   a. Address: 404 Lake Elmo Ave. N., Lake Elmo, MN 55042
   b. Zoning: On October 1, 2013 the City Council approved the Comprehensive Plan Amendment request from Medium Density Residential (MDR) to Low Density Residential (LDR). Existing zoning RT-Rural Transitional with proposed zoning of LDR-Urban Low Density Residential.
   c. Parcel Size: 23.10 Acres (1,006,236 SF)
   d. PID: 36.029.21.32.0008
   e. Legal Description: See attached-Per Title Commitment

C. Final Subdivision and Lot Information:
    i. Proposed Development Name: Hunters Crossing
    ii. See attached table for lot and block number, size and width and depth of lot.
    iii. See attached table with the Public Open Space area of 0.6265 Acres.
    iv. There will be no wetlands remaining for this development.
    v. See attached table with the proposed Right-of-Way area of 4.5671 Acres.
    vi. See Final Plat for Easement locations.

D. Preliminary Plat Conditions:
    1. Title and Fees: Title will be submitted under separate cover. All fees have been paid for Preliminary Plat.
    2. Landscape plan is attached for review.
    3. Additional landscaping has been added along adjacent property lines.
    4. Final construction plans will include the necessary improvements for 5th Street and Lake Elmo Avenue. Further coordination with the City and County is necessary prior to final plans.
    5. Valley Branch Watershed District granted approval for the wetland impacts on July 10, 2014.
    6. Landscaping outside of public areas will be the responsibility of individual homeowners or the Home Owner's Association depending on the planting locations.
    7. Park fee will be paid in lieu of park land dedication prior to final plat recording.
    8. A public trail will be constructed with this development.
    9. The temporary access from Lake Elmo Avenue will be eliminated when access to 5th Street is provided.
    10. A grading permit application has been submitted to the City for approval.
    11. Please see attached plans addressing the City Engineers comments.
    12. Ryland will preserve or re-use trees if possible.
    13. Ryland will work with the property owner to the north should grading be necessary to construct 5th Street improvements.
    14. Ryland will pay the Water Availability Charge for the entire development prior to Final Plat recording.

E. Density: The net density for the overall site is 3.93 lots/acre. This calculation is based on the number of lots divided by the acreage excluding outlots and right of way (51 lots / (23.10 -3.84-6.27) Acres = 3.93 lots/acre.)

F. Infrastructure Improvements: Hunters Crossing will ultimately have access from the future 5th Street corridor. The temporary access point for the site will be via the existing driveway entrance off of Lake Elmo Avenue. The internal streets with sidewalks parallel Lake Elmo Avenue and 5th Street with 2 cul-de-sacs on the east side of the property adjacent to the proposed stormwater basin. The stormwater basin located on the east side of the property has been designed in this location due to the low area of the site as well as allowing a natural buffer between the residential and future business park use. A trail is proposed along the south and east side of the basin to provide a connection from the development to 5th Street. Sanitary sewer service will be provided within the internal roadway system with connection to the 24" sanitary sewer service that the City recently installed to service this and other sites. Watermain service will also be provided within the internal roadway and connect to the watermain trunk service that is currently being installed along Lake Elmo Avenue by the City with an expected completion date of September 2015.

Phase I of Hunters Crossing will consist of 22 lots with necessary streets and utilities.

G. Neighbor Concerns:

   a. Neighbor at Southwest corner - Ryland has discussed this project with the neighbors directly adjacent to the site. The neighbor at the southwest corner of the site mentioned concern for future grading and drainage entering their property and if Lake Elmo Avenue improvements would affect their property and/or driveway. Ryland's grading plan addresses the grading by matching existing grades at the property line. The current Lake Elmo Avenue & 5th Street intersection improvements do not extend south past the development therefore those improvements will not affect the current property owner at the southwest corner. Additional landscaping was added to increase screening along the properties lines.
   b. Neighbor to the East – Ryland has met with the adjacent neighbor to the east to discuss the development and to acquire a grading easement on their property. Discussions with them have been favorable regarding the location of 5th Street and the need for a grading easement for Ryland to do some minor grading to ensure proper flow from the stormwater basin's ultimate outlet.

H. Conflicts with nearby land uses: Ryland believes that not only is this development not creating conflicts with nearby land uses or future uses but that it is encouraging future uses with it being the first development in the area and contributing to utility trunk service extensions and roadway improvements. There is one wetland area on the site that will be disturbed during the development and has been approved by Valley Branch Watershed District. Ryland will be paying into a wetland bank in lieu of wetland mitigation.

I. No excessive burden on the City: With the City of Lake Elmo's plan to expand and create developments in Lake Elmo and given the size of this first development into the area, we do not anticipate any burdens on roadways, utilities, parks, schools, fire, police, or other services in the area.

J. Proposed lakeshore access: Not applicable.

K. Parks and/or open space: The City staff has recommended that a park is not necessary within the proposed development and that Ryland will pay a parkland dedication fee to contribute to a future regional park within the area.

L. Development Schedule: The development will be constructed in two (2) phases with the first phase utilizing the existing access off of Lake Elmo Avenue until 5th Street is constructed and complete. Phase I will consist of 22 lots along the north side of the site with necessary streets, utilities and the stormwater basins. The following is a preliminary schedule for design/approvals and construction.

   a. Begin Site Grading – August 2014
   b. Phase I Final Plat Approval – September 16, 2014
   c. Phase I Site Construction (Streets & Utilities) – September – November 2014
   d. City Watermain Extension – June – October 2014
   e. 5th Street Construction – Spring 2015
   f. Phase II Final Plat Approval – April 2015
   g. Phase II Site Construction – June – August 2015
   h. Home Construction - November 2014 – December 2016

Ryland Homes has appreciated City Staff's comments and direction so far with this project and we look forward to continuing to work with City Staff to make this a successful new neighborhood for the City of Lake Elmo. Please feel free to contact Tracey Rust at 952.229.6063 with any questions.

Sincerely,

THE RYLAND GROUP, INC.

Tracey Rust, PE
Entitlement Manager

Attachment: Legal Description
Hunters Crossing Information Table

HUNTERS CROSSING

LOT INFORMATION				
Lot #	Block #	Acreage	Width (ft)	Depth (ft)
1	1	0.3646	80.9	194.3
2	1	0.2245	72.0	133.4
3	1	0.2496	72.0	150.9
4	1	0.2499	72.0	151.2
1	2	0.3059	77.6	171.4
2	2	0.2633	72.0	158.7
3	2	0.2783	80.4	150.5
1	3	0.2702	72.0	163.5
2	3	0.2702	72.0	163.5
3	3	0.2762	103.0	126.9
4	3	0.2099	72.0	127.0
5	3	0.2099	72.0	127.0
6	3	0.2540	92.8	127.0
1	4	0.3074	83.7	148.3
2	4	0.2622	72.0	140.4
3	4	0.2379	72.0	145.6
4	4	0.3043	65.0	139.5
5	4	0.3099	78.7	125.1
6	4	0.3391	78.7	134.0
7	4	0.2421	65.0	126.4
8	4	0.2742	72.0	183.5
9	4	0.2758	91.0	133.9

Total area dedicated public open space: 0.6265 acres

Total area wetland and buffers: 0 acres

Total area proposed right-of-ways: 4.5671 acres

Hunters Crossing Tree Inventory

April 29, 2014

Final Plat Submittal August 8, 2014

RYLAND HOMES®

Tree Inventory by:

Ken Arndt
Forest Ecologist/Wetland Specialist
Midwest Natural Resources, Inc.
1032 West Seventh St. #150
St. Paul, MN 55102
(651)-788-0641

Tree Preservation Plans provided by:

PIONEER *engineering*

2422 Enterprise Drive
Mendota Heights, MN 55120
651-681-1914

Tag #	Size	Common Name	Scientific Name	Native/Non-Native	Notes	Status
1225	24/16	Siberian Elm	*Ulmus pumila*	non-native		Remove
1226	17/12/12	Siberian Elm	*Ulmus pumila*	non-native		Remove
1227	20	Siberian Elm	*Ulmus pumila*	non-native		Off-Site
1228	14/12	Siberian Elm	*Ulmus pumila*	non-native		Remove
1229	14/10/10	Silver Maple	*Acer saccharinum*	native		Remove
1230	10/10/7	Siberian Elm	*Ulmus pumila*	non-native		Remove
1231	10/9/6/6	Silver Maple	*Acer saccharinum*	native		Remove
1232	13/12	Siberian Elm	*Ulmus pumila*	non-native		Remove
1233	14	Siberian Elm	*Ulmus pumila*	non-native		Remove
1234	18	Siberian Elm	*Ulmus pumila*	non-native		Off-Site
1235	22	Boxelder	*Acer negundo*	native		Remove
1236	22	Boxelder	*Acer negundo*	native		Remove
1237	14/10	Siberian Elm	*Ulmus pumila*	non-native		Remove
1238	19	American Elm	*Ulmus americana*	native		Remove
1239	20/12	Siberian Elm	*Ulmus pumila*	non-native		Remove
1240	16	Northern Pin Oak	*Quercus ellipsoidalis*	native	Not shown on plan, **Hardwood**	Remove
1241	34	Cottonwood	*Populus deltoides*	native		Remove
1242	30	Cottonwood	*Populus deltoides*	native		Remove
1243	19	Cottonwood	*Populus deltoides*	native		Remove
1244	20	Boxelder	*Acer negundo*	native		Remove
1245	14/14/14	Green Ash	*Fraxinus pennsylvanica*	native	1 of 3 has internal decay along stem	Remove
1246	15/14	Siberian Elm	*Ulmus pumila*	non-native		Remove
1247	10/10	Siberian Elm	*Ulmus pumila*	non-native		Remove
1248	11	Siberian Elm	*Ulmus pumila*	non-native		Remove
1249	16/12	Siberian Elm	*Ulmus pumila*	non-native		Remove
1250	18/12	Siberian Elm	*Ulmus pumila*	non-native		Remove
1251	24	Siberian Elm	*Ulmus pumila*	non-native		Remove
1252	20	Siberian Elm	*Ulmus pumila*	non-native		Remove
1253	26	Black Willow	*Salix nigra*	native		Remove
1254	18	Black Willow	*Salix nigra*	native		Remove
1255	19	Black Willow	*Salix nigra*	native		Remove
1256	24	Black Willow	*Salix nigra*	native		Remove
1257	18	Black Willow	*Salix nigra*	native		Remove
1258	8	Green Ash	*Fraxinus pennsylvanica*	native		Remove
1259	17	Siberian Elm	*Ulmus pumila*	non-native		Remove
1260	8	Green Ash	*Fraxinus pennsylvanica*	native		Remove
1261	6/6	Siberian Elm	*Ulmus pumila*	non-native		Remove
1262	6/6	Siberian Elm	*Ulmus pumila*	non-native		Remove
1263	7	Green Ash	*Fraxinus pennsylvanica*	native		Remove
1264	12	Siberian Elm	*Ulmus pumila*	non-native		Remove
1265	15	Siberian Elm	*Ulmus pumila*	native		Remove
1266	12/8	Silver Maple	*Acer saccharinum*	native		Remove
1267	13/8	Silver Maple	*Acer saccharinum*	native		Remove
1268	16/12/8	Silver Maple	*Acer saccharinum*	native		Remove
1269	13	Silver Maple	*Acer saccharinum*	native		Remove
1270	22/22/20/14	Silver Maple	*Acer saccharinum*	native		Remove
1271	13	Silver Maple	*Acer saccharinum*	native		Remove
1272	14	Silver Maple	*Acer saccharinum*	native		Remove
1273	11	Silver Maple	*Acer saccharinum*	native		Remove
1274	10	Silver Maple	*Acer saccharinum*	native		Remove
1275	7	Silver Maple	*Acer saccharinum*	native		Remove
1276	10	Silver Maple	*Acer saccharinum*	native		Remove
1277	10	Silver Maple	*Acer saccharinum*	native		Remove
1278	8	Silver Maple	*Acer saccharinum*	native		Remove
1279	17	Silver Maple	*Acer saccharinum*	native		Remove
1280	17	Silver Maple	*Acer saccharinum*	native		Remove
1281	28/19	Silver Maple	*Acer saccharinum*	native		Remove
1282	25	Silver Maple	*Acer saccharinum*	native		Remove
1283	29	Silver Maple	*Acer saccharinum*	native	40% top dead, internal decay @ base	Remove
1284	12	Jack Pine	*Pinus banksiana*	native	**Coniferous**	Remove
1285	18/17/16/16/16	Silver Maple	*Acer saccharinum*	native		Remove
1286	28	Silver Maple	*Acer saccharinum*	native		Remove
1287	14	Siberian Elm	*Ulmus pumila*	non-native		Remove
1288	16	Green Ash	*Fraxinus pennsylvanica*	native		Remove
1289	16/10	Siberian Elm	*Ulmus pumila*	non-native		Remove
1290	9	Silver Maple	*Acer saccharinum*	native		Remove
1291	25	Siberian Elm	*Ulmus pumila*	non-native	Not shown on plan	Remove
1292	14	Siberian Elm	*Ulmus pumila*	non-native	Not shown on plan	Remove
1293	7	Silver Maple	*Acer saccharinum*	native		Remove
1294	20/16/12	Siberian Elm	*Ulmus pumila*	non-native		Remove
1295	8/7	Siberian Elm	*Ulmus pumila*	non-native		Save
1296	14	Siberian Elm	*Ulmus pumila*	non-native		Save
1297	11	Siberian Elm	*Ulmus pumila*	non-native		Save

Tag #	Size	Common Name	Scientific Name	Native/Non-Native	Notes	Status
1298	16	Siberian Elm	*Ulmus pumila*	non-native		Save
1299	13/10	Siberian Elm	*Ulmus pumila*	non-native		Save
1300	12/8	Siberian Elm	*Ulmus pumila*	non-native		Save
1301	13/7	Siberian Elm	*Ulmus pumila*	non-native		Save
1302	11	Siberian Elm	*Ulmus pumila*	non-native		Save
1303	10/10/8	Boxelder	*Acer negundo*	native		Save
1304	10	Siberian Elm	*Ulmus pumila*	non-native		Save
1305	10	American Elm	*Ulmus americana*	native		Save
1306	8	Siberian Elm	*Ulmus pumila*	non-native		Save
1307	10/6	Siberian Elm	*Ulmus pumila*	non-native		Save
1308	12	Siberian Elm	*Ulmus pumila*	non-native		Save
1309	12	Siberian Elm	*Ulmus pumila*	non-native		Save
1310	12/12/10/8	Siberian Elm	*Ulmus pumila*	non-native		Save
1311	10	Siberian Elm	*Ulmus pumila*	non-native		Save
1312	14	American Elm	*Ulmus americana*	native		Save
1313	18	Siberian Elm	*Ulmus pumila*	non-native		Save
1314	10	Siberian Elm	*Ulmus pumila*	non-native		Save
1315	15	Siberian Elm	*Ulmus pumila*	non-native		Save
1316	14/12	Siberian Elm	*Ulmus pumila*	non-native		Save
1317	10	Siberian Elm	*Ulmus pumila*	non-native		Save
1318	14	Siberian Elm	*Ulmus pumila*	non-native		Save
1319	13	Green Ash	*Fraxinus pennsylvanica*	native		Save
1320	14	Siberian Elm	*Ulmus pumila*	non-native		Off-Site
1321	16/15	Siberian Elm	*Ulmus pumila*	non-native		Save
1322	9	Quaking Aspen	*Populus tremuloides*	native		Remove
1323	16/10	Siberian Elm	*Ulmus pumila*	non-native		Remove
1324	20/15/10	Silver Maple	*Acer saccharinum*	native		Remove
1325	16/10	Silver Maple	*Acer saccharinum*	native		Remove
1326	15	Silver Maple	*Acer saccharinum*	native		Remove
1327	12/10	Silver Maple	*Acer saccharinum*	native		Remove
1328	16	Silver Maple	*Acer saccharinum*	native		Remove
1329	12/6/6	Silver Maple	*Acer saccharinum*	native		Remove
1330	12	Silver Maple	*Acer saccharinum*	native		Remove
1331	9	Silver Maple	*Acer saccharinum*	native		Remove

Total Inches: 2,106"
Allowed 30% Removal: 631"
Total Inches Removed: 1,677"
Total Inches to Mitigate: 1,046"
- Common Tree Removal: 1,018"
- Coniferous Tree Removal: 12"
- Hardwood Tree Removal: 16"

Common Tree Removal: 1,018"
Replace at a rate of 1/4: 1,018"/4=255"

Conifersous Tree Removal: 12"
Replace at a rate of 1/2: 12"/2=6"

Hardwood Tree Removal: 16"
Replace at a rate of 1/2: 16"/2=8"

Total Inches Required: 269"

MEMORANDUM

FOCUS ENGINEERING, inc.

Cara Geheren, P.E.	**651.300.4261**
Jack Griffin, P.E.	**651.300.4264**
Ryan Stempski, P.E.	**651.300.4267**
Chad Isakson, P.E.	**651.300.4285**

Date: September 3, 2014

To: Kyle Klatt, Planning Director
Cc: Nick Johnson, City Planner
From: Jack Griffin, P.E., City Engineer

Re: Hunters Crossing – Ryland Homes
Final Plat and Construction Plan Review

An engineering review has been completed for the Hunters Crossing development by Ryland Homes. A Final Plat and Grading Plan submittal was received on August 15, 2014. The submittal consisted of the following documentation prepared by Pioneer Engineering:

- Final Plat Application dated August 8, 2014.
- Final Plat, unsigned and undated.
- Final Grading Plan, dated July 28, 2014.
- Utility and Street Construction Plans, dated August 6, 2014.
- Project Manual for Utility and Street Construction, dated August 6, 2014.
- Stormwater Management Report, revised July 25, 2014.

STATUS/FINDINGS: The grading plans are of sufficient quality to allow grading operations to begin. A preconstruction meeting may be scheduled to initiate grading work. At the preconstruction meeting the applicant must submit all necessary permits including the VBWD permit, Project SWPPP, County R/W approvals, and adjacent property owner permissions and easements as outlined below.

Final Grading Plans and Utility and Street Construction Plans must be revised and resubmitted for final review and approval by the City prior to street and utility construction work.

FINAL PLAT:

- The Final Plat and Construction Plans should both be updated to include the Outlot ownership information. Outlots A, B and E must be dedicated to the City.
- Note: City utilities will be constructed within Outlot C as part of the first addition. All drainage and utility easements shown on the Plat must be dedicated to the City of Lake Elmo and recorded at Washington County as part of the First Addition Final Plat, including the drainage and utility easements over Outlot C.
- The Plat proposes a temporary roadway access to CSAH 17 (Lake Elmo Avenue) through a portion of Outlot C. A 50 foot temporary road easement should be provided to the City of Lake Elmo as part of the Final Plat to include the temporary access road.
- The Plat requires future access to 5th Street North with the temporary access road to be removed. Approval of the Final Plat should be contingent upon a fully executed development agreement securing the property and cost for the future construction of 5th Street.

PROJECT EASEMENTS:

- Provide written documentation from the adjacent property owner to the north agreeing to the grading and erosion control work to be completed on the property.
- Provide written documentation from the adjacent property owner to the east agreeing to the grading and storm sewer construction work and the direct storm water discharge onto the property at FES 1A. Permanent drainage and utility easements in the City standard form must be provided for the proposed storm pond outfall from Basin 1P.
- A 20 foot permanent drainage and utility easement in the City standard form should be provided along the southern plat line to accommodate the grading and storm sewer pipe proposed on the south property line.

GRADING, STORM WATER MANGEMENT AND EROSION CONTROL

- Add Note to see Standard Plan Notes for Grading and Erosion Control, Details 600A, 600B and 600C, on Erosion Control Detail Sheet.
- Add Note to see Standard Plan Notes for Site Restoration, Detail 600D, on Erosion Control Detail Sheet.
- Spot elevations need to be placed along the west side of Basin 601P to fully contain the 932.5 HWL contour on Outlot A. Based on contours only the HWL appears to extend into County R/W.
- The maintenance access to Basin 601P Basin must be changed to 15 feet in width. The City must receive documentation indicating County approval for permanent access to this facility.
- The Temporary Sediment Basins 401P, 101P and within the 3rd Street Cul-de-sac, should be relocated outside of future street areas to avoid temporary soil saturation in these areas.
- Grading revisions should be made along the south side of Outlot B to improve drainage and grade from the localized low area within the 932 contour. Consider a second drainage outlet to CSAH 17 R/W.
- Additional swale grade appears necessary along the rear property lines of Lots 1, 2 and 3, Block 4.
- The Grading Detail plan sheet must be updated to include the City Standard Typical Sections for 5th Street and Residential Streets and the custom typical sections removed to avoid conflicting section details.
- The Temporary Access Road Section should be updated to reflect a minimum 22 foot pavement width with 2 foot gravel shoulders.
- See EOR review memorandum regarding design and construction of the iron enhanced sand filters.

STORM SEWER SYSTEM

- City Standard Plan Notes for Storm Sewer, from Detail 400A, must be included on each Storm Sewer Construction Plan Sheet.
- Storm sewer design calculations must be submitted as part of the construction plans to verify compliance with minimum and maximum pipe velocities and discharges.
- A localized low point is created on Laverne Avenue. Additional catch basin inlets should be considered to enhance drainage in this area above typical 10-year event inlet capacity.
- Increase the pipe size to 15-inch diameter from CBMH-124 to CBMH-123.
- Remove “Inspector” from Note 2.
- The plans must be revised to better clarify between the Phase 1 and Phase 2 storm sewer plans.

SANITARY SEWER AND WATERMAIN

- Watermain oversizing will be required to meet City wide distribution system demands. Watermain must be increased to 12-inch pipe diameter along 5th Street, then south along Laverne Avenue, then east along 3rd Street, then south along the stub to the south property line. A 12” x 12” cross should be installed at the intersection of 5th Street and Laverne Avenue. Watermain oversizing is paid by the City as a reimbursement addressed within the development agreement.
- Rename the “Sanitary Sewer Construction” Plan Sheets to include Watermain.
- City Standard Plan Notes for Watermain, from Detail 200A, and Sanitary Sewer, from Detail 300A, must be included on each Utility Plan Sheet.

- The plans must be revised to better clarify between the Phase 1 and Phase 2 sanitary sewer and watermain. Add a temporary hydrant at each watermain end point for system maintenance.
- Replace the air bleed valve on Sheet 2 with a temporary hydrant on the watermain stub to the southern property line.
- Insert an 12" x 8" Tee fitting with a bend fitting on Sheet 2 along the 3rd Street watermain as the watermain turns south along the trail.

STREET CONSTRUCTION

- Replace the Typical 60-foot ROW Street Section on Sheets 12-14 with the City Standard Typical Section to remove all discrepancies from City Standards.
- Provide Typical ROW Street Section for Laverne Avenue from 4th Street to 5th Street.
- The Temporary Access road must be a minimum 22-feet in width for the bituminous and signed "No Parking" along both sides of the road.
- Replace the Typical 100-foot ROW Street Section on Sheet 16 with the City Standard Typical Section to remove all discrepancies from City Standards. Adjust all other plan documents as necessary to conform with the City typical section for 5th Street.
- City Standard Plan Notes for Sidewalks and Trails, from Detail 500A, must be included on each Street and Trail Plan Sheet.
- A Signing, Pavement Marking and Lighting Plan must be completed and incorporated as part of the Street and Utility Construction Plans. City Standard Plan Notes for Signing, Pavement Marking and Lighting, from Detail 700A, must be included on each Street and Trail Plan Sheet.

PROJECT MANUAL / SPECIFICATIONS AND STANDARD DETAILS

- The City Standard Specifications must be included in the Project Manual as the governing specifications for the Improvements. The general requirements shall state the following: *"The City Standard Specifications shall apply to the work performed under this contract. Any supplemental specifications are intended to supplement the City Standard Specifications; however they do NOT supersede the City Standard Specifications, Details, Design Standards, or ordinances unless specific written approval has been provided by the City."*
- Any additional specifications for the project shall be clearly identified as "Supplemental Provisions" not "Special Provisions".
- The General Project Requirements shall be revised to be consistent with the City Standard Specifications for general project requirements, and the project requirements as specified in the Development Agreement.
- The Project Manual shall include City standard grading and erosion control specifications and be issued and used as part of the grading operations for the Project.
- Standard Plan Note Details 200A, 300A, 400A, 500A, 600A-600D, and 700A are to be placed on each applicable plan sheet and removed from the detail plan sheets.
- Add Standard Details 101, 102, 103, 105, 201, 203, 204, and 402 to the Detail Plan Sheets.

LANDSCAPE ARCHITECTURE INCORPORATED
WWW.LANDARCINC.COM

HUNTER'S CROSSING – DESIGN REVIEW REPORT
LAKE ELMO, MN

LANDSCAPE ARCHITECTURAL DESIGN REVIEW DATED SEPTEMBER 5TH, 2014

REVIEWED PLAN SET DATED AUGUST 8TH, 2014

Required Action Items by Hunter's Crossing Project Landscape Architect

1. The plan is **NOT** in compliance with the landscape requirements. Current drawing represents 575 caliper inches, required caliper inches is 784 assuming the street frontage, trees to be planted per acre as well as mitigation calculations provided are correct. City requirements are fair and reasonable therefore, one or a combination of the following recommendations must be met.
   Recommendations:
   - Revise design to preserve more existing trees. Therefore, reducing tree replacement requirements.
   - Add more landscape materials on-site to meet landscape requirements.
   - Increase caliper inches or height of trees already specified to comply with aggregate landscape requirements.
   - Plant remaining required plant materials in a nearby City Park per City staff direction to meet landscape requirements.

   (per tree preservation ordinance 154.257 8 a-d & landscape requirements 154.258)
2. 6 foot Evergreen Tree conversion to caliper inches = 2.5 inch deciduous shade tree if converted NOT 3 inch caliper inches as assumed on sheet L1.
3. Project Landscape Architect to provide landscape irrigation plans for all commonly held HOA & City R.O.W. areas.

SINCERELY,

LANDSCAPE ARCHITECTURE, INC.

STEPHEN MASTEY, ASLA, CLARB, LEED AP BD+C
DIRECTOR OF DESIGN

2350 BAYLESS PLACE• ST. PAUL, MN • 55114
PHONE: 651.646.1020 • EMAIL: STEPHEN@LANDARCINC.COM

Washington County

Public Works Department

Donald J. Theisen, P.E.
Director

Wayne H. Sandberg, P.E.
Deputy Director/County Engineer

September 2, 2014

Kyle Klatt
Community Development Director
City of Lake Elmo
3600 Laverne Avenue North
Lake Elmo, MN 55042

RE: Washington County comments on the Final Plat for Hunters Crossing residential development, City of Lake Elmo

Dear Mr. Klatt:

Thank you for providing the county with the final plat for the Hunters Crossing subdivision, in Section 34 ,Township 29N , Range 21W along County Road (CR) 17B/Lake Elmo Avenue in the City of Lake Elmo. The proposed plat consists of 22 residential lot and 5 outlots on 23.10 acres of land. Based on the plan provided, we have the following comments:

- The final plat submitted identifies 90 feet of right-of-way from the centerline of CR 17B. Although it is not the 92 feet required by the Washington County Comprehensive Plan 2040, this is an adequate amount. The County will be reevaluating the future right-of-way requirements along this section of roadway during the next Comprehensive plan update.

- The temporary access point on CR17 B is acceptable to the county on a short term/temporary basis. There is currently a right turn lane in place that can accommodate the north bound traffic. An access permit will be required for the temporary access.

- The developer or the city must submit the final drainage report and calculations to our office for review of any downstream impacts to the county drainage system. Along with the drainage calculations, we will request written conclusions that the volume and rate of stormwater run-off into the county right-of way will not increase as part of the project.

- Access control must be dedicated to Washington County along the CR 17B/Lake Elmo Avenue frontage.

- Although it may not be constructed during this phase, improvements to County Road (CR) 17B are required at the new 5th Street section. A Washington County Right-of-Way permit is required for the improvements which will include a northbound right turn lane and a southbound center left turn lane. A plan section will need to be prepared and approved by the county traffic engineer.

September 2,2014
Hunter's Crossing

- As noted previously, Washington County's policy is to assist local governments in promoting compatibility between land use and highways. Residential uses located adjacent to highways often result in complaints about traffic noise. Traffic noise from this highway could exceed noise standards established by the Minnesota Pollution Control Agency (MPCA), the U.S. Department of Housing and Urban Development, and the U.S. Department of Transportation. Minnesota Rule 7030.0030 states that municipalities are responsible for taking all reasonable measures to prevent land use activities listed in the MPCA's Noise Area Classification (NAC) where the establishment of the land use would result in violations of established noise standards. Minnesota Statute 116.07, Subpart 2a exempts County Roads and County State Aid Highways from noise thresholds. County policy regarding development adjacent to existing highways prohibits the expenditure of highway funds for noise mitigation measures in such areas. The developer should assess the noise situation and take any action outside of County right of way deemed necessary to minimize the impact of any highway noise.

- Any grading within County right of way will require a Washington County Right of Way Permit.

- All utility connections for the development require Washington County Right of Way permits. Typically, these are the responsibility of the utility companies.

Thank you for the opportunity to comment on this concept plan. If you have any questions, please contact me at 651-430-4362 or ann.pung-terwedo@co.washington.mn.us

Regards,

Ann Pung-Terwedo
Senior Planner

Cc: Carol Hanson, Office Specialist

R/Plat Reviews/City of Lake Elmo/Hunters Crossing

July 31, 2014

Tracey Rust
Ryland Homes
7599 Anagram Drive
Eden Prairie, MM 55344

Re: Hunters Crossing—Lake Elmo, Minnesota
VBWD Permit #2014-10

Dear Ms. Rust:

Enclosed is the Valley Branch Watershed District (VBWD) permit for your project. Please note the following conditions imposed by the Managers, which are also listed on the back of the permit.

1. This permit is not valid until a maintenance agreement in the general format of Appendix B of the VBWD Rules is submitted to and approved by the VBWD Attorney. The maintenance agreement shall include the inspection and maintenance of the iron-enhanced sand filters.

2. Prior to construction, the required surety shall be submitted. This permit is not valid until the permit fee and surety are submitted.

3. The Hunters Crossing permit applicant must obtain permission to perform any and all proposed work on land not owned by the applicant.

4. This permit is not transferable.

5. This permit is subject to obtaining all other permits required by governmental agencies having jurisdiction (including a NPDES permit).

6. The VBWD Engineer and Inspector shall be notified at least 3 days prior to commencement of work.

7. Erosion controls shall be installed prior to the commencement of grading operations and must be maintained throughout the construction period until turf is established. Additional erosion controls may be required, as directed by the VBWD Inspector or VBWD Engineer.

8. The following additional erosion controls shall be implemented on the site:

    a. All proposed slopes 3 feet horizontal to 1 foot vertical (3H:1V) should be covered with erosion-control blanket.

    b. Silt fence should follow existing contours as closely as feasible to limit the potential for gully erosion along the edges.

    c. Any sediment that collects in storm sewers, ponds, or other water management features shall be removed.

    d. If erosion occurs at the outlets of the storm sewer pipes, the applicant will be responsible for correcting the problem to the satisfaction of the VBWD.

9. To prevent soil compaction, the proposed infiltration area shall be staked off and marked during construction to prevent heavy equipment and traffic from traveling over it. If the infiltration facility is in place during construction activities, sediment and runoff shall be kept away from the facility, using practices such as diversion berms and vegetation around the facility's perimeter. The infiltration facility shall not be excavated to final grade until the contributing drainage area has been constructed and fully stabilized. The final phase of excavation shall remove all accumulated sediment and be done by light, tracked equipment to avoid compaction of the basin floor. To provide a well-aerated, highly porous surface, the soils of the basin floor shall be loosened to a depth of at least 24 inches to a maximum compaction of 85% standard proctor density prior to planting.

10. All disturbed areas shall be vegetated within 14 days of final grading.

11. The applicant is responsible for removal of all temporary erosion-control measures, including silt fence, upon establishment of permanent vegetation at the project site as determined by the VBWD Engineer and/or Inspector.

12. Valley Branch Watershed District shall be granted drainage easements which cover: (a) land adjacent to stormwater management facilities and lowlands up to their 100-year flood elevations and (b) all ditches, storm sewers, and maintenance access to the stormwater management facilities.

13. The required drainage easements and access easements shall be recorded with the Washington County Recorder's Office.

14. The minimum floor elevations for all buildable lots in the development shall be recorded in a Declaration of Covenants and Restrictions or on the final plat.

15. Return or allowed expiration of any remaining surety and permit close out is dependent on the permit holder providing proof that all required documents have been recorded (including but not limited to easements) and providing as-built drawings that show that the project was constructed as approved by the Managers and in conformance with the VBWD rules and regulations.

Thank you for your cooperation with the District's permit program.

Sincerely,

Lincoln Fetcher, Vice President
Valley Branch Watershed District

LF/ymh
Enclosure
c: Ray Marshall, VBWD Attorney
Ray Roemmich, VBWD Inspector
Molly Shodeen, MDNR
Kyle Klatt, City Planning Director—City of Lake Elmo
Jack Griffin, City Engineer, FOCUS Engineering—City of Lake Elmo
Building Inspector—City of Lake Elmo
Nathan Landucci, Owner
Nathan Campbell, Corps of Engineers
Brad Johnson, MDNR
Jed Chesnut, Washington Conservation District
Brooke Haworth MDNR
Ben Meyer, Minnesota Board of Water and Soil Resources
Karen Wold, Barr Engineering Company
Yvonne Huffman, Barr Engineering Company

P:\Mpls\23 MN\82\2382020_MovedFromMpls_P\2014\2014_10_HuntersCrossing\2014-10_PermitLtr_July2014.docx

VALLEY BRANCH WATERSHED DISTRICT
PERMIT APPLICATION

TO BE COMPLETED BY VBWD:
PERMIT NUMBER 2014-10
PERMIT FEE RECEIVED $8,111.54
DATE RECEIVED May 8, 2014

Return application to
John Hanson
Barr Engineering Company
Engineers for the Valley Branch Watershed District
4700 West 77th Street
Edina, MN 55435-4803

A permit fee shall accompany this permit, unless waived by the Board of Managers. (Governmental Bodies are not required to pay a fee.)

Project Information	Applicant Information
Name of Project: Hunters Crossing	Name: Tracey Rust Ryland Homes
Purpose of Project: Residential Development	Address: 7599 Anagram Drive
Project Location (street address, if known; otherwise, major intersection): 404 Lake Elmo Ave N	City, State, Zip: Eden Prairie 55344
City or Township: Lake Elmo	Phone: 952 229 6063
Legal Description (proof of ownership required): PID: 3602921320002 Section: 36 Township: 29 Range: 21	Fax:
Project Timeline: Start Date: July 1, 2014 Completion Date: Nov 30 2016	Email: trust@ryland.com
Authorized Agent Information	**Owner Information** **(If different than Applicant)**
Name:	Name: Nathan Landucci
Business Name:	Address: 13230 20th St. Ct. N.
Address:	City, State, Zip: Stillwater MN 55082
City, State, Zip:	Phone: 651 894 2582
Phone:	Fax: 651-342-1049
Fax:	Email: LANDUCNL@hotmail.com
Email:	

Once a Valley Branch Watershed District permit has been approved, the permit conditions will attached to the back of this form.

By signing this permit application, the permit applicant, his/her agent, and owner (hereinafter "Permittee") shall abide by all the conditions set by the Valley Branch Watershed District (VBWD). All work which violates the terms of the permit by reason of presenting a serious threat of soil erosion, sedimentation, or an adverse effect upon water quality or quantity, or violating any rule of the VBWD may result in the VBWD issuing a Stop Work Order which shall immediately cause the work on the project related to the permit to cease and desist. All work on the project shall cease until the permit conditions are met and approved by the VBWD representatives. In the event Permittee contests the Stop Work Order issued by the VBWD, Permittee shall attend a VBWD Board of Managers meeting and discuss the project. Any attorney fees, costs, or other expenses incurred on behalf of the VBWD in enforcing the terms of the permit shall be the sole expense of the permit applicant. Costs shall be payable from the permit applicant's permit fee. If said fees exceed the permit amount, the Permittee shall have ten (10) days from the date of receipt of the invoice from the VBWD to pay for the cost incurred in enforcing the permit, by which to pay the VBWD for said costs. If costs are not paid within the ten (10) days, the VBWD will draw on the permit applicant's surety. The Permittee agrees to be bound by the terms of the final permit and conditions required by the VBWD for approval of the permit. The permit applicant further acknowledges that he/she has the authority to bind the owner of the property and/or any entity performing the work on the property pursuant to the terms of the VBWD permit, and shall be responsible for complying with the terms of the VBWD permit.

Signatures (Required):

Tracey L Rust 5/7/14 — 5/6/14 (Nathan Landucci)

Applicant/Date | **Owner (If different than Applicant)/Date** | **Owner's Authorized Agent/Date**

Station #1
3510 Laverne Ave. No.
Lake Elmo, MN 55042
651-770-5006

Station #2
4259 Jamaca Ave. No.
Lake Elmo, MN. 55042
651-779-8882

LAKE ELMO FIRE DEPARTMENT

August 28, 2014

After review of the FINAL PLAT – HUNTER'S CROSSING, I have one area of concern and that is the "temporary access". I want to ensure that it will handle fire apparatus and is wide enough to allow two way traffic when we use it.

Hydrant spacing seems to be well within our guidelines and I was very pleased to see hydrants on 5th St. as they will be very beneficial.

Reviewed by

Greg Malmquist, Fire Chief

HUNTERS CROSSING

KNOW ALL PERSONS BY THESE PRESENTS: That The Ryland Group, Inc., a Maryland Corporation, owner of the following described property:

The Northwest Quarter of the Southwest Quarter of Section 36, Township 29 North, Range 21 West, Washington County, Minnesota, lying southerly of the following described "Line X":

Commencing at the West Quarter corner of said Section 36; thence South 00 degrees 02 minutes 54 seconds West, orientation of bearing system is assumed along the west line of said Northwest Quarter of the Southwest Quarter, a distance of 474.06 feet to the south line of North 474.06 feet of said Northwest Quarter of the Southwest Quarter; thence continuing along said west line, South 00 degrees 02 minutes 54 seconds West, a distance of 161.15 feet to the point of beginning of "Line X"; thence North 89 degrees 48 minutes 29 seconds East a distance of 406.17 feet; thence North 00 degrees 02 minutes 54 seconds East a distance of 161.15 feet, to the said south line of the North 474.06 feet; thence North 89 degrees 48 minutes 29 seconds East, along said south line, a distance of 912.76 feet to the east line of said Northwest Quarter of the Southwest Quarter of said "line X" there terminating.

EXCEPT that part of said Northwest Quarter of the Southwest Quarter described as follows:

Beginning at the southwest corner of said Northwest Quarter of the Southwest Quarter; thence East along the south line of said Northwest Quarter of the Southwest Quarter a distance of 16 Rods; thence North along a line parallel with the west line of said Northwest Quarter of the Southwest Quarter a distance of 10 rods; thence West on a line parallel with the south line of said Northwest Quarter of the Southwest Quarter a distance of 16 rods to said west line; thence South along said west line a distance of 10 rods to the point of beginning.

Has caused the same to be surveyed and platted as HUNTERS CROSSING and does hereby dedicate to the public for public use the public ways and the drainage and utility easements as created by this plat.

In witness whereof said The Ryland Group, Inc., a Maryland Corporation, has caused these presents to be signed by its proper officer this _____ day of _____ , 20_____ .

The Ryland Group, Inc., a Maryland Corporation

_____

_____ its _____

STATE OF MINNESOTA
COUNTY OF _____

This instrument was acknowledged before me on this _____ , by _____ its _____ of The Ryland Group, Inc., a Maryland Corporation, on behalf of the company.

_____

_____

Notary Public, _____

My Commission Expires _____

SURVEYOR'S CERTIFICATE

I Peter J. Hawkinson do hereby certify that this plat was prepared by me or under my direct supervision; that I am a duly Licensed Land Surveyor in the State of Minnesota; that this plat is a correct representation of the boundary survey; that all mathematical data and labels are correctly designated on this plat; that all monuments depicted on this plat have been set, or will be correctly set within one year; that all water boundaries and wet lands, as defined in Minnesota Statutes, Section 505.01, Subd. 3, as of the date of this certificate are shown and labeled on this plat; and all public ways are shown and labeled on this plat.

Dated this _____ day of _____ 20_____ .

_____

Peter J. Hawkinson, Licensed Land Surveyor
Minnesota License No. 42299

STATE OF MINNESOTA
COUNTY OF _____

This instrument was acknowledged before me on this _____ , by Peter J. Hawkinson, Licensed Land Surveyor.

_____

_____

Notary Public, _____

My Commission Expires _____

CITY COUNCIL, Lake Elmo, Minnesota

This plat was approved by the City Council of the City of Lake Elmo, Minnesota, this _____ day of _____ , 20____ , and hereby certifies compliance with all requirements as set forth in Section 505.03, Subd. 2, Minnesota Statutes.

By: _____ Mayor

By: _____ Clerk

COUNTY SURVEYOR, Washington County, Minnesota

Pursuant to Chapter 820, Laws of Minnesota, 1971, and in accordance with Minnesota Statutes, Section 505.021, Subd. 11, this plat has been reviewed and approved this _____ day of _____ , 20_____ .

By: _____ Washington County Surveyor

By: _____

COUNTY AUDITOR/TREASURER, Washington County, Minnesota

Pursuant to Minnesota Statutes, Section 505.021, Subd. 9., taxes payable in the year 20_____ on the real estate hereinbefore described have been paid. Also, pursuant to Minnesota Statutes, Section 272.12, there are no delinquent taxes, and transfer entered on this _____ day of _____ , 20_____ .

By: _____ Washington County Auditor/Treasurer

By: _____ Deputy

COUNTY RECORDER, Washington County, Minnesota

Document Number _____

I hereby certify that this instrument was recorded in the Office of the County Recorder for record on this _____ day of _____ , 20_____ , at ____ o'clock ____ .M. and was duly recorded in Washington County Records.

By: _____ Washington County Recorder

By: _____ Deputy

PIONEERengineering, P.A.
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS

HUNTERS CROSSING

W 1/4 CORNER OF SEC. 36, TWP. 29, RGE. 21 (WASHINGTON CO. CIM)

N LINE OF THE NW 1/4 OF THE SW 1/4

474.06 S00°02'54"W

W LINE OF THE NW 1/4 OF THE SW 1/4

5TH STREET N

S LINE OF THE N 474.06 FEET OF THE NW 1/4 OF THE SW 1/4.

S89°48'29"W 912.76

N89°48'29"E 406.17

LINE "X"

OUTLOT B

S00°02'54"W 161.15

161.16

518.71

S00°02'54"W

(CSAH 17) LAKE ELMO AVENUE NORTH

W LINE OF THE NW 1/4 OF THE SW 1/4

(CSAH 17) LAKE ELMO AVENUE NORTH

THE WOODLANDS 3RD PLACE AT FOREST PLACE NO. 1

DRAINAGE AND UTILITY EASEMENT OVER ALL OF OUTLOT A

DRAINAGE AND UTILITY EASEMENT OVER ALL OF OUTLOT B

OUTLOT A

OUTLOT D
DRAINAGE AND UTILITY EASEMENT OVER ALL OF OUTLOT D

OUTLOT E
DRAINAGE AND UTILITY EASEMENT OVER ALL OF OUTLOT E

OUTLOT C
DRAINAGE AND UTILITY EASEMENT OVER ALL OF OUTLOT C

4TH STREET N.

LANGLY AVENUE N.

LAVERNE AVENUE N.

DRAINAGE AND UTILITY EASEMENT

COMMINIUM

A CONDOMINIUM

COUNTRY AIR GOLF

EXCEPTION

LINE PARALLEL WITH THE SOUTH LINE OF THE NW 1/4 OF THE SW 1/4
N89°50'50"E 264.00 (16 RODS)

LINE PARALLEL WITH THE EAST LINE OF THE NW 1/4 OF THE SW 1/4
S00°02'54"W 165.00 (10 RODS)

165.00 (10 RODS) S00°02'54"W

SW CORNER OF THE NW 1/4 OF THE SW 1/4

S00°02'54"W 1318.93

SW CORNER OF SEC. 36, TWP. 29, RGE. 21 (WASHINGTON CO. CIM)

764.89

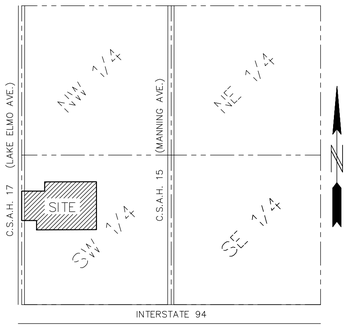
S LINE OF THE NW 1/4 OF THE SW 1/4

N89°50'50"E 1055.96

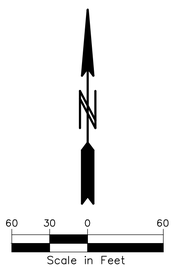
291.07

N00°01'17"W 532.05

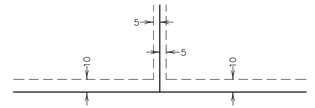
E LINE OF THE NW 1/4 OF THE SW 1/4 845.77



SECTION 36, TWP. 29, RGE. 21
LOCATION MAP
NO SCALE



DRAINAGE AND UTILITY EASEMENTS ARE SHOWN THUS:



Being 5 feet in width, and adjoining lot lines unless otherwise indicated, and 10 feet in width and adjoining right of way lines and rear lot lines unless otherwise indicated and shown on the plat.

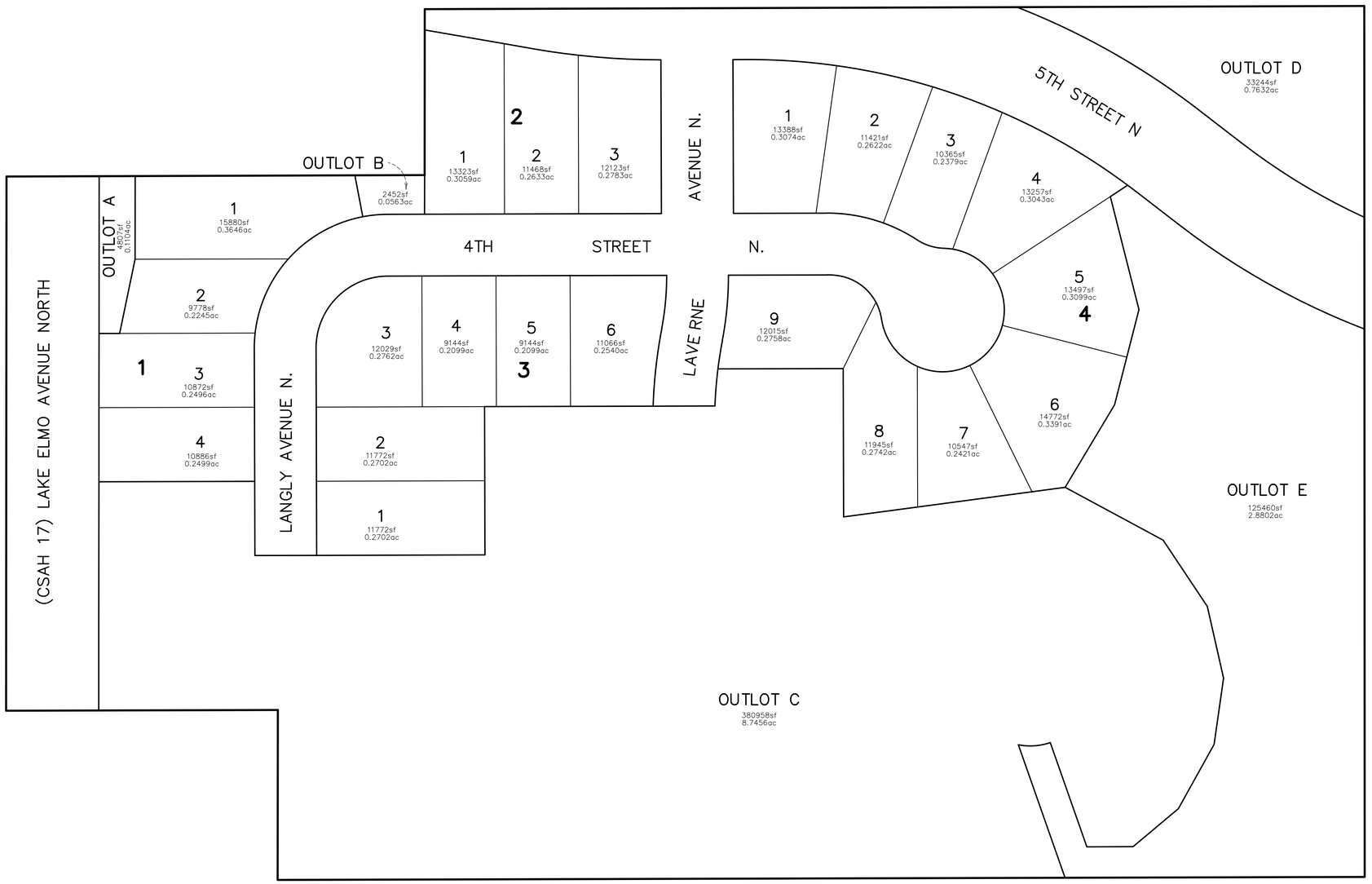
ORIENTATION OF THIS BEARING SYSTEM IS BASED ON THE WEST LINE OF THE SW 1/4 LINE OF SEC. 36, TWP. 29, RGE. 21, WHICH IS ASSUMED TO HAVE A BEARING OF SOUTH 00°02'54" WEST.

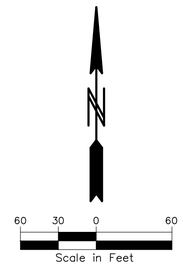
- ◉ DENOTES FOUND CAST IRON MONUMENT
- ○ DENOTES 1/2 INCH BY 14 INCH IRON PIPE MONUMENT SET AND MARKED BY LICENSE NO. 42299, OR WILL BE SET IN ACCORDANCE WITH MS 505.021, SUBD. 10.
- ● DENOTES FOUND 1/2 INCH IRON MONUMENT MARKED BY LICENSE NUMBER 42299 UNLESS OTHERWISE NOTED.

PIONEER engineering, P.A.
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS

HUNTERS CROSSING

AREA SKETCH





AREA SUMMARY

BLOCK 1 =	47,416	SF.	1.0886 AC.
BLOCK 2 =	36,914	SF.	0.8475 AC.
BLOCK 3 =	64,927	SF.	1.4904 AC.
BLOCK 4 =	111,207	SF.	2.5529 AC.
TOTAL LOT AREA =	260,464	SF.	5.9794 AC.
TOTAL OUTLOT AREA =	546,921	SF.	12.5557 AC.
TOTAL R/W AREA =	198,942	SF.	4.5671 AC.
TOTAL AREA =	1,006,327	SF.	23.1022 AC.

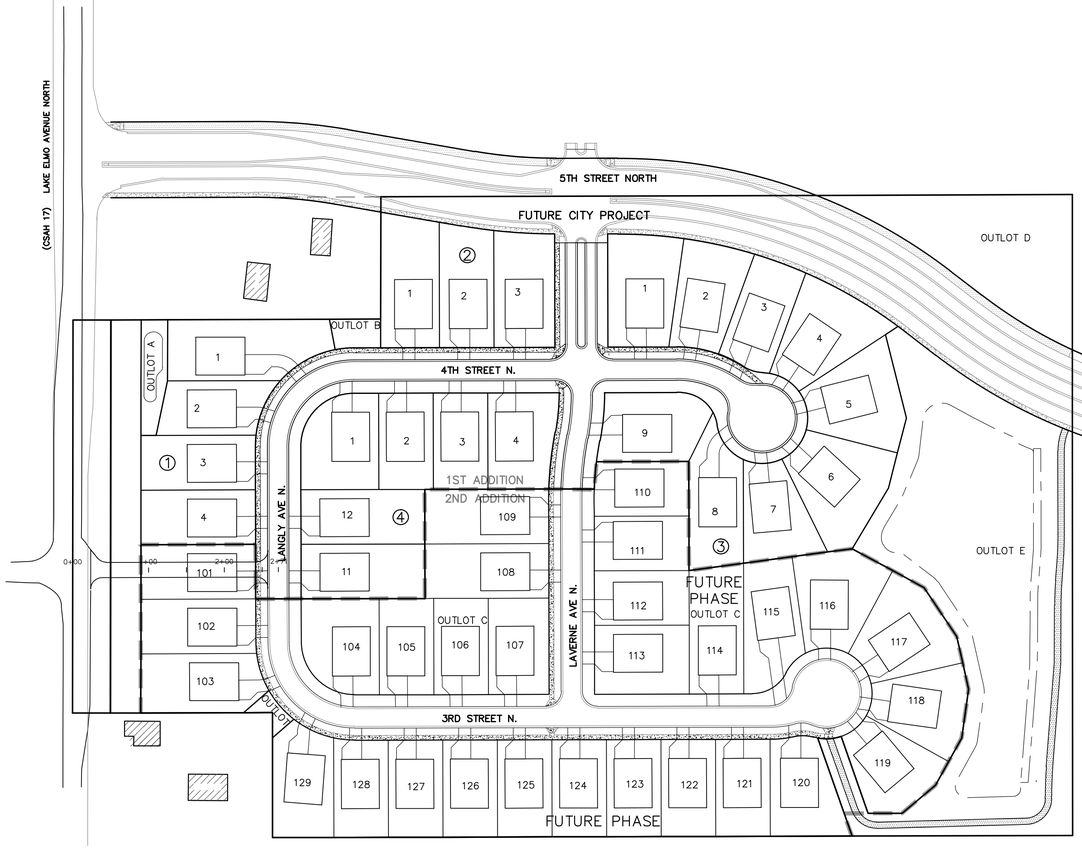
PIONEER *engineering*, P.A.

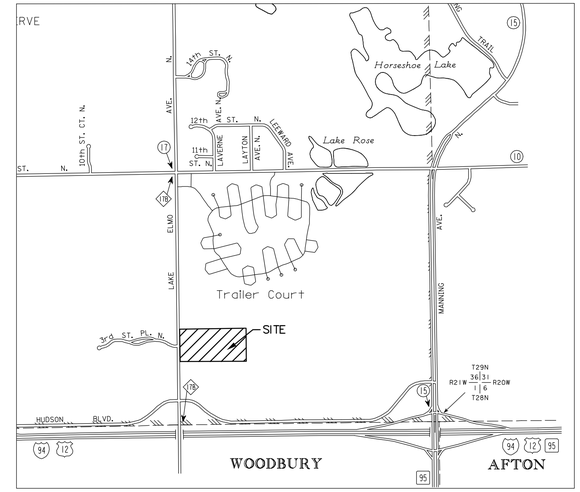
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS

HUNTERS CROSSING
FINAL GRADING PLAN
LAKE ELMO, MINNESOTA

LEGEND

EXISTING	PROPOSED	FUTURE	DESCRIPTION
			SANITARY MANHOLE
			EXISTING SANITARY SEWER
			PROPOSED SANITARY SEWER
			FUTURE SANITARY SEWER
			HYDRANT
			GATE VALVE
			REDUCER
			EXISTING WATERMAIN
			PROPOSED WATERMAIN
			FUTURE WATERMAIN
			CATCH BASIN
			BEEHIVE
			STORM MANHOLE
			FLARED END SECTION
			CONTROL STRUCTURE
			EXISTING STORM SEWER
			PROPOSED STORM SEWER
			FUTURE STORM SEWER
			SURMOUNTABLE CURB & GUTTER
			B-STYLE CURB & GUTTER
			RIBBON CURB & GUTTER
			PHASE LINE
			EASEMENT LINE
902			EXISTING 2' CONTOUR LINE
900			EXISTING 10' CONTOUR LINE
	902		PROPOSED 2' CONTOUR LINE
	900		PROPOSED 10' CONTOUR LINE
OUTLET=987.0			POND OUTLET LINE
HWL=900.2			POND HIGH WATER LINE
	84.3		PROPOSED SPOT ELEVATION
			EMERGENCY OVERFLOW
			DELINEATED WETLAND LINE
			FEMA FLOODPLAIN BOUNDARY
			STANDARD EROSION CONTROL
			HEAVY-DUTY EROSION CONTROL
			TREE FENCE
			RETAINING WALL
	C		CONSERVATION AREA SIGN
	W		WETLAND BUFFER SIGN
			EX. CULVERT
oh		oh	EX. OVERHEAD UTILITY LINES
tv		tv	EX. UNDERGROUND TELEVISION LINE
t		t	EX. UNDERGROUND TELEPHONE LINE
fo		fo	EX. UNDERGROUND FIBER OPTIC LINE
e		e	EX. UNDERGROUND ELECTRIC LINE
g		g	EX. UNDERGROUND GAS LINE
x		x	EX. FENCE (BARBED WIRE)
#		#	EX. FENCE (CHAIN LINK)
[]		[]	EX. FENCE (WOOD)
			EX. CAST IRON MONUMENT
			EX. ELECTRIC BOX
			EX. FLAG POLE
			EX. NATURAL GAS METER
			EX. HAND HOLE
			EX. FOUND IRON PIPE
			EX. JUDICIAL LAND MARK
			EX. LIGHT POLE
			EX. PK NAIL
			EX. UTILITY POLE
			EX. LAWN SPRINKLER VALVE
			EX. LAWN SPRINKLER HEAD
			EX. SEMAPHORE
			EX. SERVICE
			EX. TELEPHONE BOX
			EX. TEST HOLE
			EX. TELEVISION BOX
			EX. WATER WELL
			EX. MONITORING WELL
			EX. MAILBOX
			EX. CONTROL POINT
			EX. SPIKE
			EX. SIGN
			EX. CLEANOUT
			EX. SIGNIFICANT TREE
			EX. TREE LINE
			EX. GRAVEL SURFACE
			EX. BITUMINOUS SURFACE
			EX. CONCRETE SURFACE
			SELECT BACKFILL MATERIAL
			GRAVEL CONST. ENTRANCE





LOCATION MAP

0 50 100 200

GRAPHIC SCALE IN FEET

BENCH MARK
MN/DOT 8282 AG
ELEV=943.87 (1988 datum)

SHEET INDEX

SETBACK REQUIREMENTS

LDR STANDARDS:
FRONT SETBACK: 25'
REAR YARD SETBACK: 20'
SIDE SETBACK: 10' LIVING SPACE, 5' GARAGE
CORNER SIDE SETBACK: 15'
MINIMUM LOT WIDTH: 60'
MINIMUM LOT AREA: 8,000 SF
MAXIMUM BUILDING COVERAGE: 40%

BENCH MARK
MN/DOT 8282 AG
ELEV=943.87 (1988 datum)

PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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

Name Paul J. Cherne
Reg. No. 19860 Date 07-28-2014

Revisions

Date	07-28-2014
Designed	PJC/KAW
Drawn	KAW/AJR

COVER SHEET

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

HUNTERS CROSSING
LAKE ELMO, MINNESOTA

1 OF 10

01-ENG-113105-SHEET-COVR-GRAD

0 25 50 100

GRAPHIC SCALE IN FEET

* PERIMETER DRAINTILE REQUIRED

PROPOSED DEVELOPMENT PHASING
MASS GRADING TO BE PERFORMED IN ONE PHASE. UTILITY AND STREET CONSTRUCTION TO BE PERFORMED IN TWO PHASES.

SETBACK REQUIREMENTS
LDR STANDARDS:
FRONT SETBACK: 25'
REAR YARD SETBACK: 20'
SIDE SETBACK: 10' LIVING SPACE, 5' GARAGE
CORNER SIDE SETBACK: 15'
MINIMUM LOT WIDTH: 60'
MINIMUM LOT AREA: 8,000 SF
MAXIMUM BUILDING COVERAGE: 40%

20' REAR SETBACK

TEMPORARY SEDIMENT BASIN OUTLET WEST 5TH STREET
(TYPICAL SECTION NOT TO SCALE)

LAKE ELMO AVENUE NORTH (CSAH 17)

SLOTTED RISER W/6" OUTLET (SEE DETAIL)

TEMP BASIN 401P
OUTLET=930.0, 6" RISER
HWL=930.9
WET VOL.=NA AC*FT
STOR. VOL.=0.271 AC*FT

5TH STREET NORTH

FUTURE CITY UTILITY AND STREET PROJECT

BERM TO DIVERT OVERFLOW NORTH

BASIN 601P
OUTLET=932.1, 10' WEIR
HWL=932.50
WET VOL.=NA AC*FT
STOR. VOL.=.052 AC*FT

OUTLOT B

OUTLOT D

BASIN ACCESS

SAND FILTER ELEV: 931.5
SAND FILTER AREA: 265 SF
HOLD DOWN 18" FOR FUTURE FILTRATION MEDIA

4TH STREET NORTH

LANGLEY AVE

LAVERNE LANE

1ST ADDITION

2ND ADDITION

GRADE IMPROVED DRAINAGE SWALE @ 2.0%

OUTLOT E
STORMWATER BASIN 1P

TEMP OUTL

PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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

Name Paul J. Cherne
Reg. No. 19860 Date 07-28-2014

Revisions

Date	07-28-2014
Designed	PJC/KAW
Drawn	KAW/AJR

GRADING AND DRAINAGE PLAN

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

HUNTERS CROSSING
LAKE ELMO, MINNESOTA

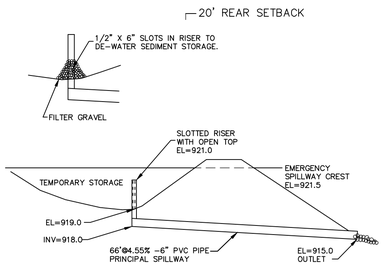
01-ENG-113105-SHEET-GRAD

* PERIMETER DRAINTILE REQUIRED

PROPOSED DEVELOPMENT PHASING
MASS GRADING TO BE PERFORMED IN ONE PHASE.
UTILITY AND STREET CONSTRUCTION TO BE PERFORMED IN TWO PHASES.

SETBACK REQUIREMENTS

LDR STANDARDS:
FRONT SETBACK: 25'
REAR YARD SETBACK: 20'
SIDE SETBACK: 10' LIVING SPACE, 5' GARAGE
CORNER SIDE SETBACK: 15'
MINIMUM LOT WIDTH: 60'
MINIMUM LOT AREA: 8,000 SF
MAXIMUM BUILDING COVERAGE: 40%



TEMPORARY SEDIMENT BASIN OUTLET EAST 5TH STREET
(TYPICAL SECTION NOT TO SCALE)

FUTURE CITY UTILITY AND STREET PROJECT

OUTLOT D

TEMP BASIN 101P
OUTLET=919.0, 4" RISER

BUILDING
1ST FLOOR EL=916.9

BLDG FLOOR ELEV = 916.9

BASIN ACCESS 8% SLOPE MAX.

BERM TO DIVERT OVERFLOW TO BASIN 1P

SLOTTED RISER W/6" OUTLET (SEE DETAIL)

5TH STREET NORTH

FUTURE CITY PROJECT

5TH STREET NORTH IMPACT
3,285 SF
BITUMINOUS TRAIL IMPACT
475 SF
POND IMPACT
8,442 SF
TOTAL IMPACT
12,202 SF

EX. WETLAND AREA
12,202 SF

OUTLOT E
STORMWATER
BASIN 1P

BASIN 1P
OUTLET=915.50, 24" ORIFICE
HWL=918.3
WET VOL.=6.700 AC*FT
STOR. VOL.=5.548 AC*FT

GRADE TEMPORARY DRAINAGE SWALE @ 2.0%

LAVERNE LN

TH STREET N

1ST ADDITION

2ND ADDITION

GRAPHIC SCALE IN FEET
0 25 50 100

PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS

2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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
Name Paul J. Cheme
Reg. No. 19860 Date 07-28-2014

Revisions

Date	07-28-2014
Designed	PJC/KAW
Drawn	KAW/AJR

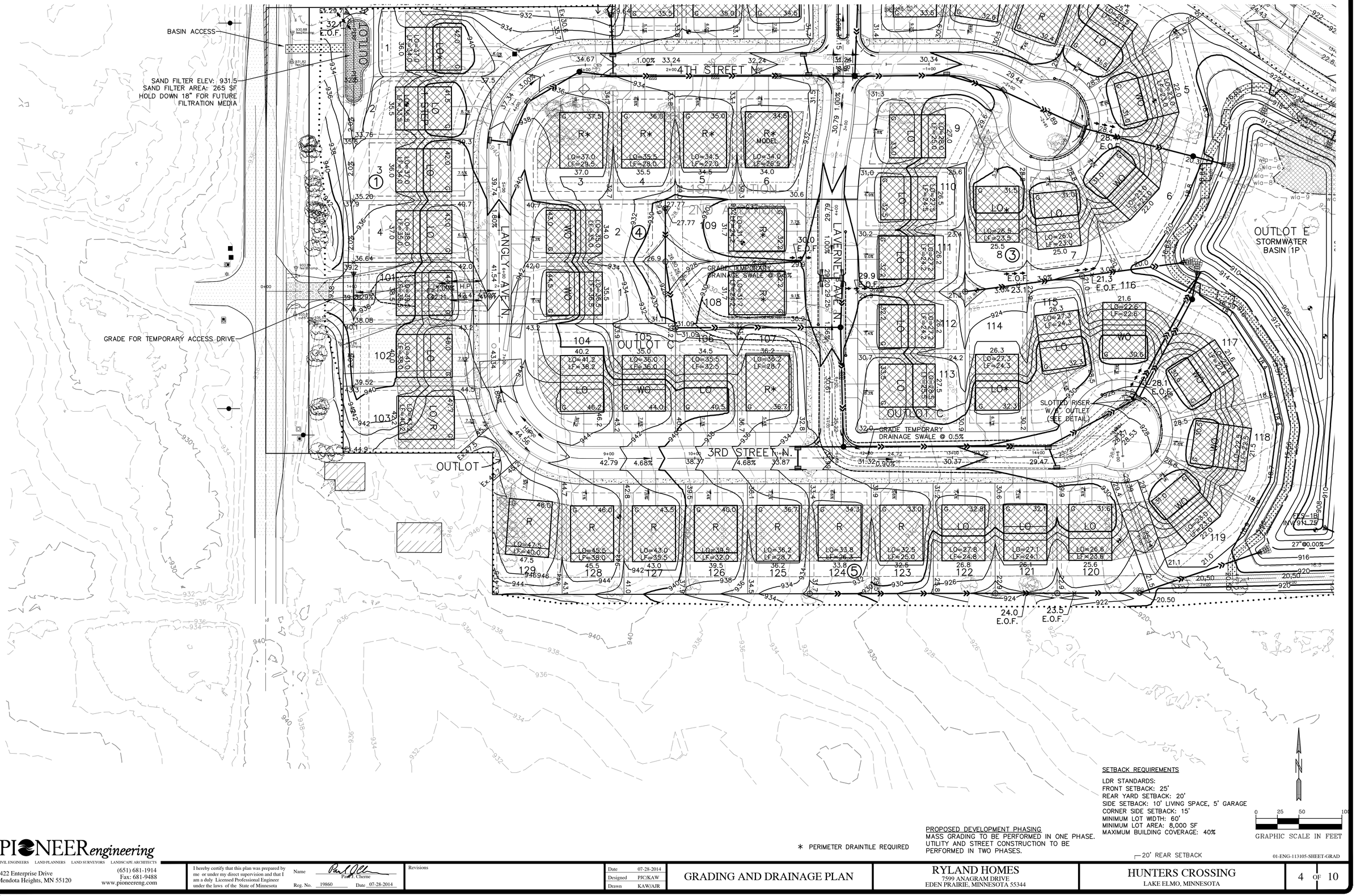
GRADING AND DRAINAGE PLAN

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

HUNTERS CROSSING
LAKE ELMO, MINNESOTA

3 OF 10

01-ENG-113105-SHEET-GRAD



* PERIMETER DRAINTILE REQUIRED

PROPOSED DEVELOPMENT PHASING
MASS GRADING TO BE PERFORMED IN ONE PHASE. UTILITY AND STREET CONSTRUCTION TO BE PERFORMED IN TWO PHASES.

SETBACK REQUIREMENTS

LDR STANDARDS:
FRONT SETBACK: 25'
REAR YARD SETBACK: 20'
SIDE SETBACK: 10' LIVING SPACE, 5' GARAGE
CORNER SIDE SETBACK: 15'
MINIMUM LOT WIDTH: 60'
MINIMUM LOT AREA: 8,000 SF
MAXIMUM BUILDING COVERAGE: 40%

20' REAR SETBACK

0 25 50 100
GRAPHIC SCALE IN FEET

PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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

Name Paul J. Cherne
Reg. No. 19860 Date 07-28-2014

Revisions

Date	07-28-2014
Designed	PJC/KAW
Drawn	KAW/AJR

GRADING AND DRAINAGE PLAN

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

HUNTERS CROSSING
LAKE ELMO, MINNESOTA

4 OF 10

01-ENG-113105-SHEET-GRAD

* PERIMETER DRAINTILE REQUIRED

BASIN ACCESS 8% SLOPE MAX.

PROPOSED DEVELOPMENT PHASING
MASS GRADING TO BE PERFORMED IN ONE PHASE. UTILITY AND STREET CONSTRUCTION TO BE PERFORMED IN TWO PHASES.

TEMP BASIN 101P
OUTLET=919.0, 4" RISER

BERM TO DIVERT OVERFLOW TO BASIN 1P

SLOTTED RISER W/6" OUTLET (SEE DETAIL)

5TH STREET NORTH

FUTURE CITY PROJECT

5TH STREET NORTH IMPACT
3,285 SF
BITUMINOUS TRAIL IMPACT
475 SF
POND IMPACT
8,442 SF
TOTAL IMPACT
12,202 SF

EX. WETLAND AREA
12,202 SF

OUTLOT E
STORMWATER
BASIN 1P

BASIN 1P
OUTLET=915.50, 24" ORIFICE
HWL=918.3
WET VOL.=6.700 AC*FT
STOR. VOL.=5.548 AC*FT

SAND FILTER ELEV: 915.0
SAND FILTER AREA: 4,405 SF
HOLD DOWN 18" FOR FUTURE FILTRATION MEDIA

CS-1 (SEE DETAIL SHEET 6)
RIM: 918.30
BLD: 6.55
INV IN: 911.75 27" RCP CL3
INV IN: 913.50 4" HDPE DT
INV OUT: 913.24 24" RCP CL3

CS-1B
INV: 911.75

FES-1A
INV: 913.00

27"@0.00%

24"@0.50%

4TH STREET N.

3RD STREET N.

2ND AVENUE N.

LAVERNE LANE N.

OUTLOT C

GRADE TEMPORARY DRAINAGE SWALE @ 0.5%

SLOTTED RISER W/6" OUTLET (SEE DETAIL)

1/2" X 6" SLOTS IN RISER TO DE-WATER SEDIMENT STORAGE.

FILTER GRAVEL

SLOTTED RISER WITH OPEN TOP EL=927.0

EMERGENCY SPILLWAY CREST EL=928.1

TEMPORARY STORAGE

EL=923.3

INV=922.3

167'@4.37% -6" PVC PIPE PRINCIPAL SPILLWAY

EL=915.0 OUTLET PROTECTION

TEMPORARY SEDIMENT BASIN OUTLET 3RD STREET SAC
(TYPICAL SECTION NOT TO SCALE)

SETBACK REQUIREMENTS

LDR STANDARDS:
FRONT SETBACK: 25'
REAR YARD SETBACK: 20'
SIDE SETBACK: 10' LIVING SPACE, 5' GARAGE
CORNER SIDE SETBACK: 15'
MINIMUM LOT WIDTH: 60'
MINIMUM LOT AREA: 8,000 SF
MAXIMUM BUILDING COVERAGE: 40%

0 25 50 100
GRAPHIC SCALE IN FEET

01-ENG-113105-SHEET-GRAD

PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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

Name Paul J. Cheme
Reg. No. 19860 Date 07-28-2014

Revisions

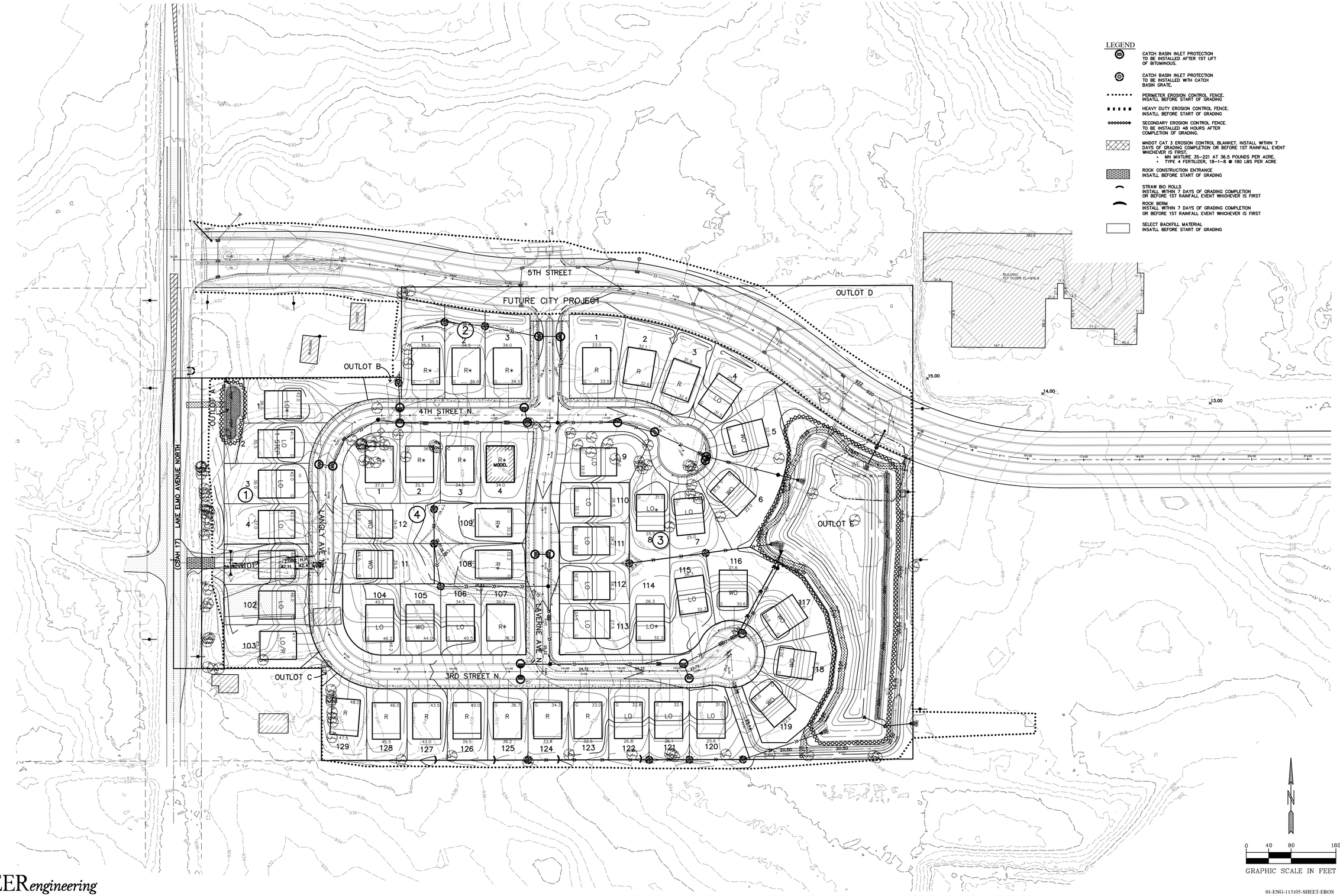
Date	07-28-2014
Designed	PJC/KAW
Drawn	KAW/AJR

GRADING AND DRAINAGE PLAN

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

HUNTERS CROSSING
LAKE ELMO, MINNESOTA

5 OF 10



PIONEER *engineering*
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS

2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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

Name Paul J. Cherne
Reg. No. 19860 Date 07-28-2014

Revisions

Date	07-28-2014
Designed	PJC/KAW
Drawn	KAW/AJR

EROSION CONTROL PLAN

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

HUNTERS CROSSING
LAKE ELMO, MINNESOTA

6 OF 10

01-ENG-113105-SHEET-EROS

SEEDING NOTES:
TEMPORARY SEED AND PERMANENT TURF RESTORATION SHALL BE DONE IN ACCORDANCE TO MNDOT 2575 & 3876.

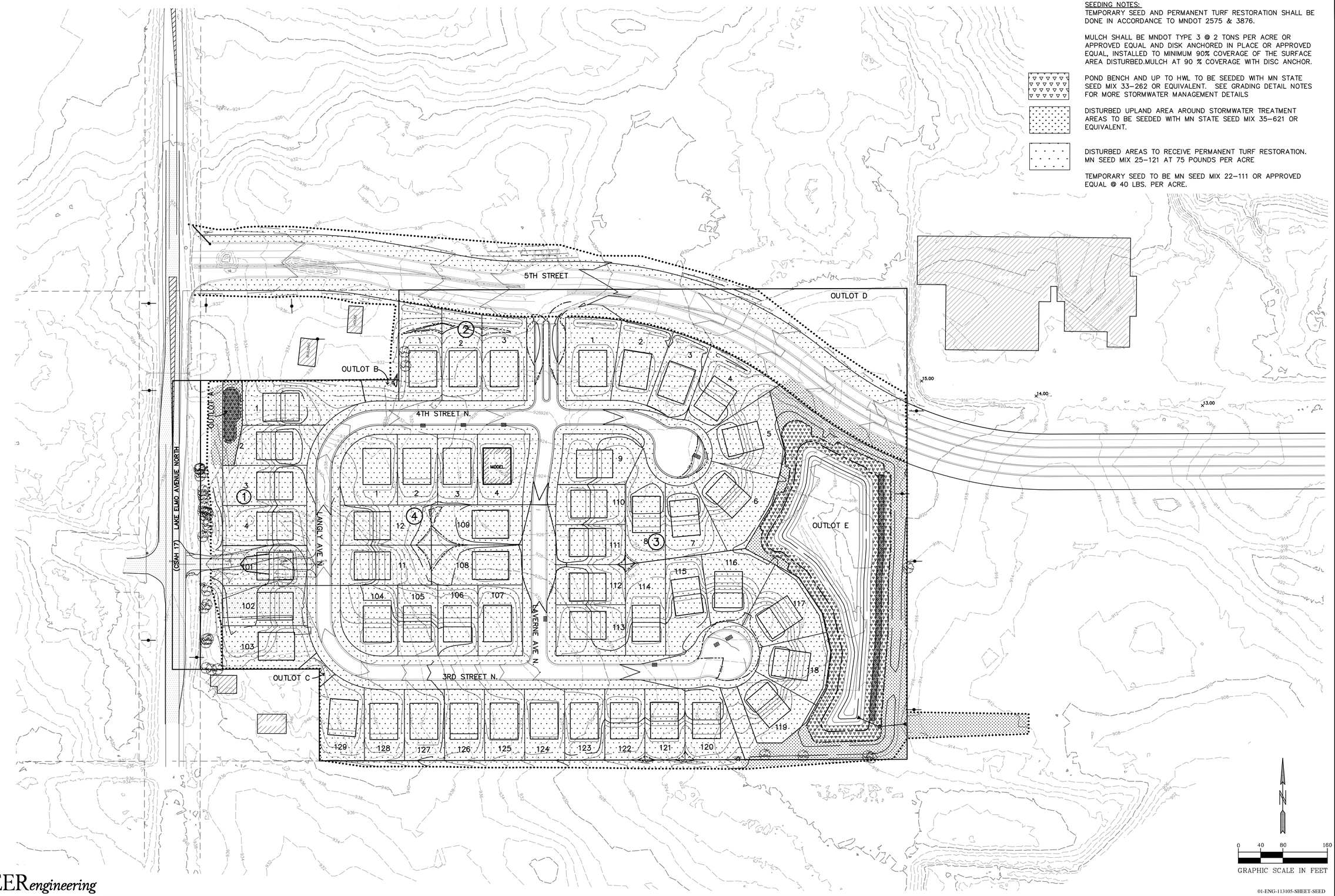
MULCH SHALL BE MNDOT TYPE 3 @ 2 TONS PER ACRE OR APPROVED EQUAL AND DISK ANCHORED IN PLACE OR APPROVED EQUAL, INSTALLED TO MINIMUM 90% COVERAGE OF THE SURFACE AREA DISTURBED.MULCH AT 90 % COVERAGE WITH DISC ANCHOR.

POND BENCH AND UP TO HWL TO BE SEEDED WITH MN STATE SEED MIX 33-262 OR EQUIVALENT. SEE GRADING DETAIL NOTES FOR MORE STORMWATER MANAGEMENT DETAILS

DISTURBED UPLAND AREA AROUND STORMWATER TREATMENT AREAS TO BE SEEDED WITH MN STATE SEED MIX 35-621 OR EQUIVALENT.

DISTURBED AREAS TO RECEIVE PERMANENT TURF RESTORATION. MN SEED MIX 25-121 AT 75 POUNDS PER ACRE

TEMPORARY SEED TO BE MN SEED MIX 22-111 OR APPROVED EQUAL @ 40 LBS. PER ACRE.



0 40 80 160
GRAPHIC SCALE IN FEET

01-ENG-113105-SHEET-SEED

PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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

Name Paul J. Cherne
Reg. No. 19860 Date 07-28-2014

Revisions

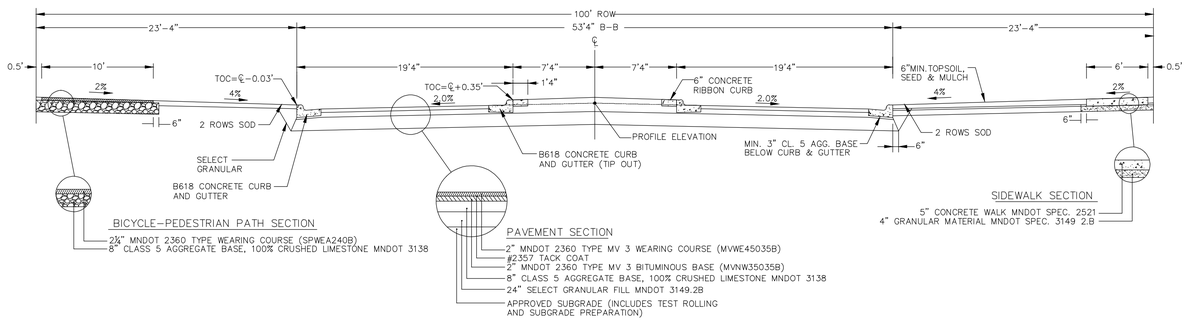
Date	07-28-2014
Designed	PJC/KAW
Drawn	KAW/AJR

SEEDING PLAN

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

HUNTERS CROSSING
LAKE ELMO, MINNESOTA

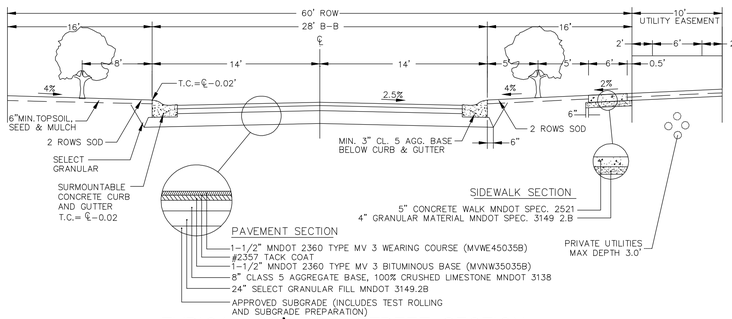
7 OF 10



TYPICAL 100' ROW STREET SECTION

TYPICAL SECTION (N.T.S.)

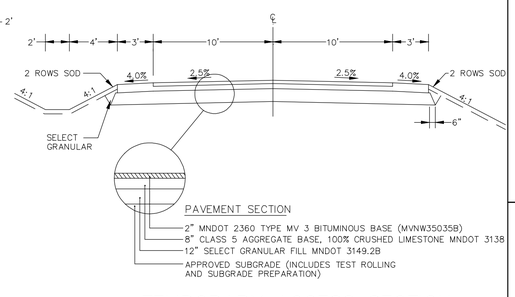
SEE LAKE ELMO STANDARD DRAWING NO 801 & 805



TYPICAL 60' ROW STREET SECTION

TYPICAL SECTION (N.T.S.)

SEE LAKE ELMO STANDARD DRAWINGS NO 801 & 805

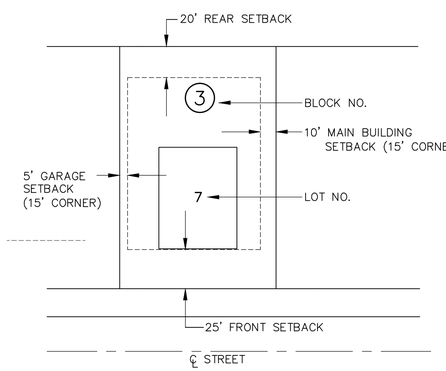


TEMPORARY ACCESS SECTION

TYPICAL SECTION (N.T.S.)

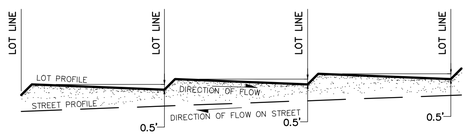
SETBACK REQUIREMENTS

LDR STANDARDS:
FRONT SETBACK: 25'
REAR YARD SETBACK: 20'
SIDE SETBACK: 10' LIVING SPACE, 5' GARAGE
CORNER SIDE SETBACK: 15'
MINIMUM LOT WIDTH: 60'
MINIMUM LOT AREA: 8,000 SF
MAXIMUM BUILDING COVERAGE: 40%



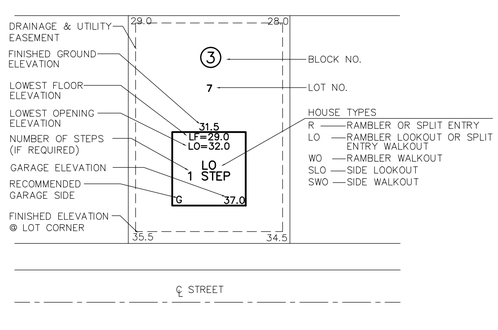
LOT SETBACK DETAIL

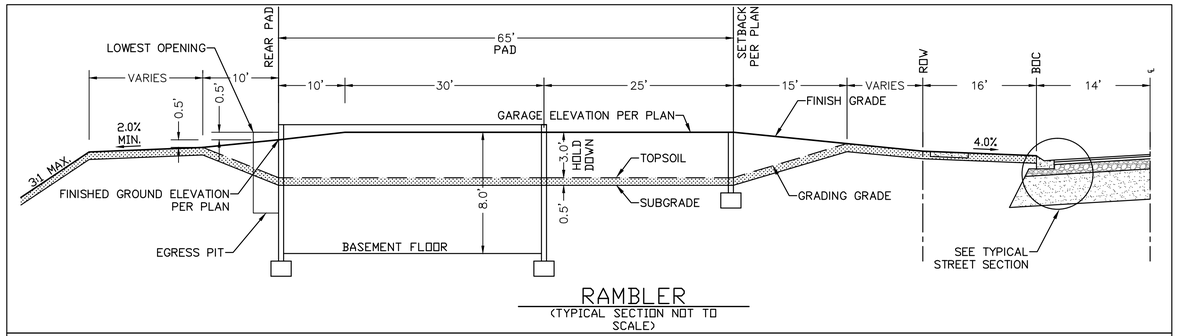
(TYPICAL SECTION NOT TO SCALE)



LOT BENCHING DETAIL

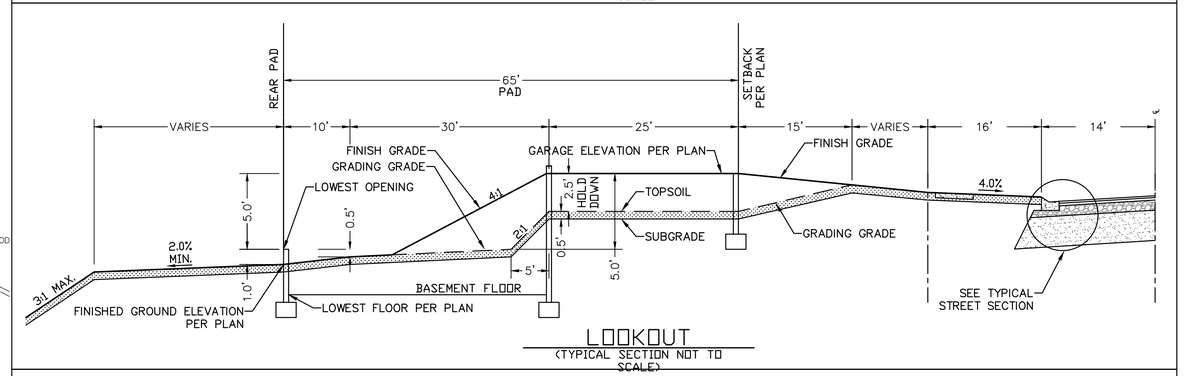
NO SCALE





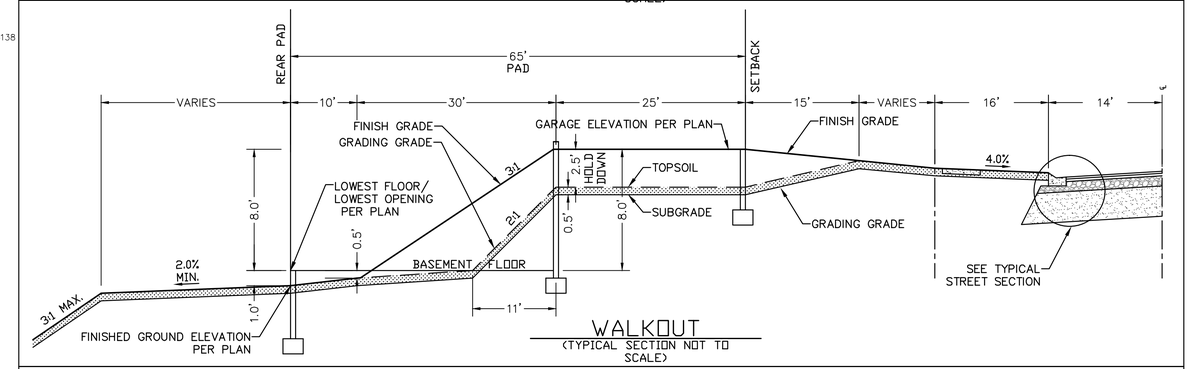
RAMBLER

(TYPICAL SECTION NOT TO SCALE)



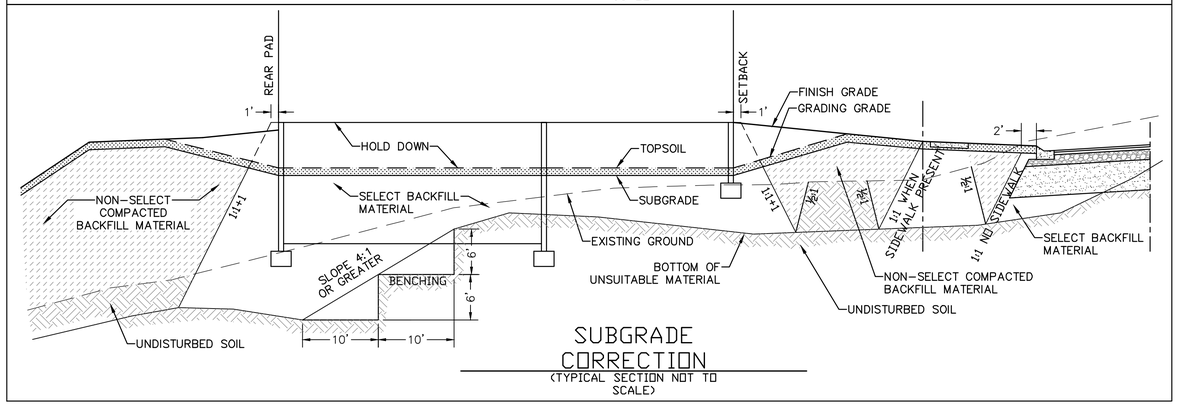
LOOKOUT

(TYPICAL SECTION NOT TO SCALE)



WALKOUT

(TYPICAL SECTION NOT TO SCALE)



SUBGRADE CORRECTION

(TYPICAL SECTION NOT TO SCALE)

PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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

Name Paul J. Cherne
Reg. No. 19860 Date 07-28-2014

Revisions

Date	07-28-2014
Designed	PJC/KAW
Drawn	KAW/AJR

GRADING DETAILS

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

HUNTERS CROSSING
LAKE ELMO, MINNESOTA

01-ENG-113105-SHEET-DTLS-GR

1. THE CONTRACTOR SHALL CONDUCT OPERATIONS AND IMPLEMENT MINNESOTA POLLUTION CONTROL AGENCY (MPCA) BEST MANAGEMENT PRACTICES (BMP) TO CONTROL SITE SILTATION AND EROSION INTO DRAINAGE WAYS. THE CONTRACTOR SHALL COMPLY WITH ALL CONDITIONS AND COMPLETION DATES RELATIVE TO ALL PERMITS ISSUED FOR THE WORK TO BE COMPLETED. THE ENGINEER MAY ISSUE A STOP WORK ORDER FOR ALL DEVELOPMENT WORK AND BUILDING CONSTRUCTION FOR NONCOMPLIANCE WITH THESE MEASURES.

2. SEQUENCING. ALL SILT FENCE AND OTHER EROSION CONTROL MEASURES SHALL BE IN PLACE AND APPROVED BY ENGINEER PRIOR TO ANY REMOVALS, EXCAVATION OR CONSTRUCTION AND SHALL BE MAINTAINED UNTIL VIABLE TURF OR GROUND COVER HAS BEEN ESTABLISHED AND APPROVED BY THE ENGINEER.

3. SILT FENCE. THE CONTRACTOR SHALL INSTALL SILT FENCE AT THE LOCATIONS SHOWN ON THE PLANS AND IN ACCORDANCE WITH THE CITY STANDARD DETAILS. SILT FENCE DAMS AND INTERIM SUMPS SHALL BE PLACED TO INTERCEPT SILT FROM CONCENTRATED RUNOFF FROM OPEN GRADED AREAS. ADDITIONAL SILT FENCE SHALL BE REQUIRED AS DIRECTED BY THE ENGINEER.

4. STOCKPILES. ALL STOCKPILE AREAS SHALL HAVE SILT FENCE OR SEDIMENT TRAPPING SYSTEMS PLACED AROUND THE ENTIRE PERIMETER.

5. INLET PROTECTION. THE CONTRACTOR SHALL INSTALL INLET PROTECTION ON ALL EXISTING STORM SEWER INLETS IN ACCORDANCE WITH THE CITY STANDARD DETAILS. INLET PROTECTION SHALL ALSO BE PROVIDED ON ALL PROPOSED STORM SEWER INLETS IMMEDIATELY FOLLOWING CONSTRUCTION OF THE INLET. INLET PROTECTION MUST BE INSTALLED IN A MANNER THAT WILL NOT IMPOUND WATER FOR EXTENDED PERIODS OF TIME OR IN A MANNER THAT PRESENTS A HAZARD TO VEHICULAR OR PEDESTRIAN TRAFFIC.

6. TEMPORARY SEDIMENT BASINS. THE CONTRACTOR SHALL INCORPORATE TEMPORARY SEDIMENT BASINS THROUGHOUT THE CONSTRUCTION SITE TO CAPTURE RUNOFF AND SLOW THE FLOW OF WATER AND ALLOW SEDIMENT TO SETTLE OUT. TEMPORARY SEDIMENT BASINS SHALL BE INSTALLED AS DIRECTED BY THE CITY ENGINEER.

7. ROCK CONSTRUCTION ENTRANCE. A ROCK ENTRANCE SHALL BE CONSTRUCTED AND MAINTAINED AS SHOWN ON THE PLAN TO REDUCE TRACKING OF SILT AND DIRT ONTO THE PUBLIC STREETS. A GEOTEXTILE FABRIC SHALL BE PLACED UNDERNEATH THE ROCK. THE ROCK SHALL BE PERIODICALLY REPLENISHED TO MAINTAIN THE INTENDED PERFORMANCE. MUD AND DEBRIS SHALL BE REMOVED OR SCRAPED FROM TIRES AND VEHICLE UNDERCARRIAGE PRIOR TO LEAVING THE SITE.

8. STREET SWEEPING. ALL STREETS USED FOR ACCESS TO THE SITE AND HAUL ROUTES USED FOR CONSTRUCTION EQUIPMENT AND MATERIAL SUPPLIES SHALL BE CLEANED AT THE END OF EACH WORKING DAY. THE CITY OR ENGINEER MAY ORDER ADDITIONAL SWEEPING OF THE STREETS AS DEEMED REQUIRED AT DEVELOPER/CONTRACTOR EXPENSE.

9. POSITIVE DRAINAGE AND PROTECTION. THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE THROUGHOUT THE SITE AT ALL TIMES. LOW POINTS WITHIN AND ALONG ROADWAYS ARE EXPRESSLY PROHIBITED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY DITCHES, PIPING OR OTHER MEANS TO FACILITATE PROPER DRAINAGE DURING CONSTRUCTION. TO PROTECT PREVIOUSLY GRADED AREAS FROM EROSION, WOOD FIBER BLANKET SHALL BE PLACED IMMEDIATELY ON STEEP SLOPES (1:3 OR GREATER) AND EMBANKMENTS, PERMANENT AND TEMPORARY PONDS, AND OUTLETS AND OVERFLOWS TO PROTECT THE COMPLETED GRADE AND MINIMIZE SILT IN THE RUNOFF.

STANDARD PLAN NOTES

GRADING AND EROSION CONTROL PLANS

FEBRUARY 2013

CITY OF LAKE ELMO | STANDARD DRAWING NO. 600A LAKE ELMO

10. DRAINAGE DITCHES. THE NORMAL WETTED PERIMETER OF ANY TEMPORARY OR PERMANENT DRAINAGE DITCH OR SWALE THAT DRAINS WATER FROM ANY PORTION OF THE CONSTRUCTION SITE, OR DIVERTS WATER AROUND THE SITE, MUST BE STABILIZED WITHIN 200 LINEAL FEET FROM THE PROPERTY EDGE, OR FROM THE POINT OF DISCHARGE INTO ANY SURFACE WATER. STABILIZATION OF THE LAST 200 LINEAL FEET MUST BE COMPLETED WITHIN 24 HOURS AFTER CONNECTING TO A SURFACE WATER. STABILIZATION OF THE REMAINING PORTIONS OF ANY TEMPORARY OR PERMANENT DITCHES OR SWALES MUST BE COMPLETE WITHIN 14 DAYS AFTER CONNECTING TO A SURFACE WATER AND CONSTRUCTION IN THAT PORTION OF THE DITCH HAS TEMPORARILY OR PERMANENTLY CEASED. TEMPORARY OR PERMANENT DITCHES OR SWALES THAT ARE BEING USED AS A SEDIMENT CONTAINMENT SYSTEM (WITH PROPERLY DESIGNED ROCK DITCH CHECKS, BIO ROLLS, SILT DIKES, ETC.) DO NOT NEED TO BE STABILIZED. THESE AREAS MUST BE STABIILZED WITHIN 24 HOURS AFTER NO LONGER BEING USED AS A SEDIMENT CONTAINMENT SYSTEM.

11. TURF ESTABLISHMENT. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION BUT IN NO CASE LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.

12. MAINTENANCE AND INSPECTION. EROSION CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION AND UNTIL SATISFACTORY ESTABLISHMENT OF PERMANENT GROUND COVER IS OBTAINED. ALL EROSION AND SEDIMENTATION CONTROL MEASURES, AND STORMWATER OUTFALLS MUST BE BE INSPECTED WEEKLY, AND WITHIN 24 HOURS OF THE SITE RECEIVING 0.5 INCHES OF RAIN. REPAIRS MUST BE MADE ON THE SAME DAY OR FOLLOWING DAY OF THE INSPECTION. UNSATISFACTORY CONDITIONS NOT REPAIRED OR CLEANED UP WITHIN 48-HOURS OF NOTIFICATION SHALL RESULT IN A STOP WORK ORDER, AND/OR SAID WORK SHALL BE COMPLETED AT CONTRACTOR'S EXPENSE.

13. REMOVAL. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL TEMPORARY EROSION CONTROL MEASURES, STRUCTURES AND DEVICES ONLY AFTER RECEIVING ENGINEER APPROVAL. ALL DEBRIS, STAKES, AND SILTS ALONG SILT FENCES SHALL BE REMOVED AND DISPOSED OFF SITE. THE CONTRACTOR SHALL HAND RAKE SILTED AREAS ALONG THE FENCE LOCATIONS TO PROVIDE A SMOOTH FINAL GRADE AND SHALL RESTORE THE GROUND SURFACE WITH SEED OR SOD, AS REQUIRED, TO MATCH THE FINISHED GRADE TO THE ADJACENT AREA.

14. FINAL STORM SEWER SYSTEM. AT THE COMPLETION OF THE WORK AND BEFORE THE FINAL WALK THROUGH, THE CONTRACTOR SHALL REMOVE STORM SEWER INLET PROTECTION MEASURES AND THOROUGHLY FLUSH THE STORM SEWER SYSTEM. SEDIMENT AND DEBRIS SHALL BE COMPLETELY REMOVED AND CLEANED AT THE INLETS, OUTLETS, AND DOWNSTREAM OF EACH OUTLET. RIPRAP AND GEOTEXTILE FABRIC MAY REQUIRE REPLACEMENT AS DIRECTED BY THE ENGINEER TO OBTAIN A LIKE NEW INSTALLATION ACCEPTABLE TO THE CITY.

15. DITCH CHECK (BIOROLL BLANKET SYSTEM). BIOROLL AND BLANKET SYSTEMS SHALL BE BE INSTALLED AS DITCH CHECKS ONLY IN SPECIFIED LOCATIONS AS APPROVED BY THE CITY ENGINEER. BIOROLLS ARE NOT TO BE UTILIZED IN AREAS WHERE VEHICLE AND CONSTRUCTION TRAFFIC OCCUR.

STANDARD PLAN NOTES

GRADING AND EROSION CONTOL PLANS

FEBRUARY 2013

CITY OF LAKE ELMO | STANDARD DRAWING NO. 600B LAKE ELMO

16. FLOTATION SILT CURTAIN. FLOTATION SILT CURTAIN SHALL BE UTILIZED WHEN CONSTRUCTION ACTIVITIES OCCUR DIRECTLY ADJACENT TO LAKES, STREAMS OR WETLANDS IN ORDER TO CONTAIN SEDIMENTS NEAR THE BANKS OF WORKING AREAS. THE INSTALLATION OF FLOTATION SILT CURTAINS WILL BE REQUIRED AS DIRECTED BY THE CITY ENGINEER.

17. CONCRETE WASHOUT ONSITE. ALL LIQUID AND SOLID WASTES GENERATED BY CONCRETE WASHOUT OPERATIONS MUST BE CONTAINED IN A LEAK-PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER. A COMPACTED CLAY LINER THAT DOES NOT ALLOW WASHOUT LIQUIDS TO ENTER GROUND WATER IS CONSIDERED AN IMPERMEABLE LINER. THE LIQUID AND SOLID WASTES MUST NOT CONTACT THE GROUND, AND THERE MUST NOT BE RUNOFF FROM THE CONCRETE WASHOUT OPERATIONS OR AREAS. LIQUID AND SOLID WASTES MUST BE DISPOSED OF PROPERLY AND IN COMPLIANCE WITH MPCA REGULATIONS. A SIGN MUST BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES.

STANDARD PLAN NOTES

GRADING AND EROSION CONTOL PLANS

FEBRUARY 2013

CITY OF LAKE ELMO | STANDARD DRAWING NO. 600C LAKE ELMO

1. RESTORE ALL DISTURBED AREAS WITH 6 INCHES OF TOPSOIL CONFORMING TO MNDOT 3877.

2. PROTECT ALL STORM SEWER INLETS AS SPECIFIED HEREIN AND MAINTAIN UNTIL STREET CONSTRUCTION IS COMPLETED.

3. MAINTAIN ALL SILT FENCE AND REPAIR OR REPLACE AS NEEDED OR REQUIRED UNTIL TURF HAS BEEN ESTABLISHED.

4. RESTORATION WORK SHALL BEGIN WITHIN 7 DAYS OF FINAL GRADING.

5. A MINIMUM OF 2 ROWS OF SOD SHALL BE PLACED ADJACENT TO THE BACK OF CURBS ALONG ALL BOULEVARDS. SILT FENCE SHALL BE PLACED DIRECTLY BEHIND THE SOD IN ACCORDANCE WITH THE CITY STANDARD DETAILS.

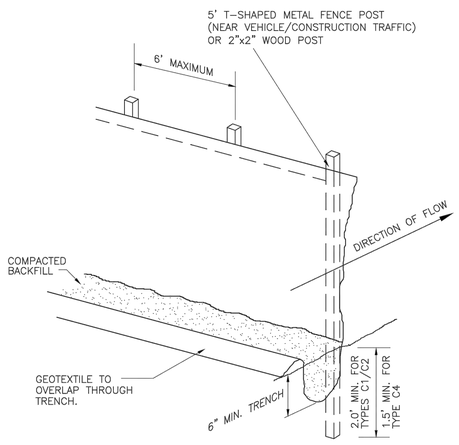
6. BOULEVARD AND DITCH RESTORATION INCLUDES FINE GRADING, WHICH INCLUDES THE REMOVAL OF ROCKS, DEBRIS AND SOIL CHUNKS, WHILE MAINTAINING POSITIVE DRAINAGE.

STANDARD PLAN NOTES

SITE RESTORATION PLANS

FEBRUARY 2013

CITY OF LAKE ELMO | STANDARD DRAWING NO. 600D LAKE ELMO

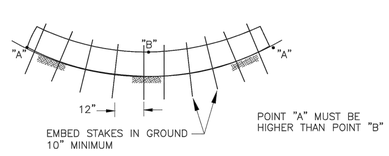


NOTE : -SILT FENCE INSTALLATION SHALL CONFORM TO MNDOT2573.3, TYPE C1/C2 NEAR VEHICLE/CONSTRUCTION TRAFFIC, TYPE C4 AT ALL OTHER LOCATIONS.
-MATERIALS SHALL CONFORM TO MNDOT 3886.

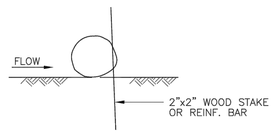
SILT FENCE

FEBRUARY 2013

CITY OF LAKE ELMO | STANDARD DRAWING NO. 601 LAKE ELMO



DITCH SECTION



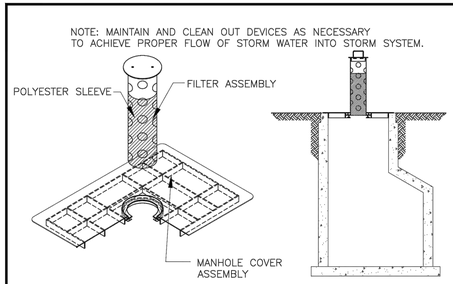
FIBER ROLL SECTION

NOTE:
STAKE TO BE INSTALLED AT AN ANGLE OF APPROXIMATELY 45° ON THE DOWNSTREAM SIDE OF THE FIBER ROLL. ENSURE THAT STAKE DOES NOT PUSH DOWN THE FIBER ROLL FROM ITS FULL HEIGHT.

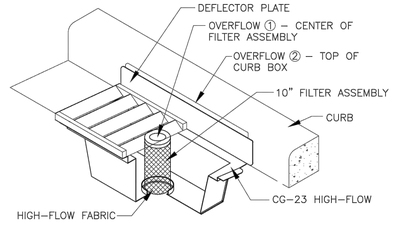
DITCH CHECK (FIBER ROLL)

FEBRUARY 2013

CITY OF LAKE ELMO | STANDARD DRAWING NO. 603 LAKE ELMO



WIMCO RD-23 OR APPROVED EQUAL

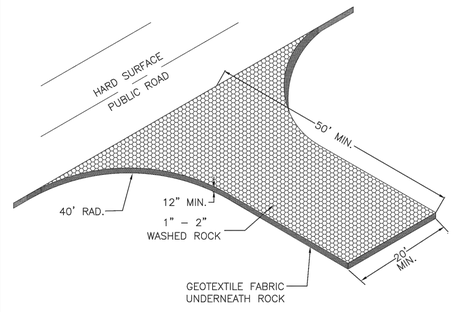


WIMCO CG-23 HIGH-FLOW OR APPROVED EQUAL

SEDIMENT CONTROL AROUND STORM SEWER INLET

FEBRUARY 2013

CITY OF LAKE ELMO | STANDARD DRAWING NO. 604 LAKE ELMO



NOTES:

① MAXIMUM WIDTH OF CONSTRUCTION ENTRANCE IS 24 FEET.

② A MNDOT 3733 TYPE V GEOTEXTILE FABRIC SHALL BE USED UNDER THE ROCK TO PREVENT MIGRATION OF THE UNDERLYING SOIL INTO THE STONE.

③ CONSTRUCTION ENTRANCE IS REQUIRED FOR ALL NEW HOME CONSTRUCTION AND NEW STREET CONSTRUCTION.

④ CONSTRUCTION ENTRANCE SHALL BE MAINTAINED TO PREVENT TRACKING OF MUD ONTO ROADWAYS THAT ADJOIN THE PROJECT. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL ROCK OR REMOVAL AND REINSTALLATION OF THE ROCK ENTRANCE.

⑤ REMOVE MUD AND DEBRIS FROM TIRES AND VEHICLE UNDERCARRIAGE PRIOR TO LEAVING THE SITE.

ROCK CONSTRUCTION ENTRANCE

FEBRUARY 2013

CITY OF LAKE ELMO | STANDARD DRAWING NO. 605 LAKE ELMO

PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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

Name Paul J. Cherne
Reg. No. 19860 Date 07-28-2014

Revisions

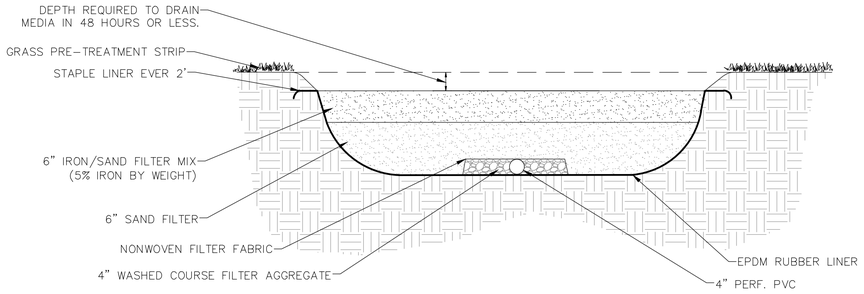
Date	07-28-2014
Designed	PJC/KAW
Drawn	KAW/AJR

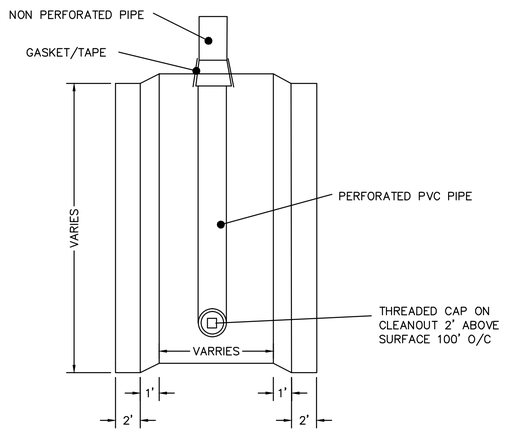
EROSION CONTROL DETAILS

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

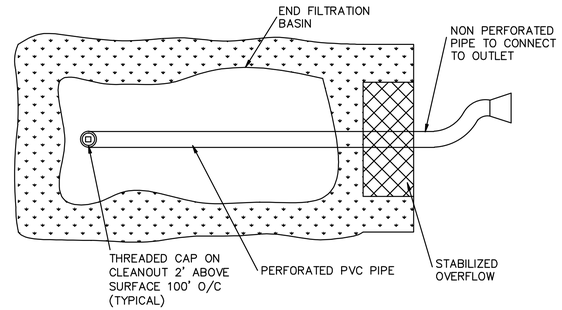
HUNTERS CROSSING
LAKE ELMO, MINNESOTA

01-ENG-113105-SHEET-DTLS-GR





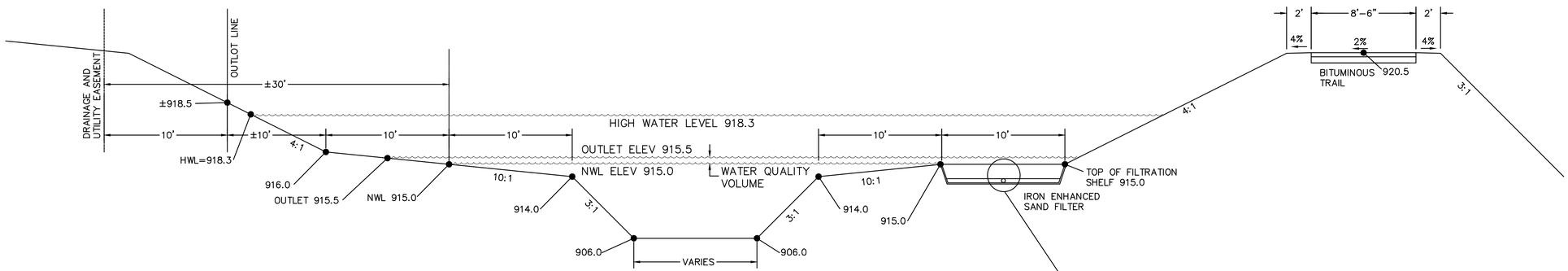
TOP VIEW

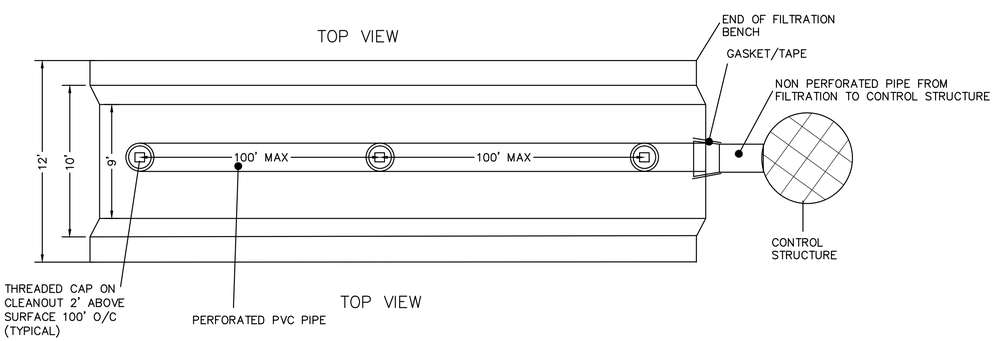


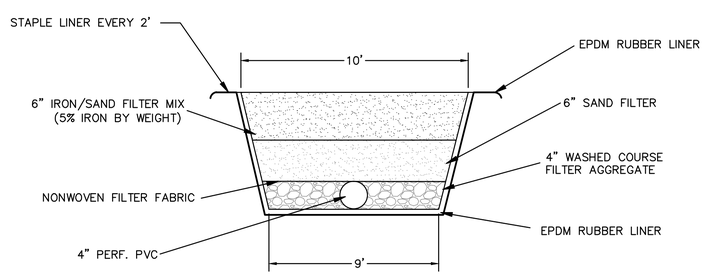
INSTALLATION OF IRON ENHANCED SAND FILTER NOT IN CONTRACT

BASIN WITH IRON ENHANCED SAND FILTER SECTION (OUTLOT A)

N.T.S.







INSTALLATION OF IRON ENHANCED SAND FILTER NOT IN CONTRACT

POND SECTION WITH IRON ENHANCED SAND FILTER (OUTLOT E)

N.T.S.

PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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

Name Paul J. Cherne
Reg. No. 19860 Date 07-28-2014

Revisions

Date	07-28-2014
Designed	PJC/KAW
Drawn	KAW/AJR

EROSION CONTROL DETAILS

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

HUNTERS CROSSING
LAKE ELMO, MINNESOTA

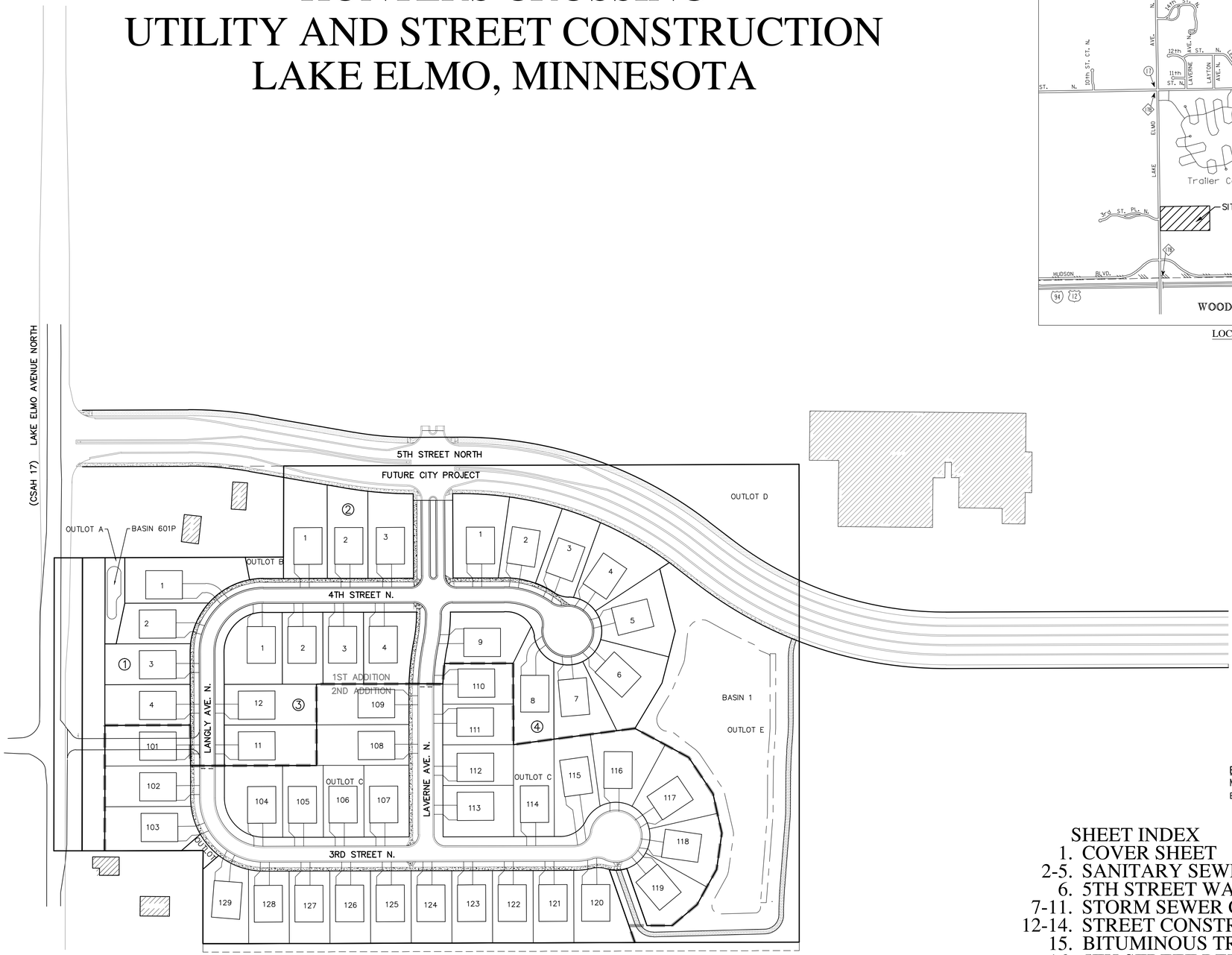
10 OF 10

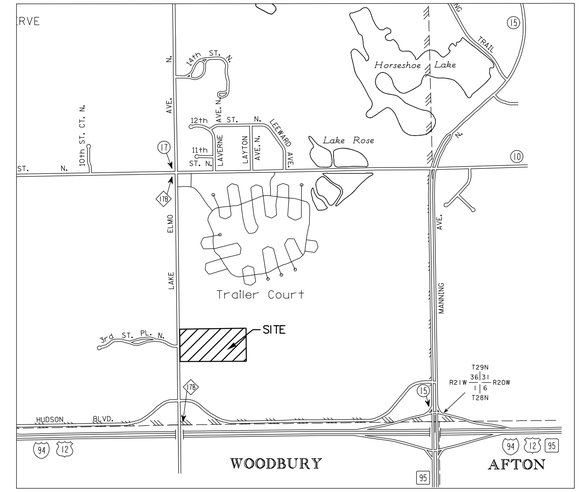
01-ENG-113105-SHEET-DTLS-GR

HUNTERS CROSSING
UTILITY AND STREET CONSTRUCTION
LAKE ELMO, MINNESOTA

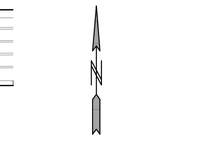
LEGEND

EXISTING	PROPOSED	FUTURE	DESCRIPTION
○	●	◎	SANITARY MANHOLE
			EXISTING SANITARY SEWER
			PROPOSED SANITARY SEWER
			FUTURE SANITARY SEWER
			HYDRANT
			GATE VALVE
			REDUCER
			EXISTING WATERMAIN
			PROPOSED WATERMAIN
			FUTURE WATERMAIN
			CATCH BASIN
			BEEHIVE
			STORM MANHOLE
			FLARED END SECTION
			CONTROL STRUCTURE
			EXISTING STORM SEWER
			PROPOSED STORM SEWER
			FUTURE STORM SEWER
			SURMOUNTABLE CURB & GUTTER
			B-STYLE CURB & GUTTER
			RIBBON CURB & GUTTER
			PHASE LINE
			EASEMENT LINE
			EXISTING 2' CONTOUR LINE
			EXISTING 10' CONTOUR LINE
			PROPOSED 2' CONTOUR LINE
			PROPOSED 10' CONTOUR LINE
			POND OUTLET LINE
			POND HIGH WATER LINE
			PROPOSED SPOT ELEVATION
			EMERGENCY OVERFLOW
			DELINEATED WETLAND LINE
			FEMA FLOODPLAIN BOUNDARY
			STANDARD EROSION CONTROL
			HEAVY-DUTY EROSION CONTROL
			TREE FENCE
			RETAINING WALL
			CONSERVATION AREA SIGN
			WETLAND BUFFER SIGN
			EX. CULVERT
			EX. OVERHEAD UTILITY LINES
			EX. UNDERGROUND TELEVISION LINE
			EX. UNDERGROUND TELEPHONE LINE
			EX. UNDERGROUND FIBER OPTIC LINE
			EX. UNDERGROUND ELECTRIC LINE
			EX. UNDERGROUND GAS LINE
			EX. FENCE (BARBED WIRE)
			EX. FENCE (CHAIN LINK)
			EX. FENCE (WOOD)
			EX. CAST IRON MONUMENT
			EX. ELECTRIC BOX
			EX. FLAG POLE
			EX. NATURAL GAS METER
			EX. HAND HOLE
			EX. FOUND IRON PIPE
			EX. JUDICIAL LAND MARK
			EX. LIGHT POLE
			EX. PK NAIL
			EX. UTILITY POLE
			EX. LAWN SPRINKLER VALVE
			EX. LAWN SPRINKLER HEAD
			EX. SEMAPHORE
			EX. SERVICE
			EX. TELEPHONE BOX
			EX. TEST HOLE
			EX. TELEVISION BOX
			EX. WATER WELL
			EX. MONITORING WELL
			EX. MAILBOX
			EX. CONTROL POINT
			EX. SPIKE
			EX. SIGN
			EX. CLEANOUT
			EX. SIGNIFICANT TREE
			EX. TREE LINE
			EX. GRAVEL SURFACE
			EX. BITUMINOUS SURFACE
			EX. CONCRETE SURFACE
			SELECT BACKFILL MATERIAL
			GRAVEL CONST. ENTRANCE





LOCATION MAP



GRAPHIC SCALE IN FEET

BENCH MARK
MN/DOT 8282 AG
ELEV=943.87 (1988 datum)

SHEET INDEX

PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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

Name Paul J. Cherne
Reg. No. 19860 Date 08-06-2014

Revisions

Date	08-06-2014
Designed	PJC/KAW
Drawn	KAW/AJR

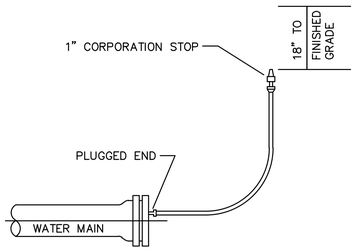
COVER SHEET

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

HUNTERS CROSSING
LAKE ELMO, MINNESOTA

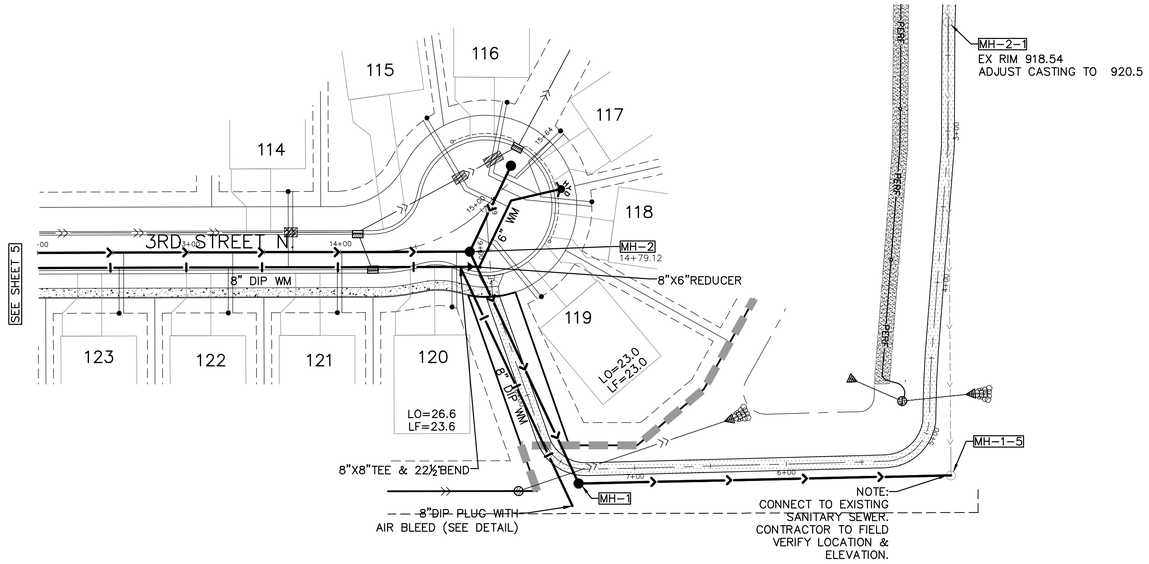
1 OF 23

01-ENG-113105-SHEET-COVR-UTIL



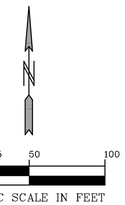
AFTER MEETING TEST REQUIREMENTS THE AIR BLEED LINE SHALL BE DISCONNECTED AT THE PLUG WITH NO ADDITIONAL COMPENSATION.

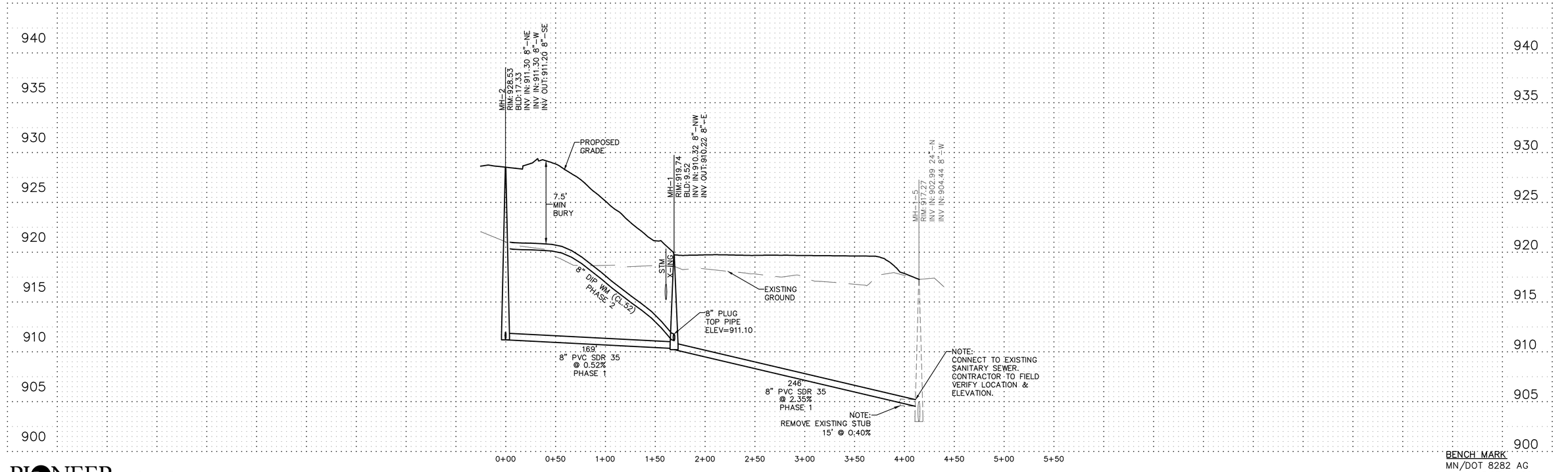
AIR BLEED DETAIL



CONSTRUCTION NOTES:

1. SEE CITY OF LAKE ELMO STANDARD DETAILS FOR PUBLIC INFRASTRUCTURE.
2. WATER SERVICES SHALL BE 1" COPPER TYPE "K" PER CITY DETAIL 207A.
3. SERVICE AND RISER STATIONING IS FROM DOWNSTREAM MANHOLE.
4. SANITARY SERVICES SHALL BE 4" PVC (SDR 26) PER CITY DETAIL 313.
5. SERVICES IN PHASE 2 OF CONSTRUCTION WHICH THE SANITARY MAINLINE IS INSTALLED IN PHASE 1 WILL HAVE WYE AND RISERS INSTALLED AND PLUGGED. ENDS TO HAVE 2"X2" HARDWOOD MARKER. LOTS INCLUDE: 102, 103, 108, 109, 110, 111, 112, 113, 114, 120, 121, 122, 123 ,AND 124.





BENCH MARK
MN/DOT 8282 AG
ELEV=943.87 (1988 datum)
01-ENG-113105-SHEET-311

PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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

Name Paul J. Cherne
Reg. No. 19860 Date 08-06-2014

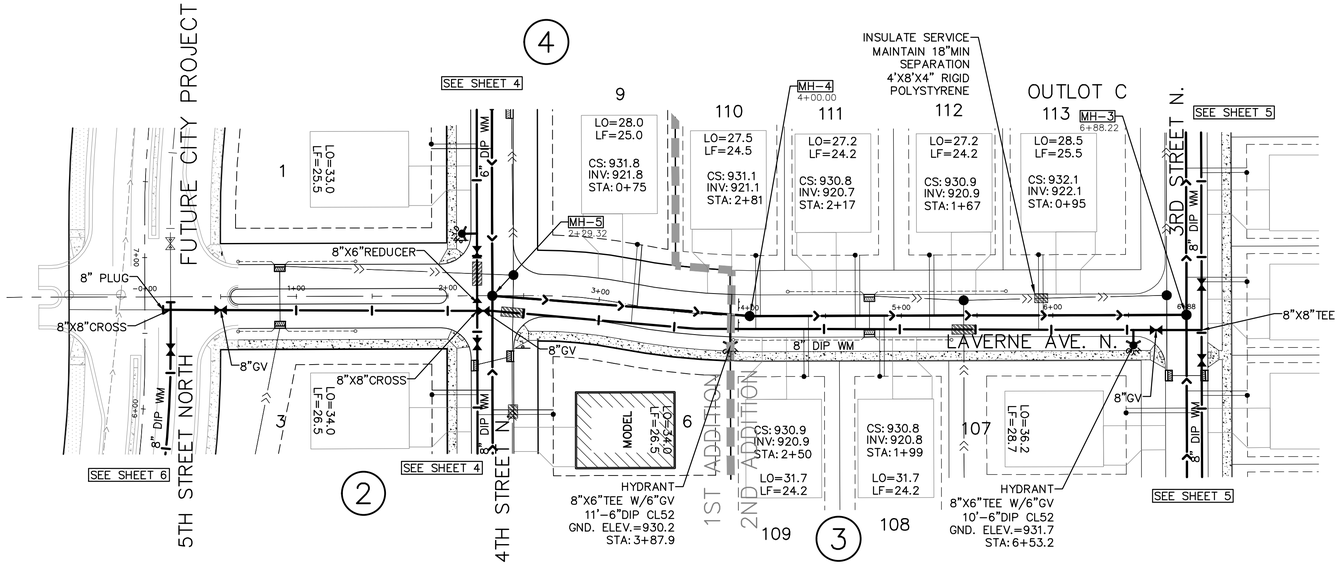
Revisions

Date	08-06-2014
Designed	PJC/KAW
Drawn	KAW/AJR

SANITARY SEWER CONSTRUCTION

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

HUNTERS CROSSING
LAKE ELMO, MINNESOTA

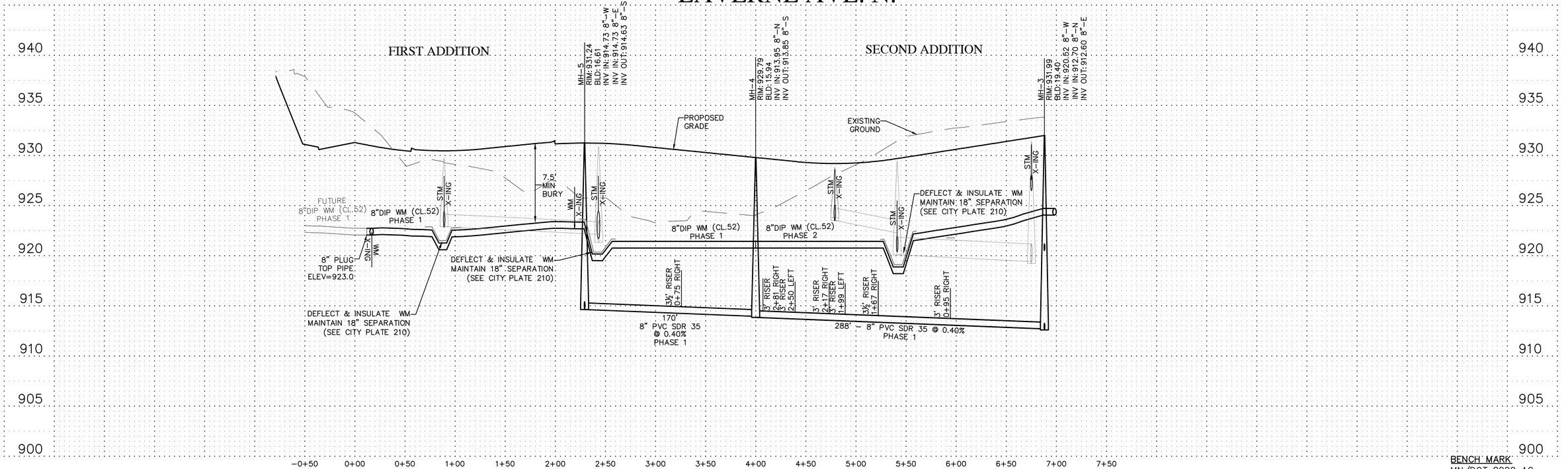


CONSTRUCTION NOTES:

1. SEE CITY OF LAKE ELMO STANDARD DETAILS FOR PUBLIC INFRASTRUCTURE.
2. WATER SERVICES SHALL BE 1" COPPER TYPE "K" PER CITY DETAIL 207A.
3. SERVICE AND RISER STATIONING IS FROM DOWNSTREAM MANHOLE.
4. SANITARY SERVICES SHALL BE 4" PVC (SDR 26) PER CITY DETAIL 313.
5. SERVICES IN PHASE 2 OF CONSTRUCTION WHICH THE SANITARY MAINLINE IS INSTALLED IN PHASE 1 WILL HAVE WYE AND RISERS INSTALLED AND PLUGGED. ENDS TO HAVE 2"X2" HARDWOOD MARKER. LOTS INCLUDE: 102, 103, 108, 109, 110, 111, 112, 113, 114, 120, 121, 122, 123 ,AND 124.

0 25 50 100
GRAPHIC SCALE IN FEET

LAVERNE AVE. N.



BENCH MARK
MN/DOT 8282 AG
ELEV=943.87 (1988 datum)
01-ENG-113105-SHEET-312

PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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
Name Paul J. Cherne
Reg. No. 19860 Date 08-06-2014

Revisions

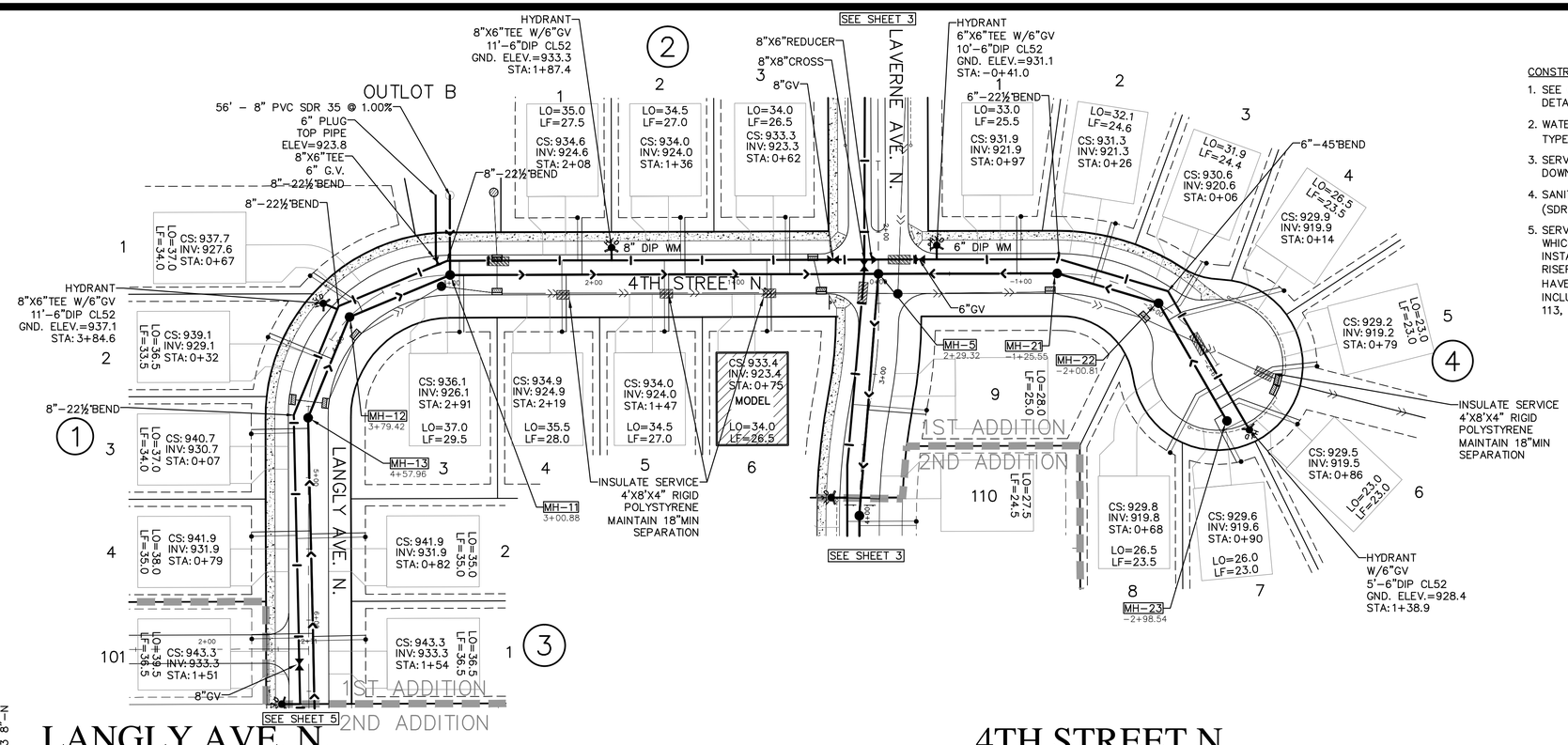
Date	08-06-2014
Designed	PJC/KAW
Drawn	KAW/AJR

SANITARY SEWER CONSTRUCTION

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

HUNTERS CROSSING
LAKE ELMO, MINNESOTA

3 OF 23



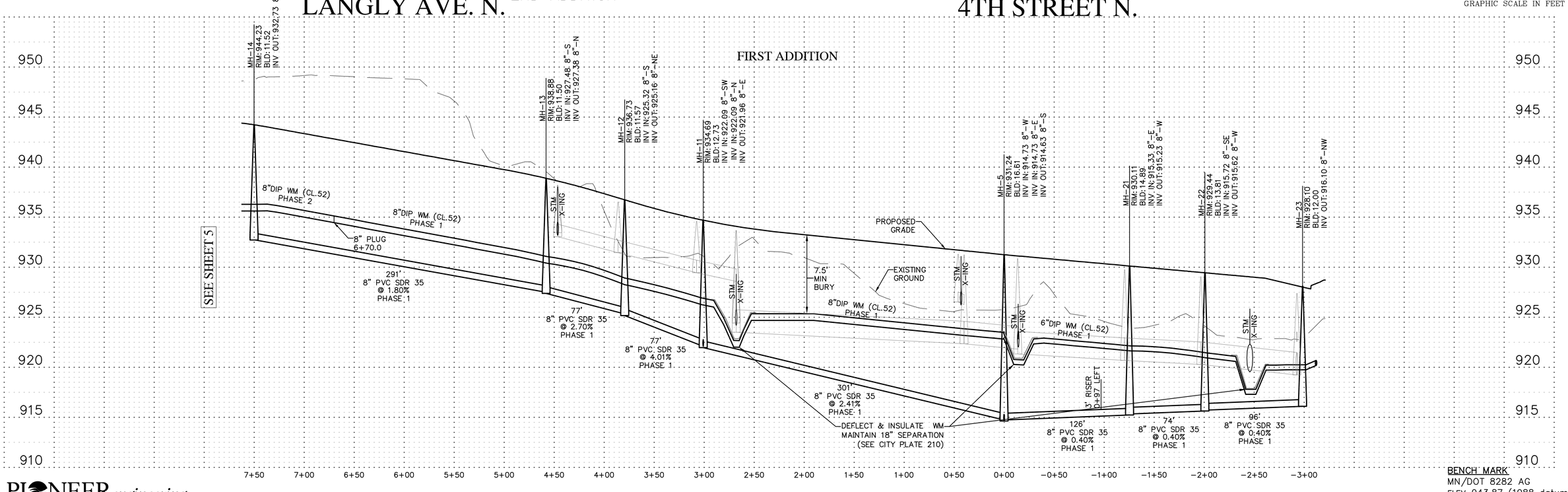
CONSTRUCTION NOTES:

1. SEE CITY OF LAKE ELMO STANDARD DETAILS FOR PUBLIC INFRASTRUCTURE.
2. WATER SERVICES SHALL BE 1" COPPER TYPE "K" PER CITY DETAIL 207A.
3. SERVICE AND RISER STATIONING IS FROM DOWNSTREAM MANHOLE.
4. SANITARY SERVICES SHALL BE 4" PVC (SDR 26) PER CITY DETAIL 313.
5. SERVICES IN PHASE 2 OF CONSTRUCTION WHICH THE SANITARY MAINLINE IS INSTALLED IN PHASE 1 WILL HAVE WYE AND RISERS INSTALLED AND PLUGGED. ENDS TO HAVE 2"X2" HARDWOOD MARKER. LOTS INCLUDE: 102, 103, 108, 109, 110, 111, 112, 113, 114, 120, 121, 122, 123 ,AND 124.

GRAPHIC SCALE IN FEET
0 25 50 100

LANGLY AVE. N.

4TH STREET N.



BENCH MARK
MN/DOT 8282 AG
ELEV=943.87 (1988 datum)
01-ENG-113105-SHEET-313

PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS

2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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
Name Paul J. Cherne
Reg. No. 19860 Date 08-06-2014

Revisions

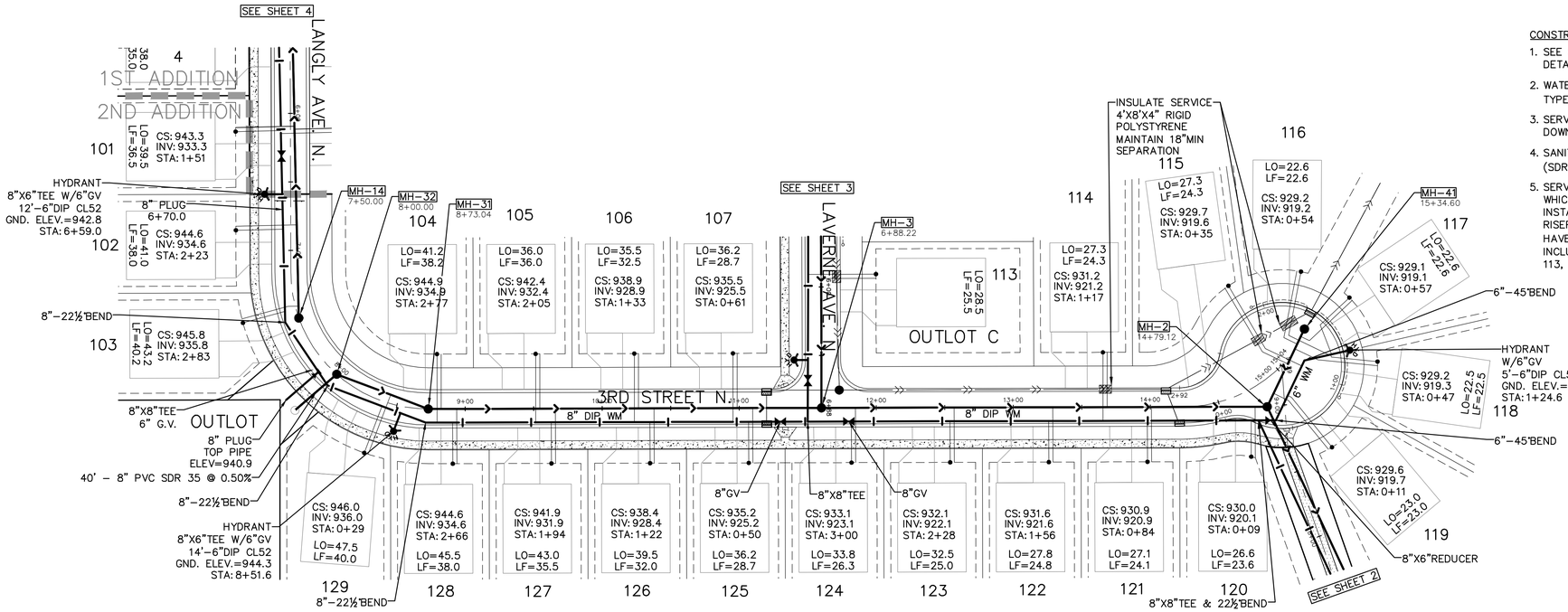
Date	08-06-2014
Designed	PJC/KAW
Drawn	KAW/AJR

SANITARY SEWER CONSTRUCTION

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

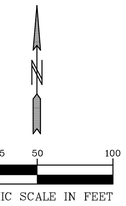
HUNTERS CROSSING
LAKE ELMO, MINNESOTA

4 OF 23

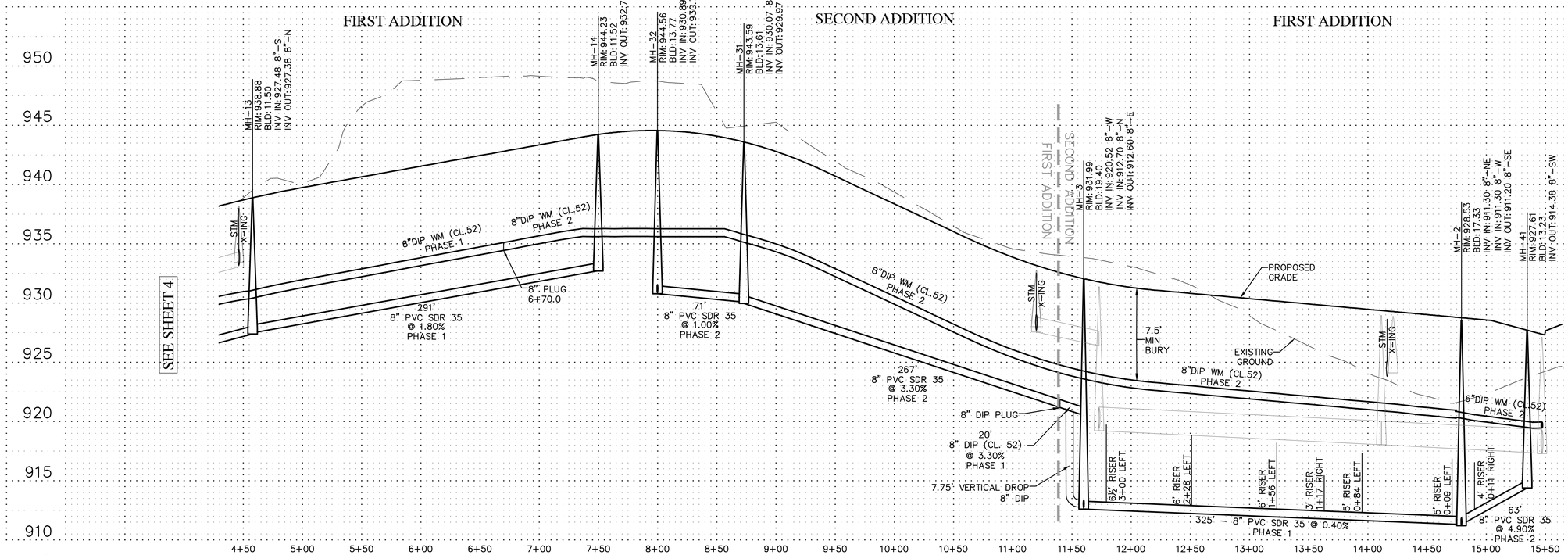


CONSTRUCTION NOTES:

1. SEE CITY OF LAKE ELMO STANDARD DETAILS FOR PUBLIC INFRASTRUCTURE.
2. WATER SERVICES SHALL BE 1" COPPER TYPE "K" PER CITY DETAIL 207A.
3. SERVICE AND RISER STATIONING IS FROM DOWNSTREAM MANHOLE.
4. SANITARY SERVICES SHALL BE 4" PVC (SDR 26) PER CITY DETAIL 313.
5. SERVICES IN PHASE 2 OF CONSTRUCTION WHICH THE SANITARY MAINLINE IS INSTALLED IN PHASE 1 WILL HAVE WYE AND RISERS INSTALLED AND PLUGGED. ENDS TO HAVE 2"X2" HARDWOOD MARKER. LOTS INCLUDE: 102, 103, 108, 109, 110, 111, 112, 113, 114, 120, 121, 122, 123 ,AND 124.



LANGLY AVE. N.



3RD STREET N.

BENCH MARK
MN/DOT 8282 AG
ELEV=943.87 (1988 datum)
01-ENG-113105-SHEET-314

PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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

Name Paul J. Cherne
Reg. No. 19860 Date 08-06-2014

Revisions

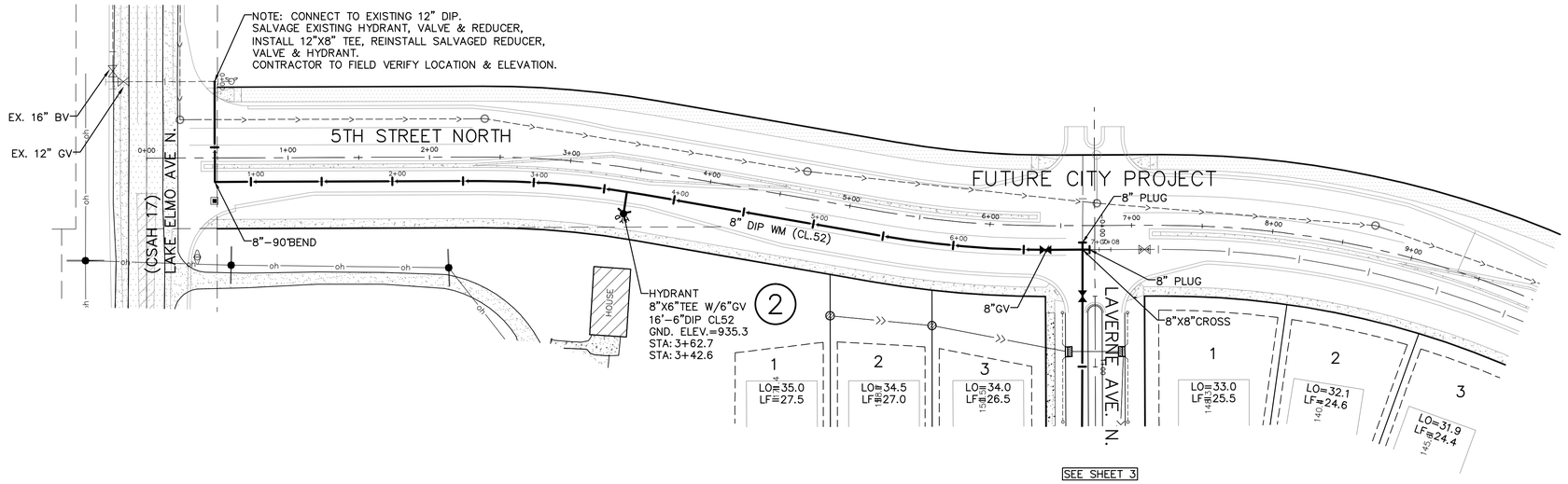
Date	08-06-2014
Designed	PJC/KAW
Drawn	KAW/AJR

SANITARY SEWER CONSTRUCTION

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

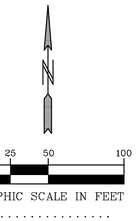
HUNTERS CROSSING
LAKE ELMO, MINNESOTA

5 OF 23

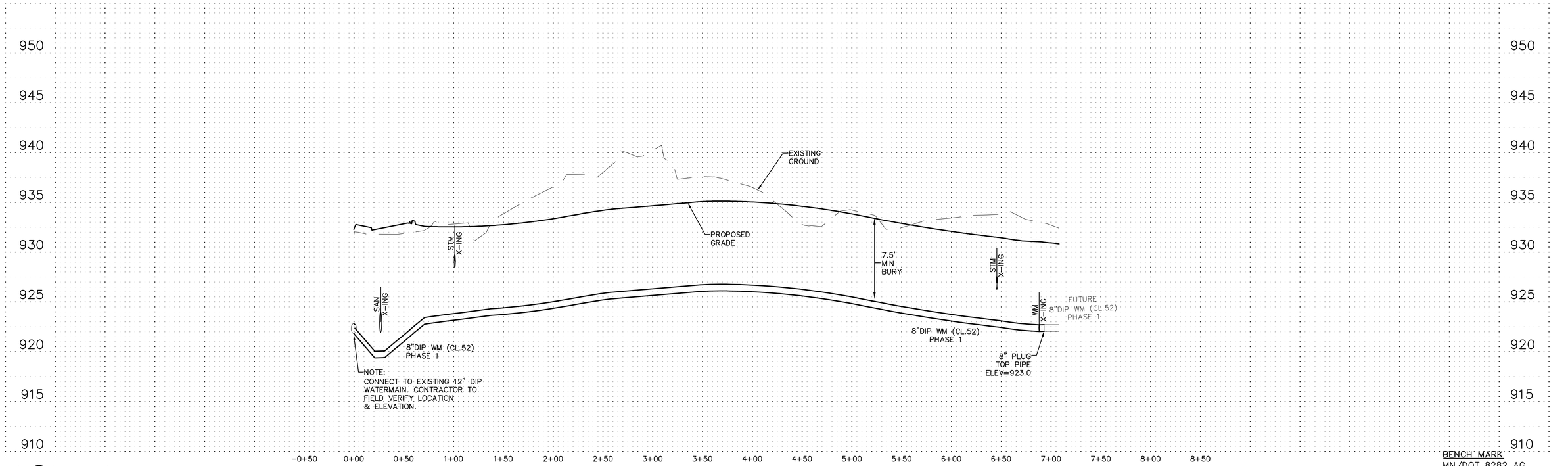


CONSTRUCTION NOTES:

1. SEE CITY OF LAKE ELMO STANDARD DETAILS FOR PUBLIC INFRASTRUCTURE.
2. WATER SERVICES SHALL BE 1" COPPER TYPE "K" PER CITY DETAIL 207A.
3. SERVICE AND RISER STATIONING IS FROM DOWNSTREAM MANHOLE.
4. SANITARY SERVICES SHALL BE 4" PVC (SDR 26) PER CITY DETAIL 313.
5. SERVICES IN PHASE 2 OF CONSTRUCTION WHICH THE SANITARY MAINLINE IS INSTALLED IN PHASE 1 WILL HAVE WYE AND RISERS INSTALLED AND PLUGGED. ENDS TO HAVE 2"X2" HARDWOOD MARKER. LOTS INCLUDE: 102, 103, 108, 109, 110, 111, 112, 113, 114, 120, 121, 122, 123 ,AND 124.



5TH STREET NORTH WATERMAIN



BENCH MARK
MN/DOT 8282 AG
ELEV=943.87 (1988 datum)
01-ENG-113105-SHEET-315

PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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
Name Paul J. Cherne
Reg. No. 19860 Date 08-06-2014

Revisions

Date	08-06-2014
Designed	PJC/KAW
Drawn	KAW/AJR

5TH STREET WATERMAIN

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

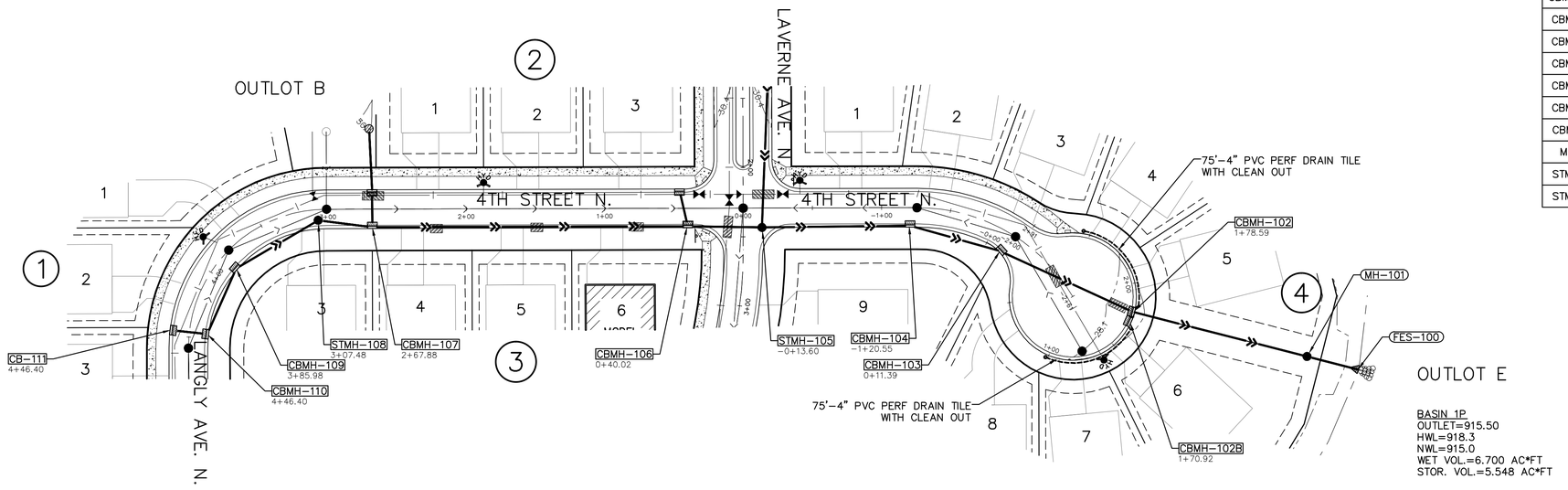
HUNTERS CROSSING
LAKE ELMO, MINNESOTA

6 OF 23

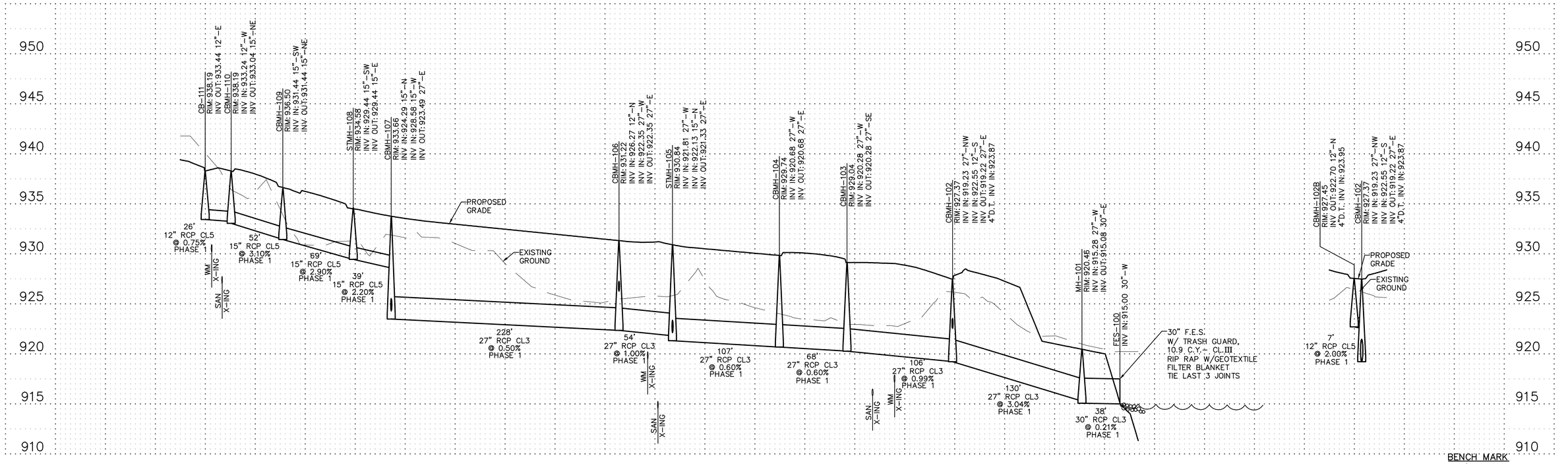
STRUCTURE TABLE		
STRUCTURE NAME	STRUCTURE SIZE	NEENAH CASTING OR EQUAL
CB–111	48" DIA.	R–3067 V
CBMH–102	60" DIA.	R–3067 V
CBMH–102B	48" DIA.	R–3067 V
CBMH–103	60" DIA.	R–3067 V
CBMH–104	60" DIA.	R–3067 V
CBMH–106	60" DIA.	R–3067 V
CBMH–107	60" DIA.	R–3067 V
CBMH–109	48" DIA.	R–3067 V
CBMH–110	48" DIA.	R–3067 V
MH–101	60" DIA.	R–1642
STMH–105	60" DIA.	R–1642
STMH–108	48" DIA.	R–1642

STORM SEWER CONSTRUCTION NOTES:

1. SEE CITY OF LAKE ELMO STANDARD DETAILS FOR PUBLIC INFRASTRUCTURE.
2. FINAL STRUCTURE OFF SET TO BE VERIFIED BY CONTRACTOR AND INSPECTOR BASED ON MATERIAL SUPPLIED TO PROJECT. FIELD STAKING SHALL BE SET ACCORDING TO BACK–OF–CURB.



BASIN 1P
OUTLET=915.50
HWL=918.3
NWL=915.0
WET VOL.=6.700 AC*FT
STOR. VOL.=5.548 AC*FT



0 25 50 100
GRAPHIC SCALE IN FEET

BENCH MARK
MN/DOT 8282 AG
ELEV=943.87 (1988 datum)
01-ENG-113105-SHEET-321

PIONEER *engineering*
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS

2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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
Name Paul J. Cherne
Reg. No. 19860 Date 08-06-2014

Revisions

Date	08-06-2014
Designed	PJC/KAW
Drawn	KAW/AJR

STORM SEWER CONSTRUCTION

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

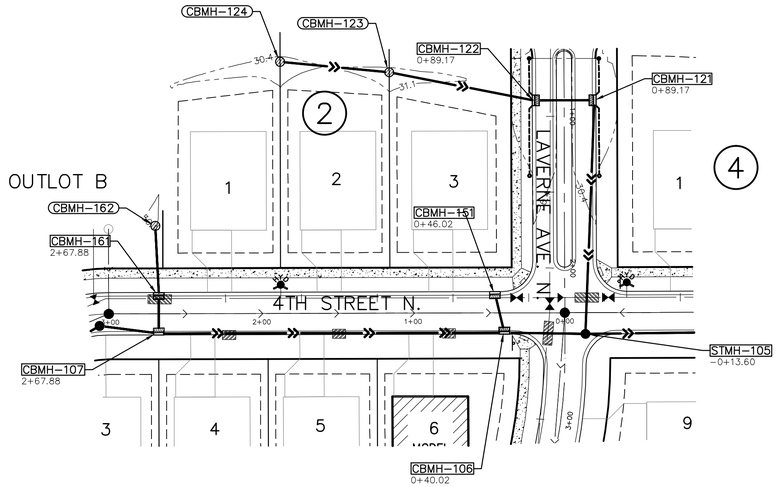
HUNTERS CROSSING
LAKE ELMO, MINNESOTA

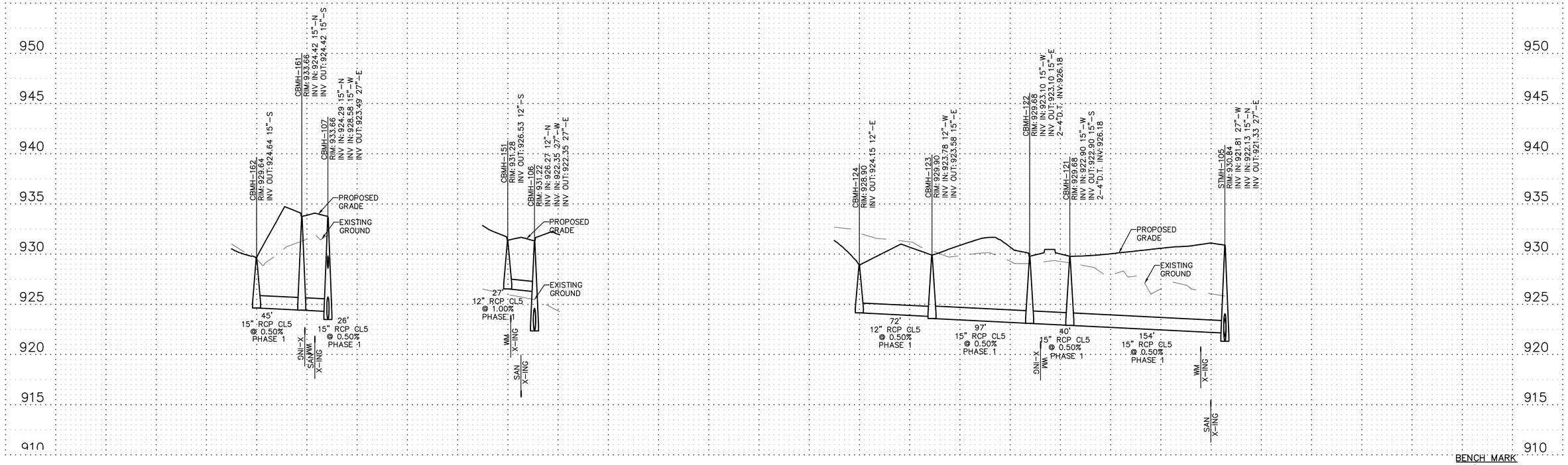
7 OF 23

STORM SEWER CONSTRUCTION NOTES:

1. SEE CITY OF LAKE ELMO STANDARD DETAILS FOR PUBLIC INFRASTRUCTURE.
2. FINAL STRUCTURE OFF SET TO BE VERIFIED BY CONTRACTOR AND INSPECTOR BASED ON MATERIAL SUPPLIED TO PROJECT. FIELD STAKING SHALL BE SET ACCORDING TO BACK-OF-CURB.

STRUCTURE TABLE		
STRUCTURE NAME	STRUCTURE SIZE	NEENAH CASTING OR EQUAL
CBMH-121	48" DIA.	R-3067 V
CBMH-122	48" DIA.	R-3067 V
CBMH-123	48" DIA.	R-4342
CBMH-124	48" DIA.	R-4342
CBMH-151	48" DIA.	R-3067 V
CBMH-161	48" DIA.	R-3067 V
CBMH-162	48" DIA.	R-4342





0 25 50 100
GRAPHIC SCALE IN FEET

BENCH MARK
MN/DOT 8282 AG
ELEV=943.87 (1988 datum)
01-ENG-113105-SHEET-322

PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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
Name Paul J. Cherne
Reg. No. 19860 Date 08-06-2014

Revisions

Date	08-06-2014
Designed	PJC/KAW
Drawn	KAW/AJR

STORM SEWER CONSTRUCTION

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

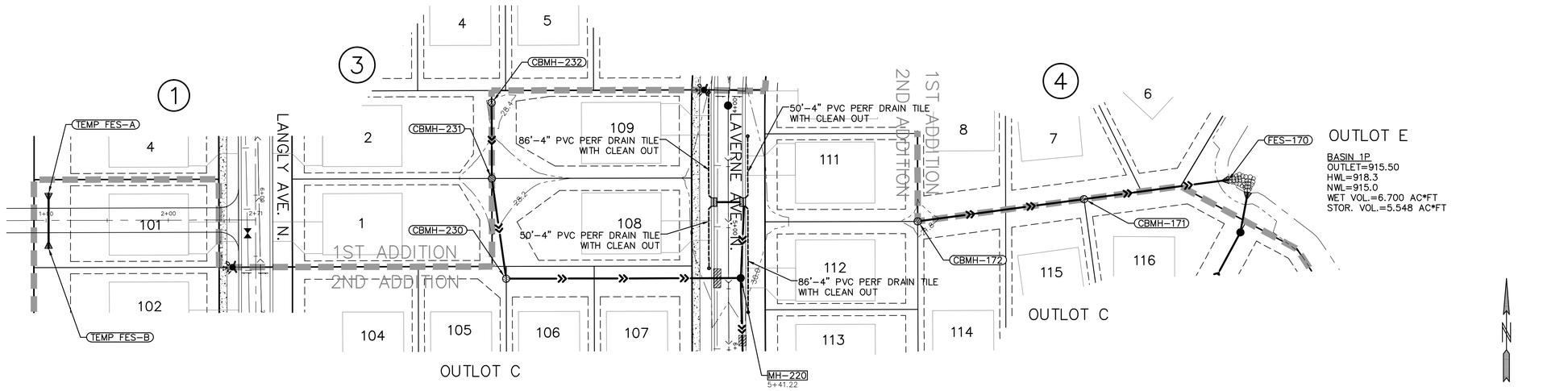
HUNTERS CROSSING
LAKE ELMO, MINNESOTA

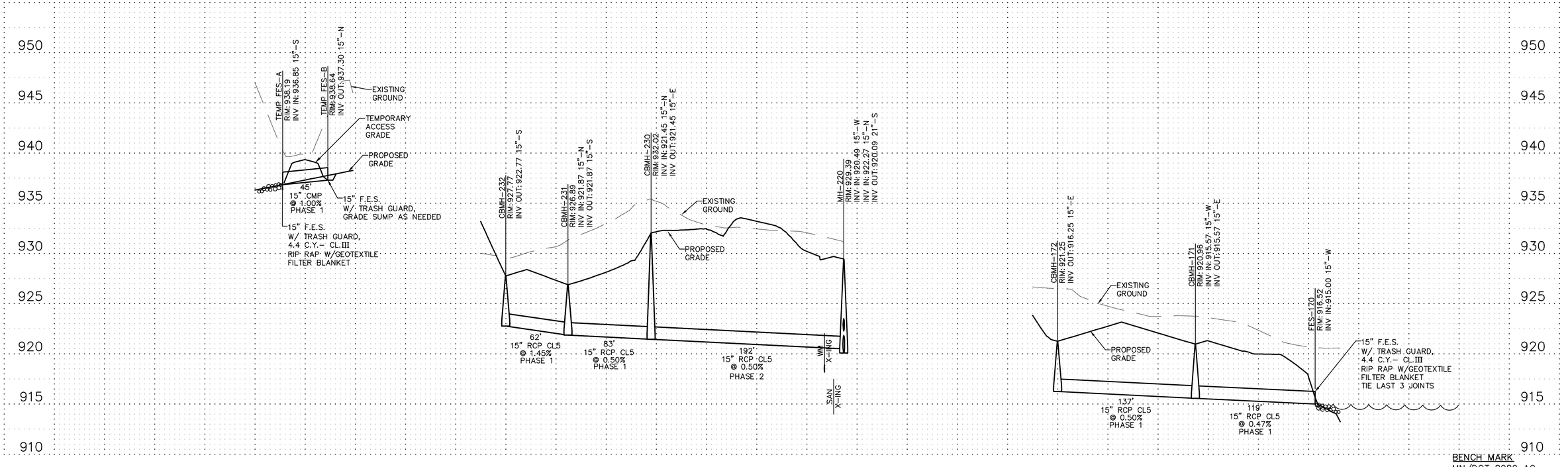
8 OF 23

STORM SEWER CONSTRUCTION NOTES:

1. SEE CITY OF LAKE ELMO STANDARD DETAILS FOR PUBLIC INFRASTRUCTURE.
2. FINAL STRUCTURE OFF SET TO BE VERIFIED BY CONTRACTOR AND INSPECTOR BASED ON MATERIAL SUPPLIED TO PROJECT. FIELD STAKING SHALL BE SET ACCORDING TO BACK-OF-CURB.

STRUCTURE TABLE		
STRUCTURE NAME	STRUCTURE SIZE	NEENAH CASTING OR EQUAL
CBMH-171	48" DIA.	R-4342
CBMH-172	48" DIA.	R-4342
CBMH-230	48" DIA.	R-4342
CBMH-231	48" DIA.	R-4342
CBMH-232	48" DIA.	R-4342





BENCH MARK
MN/DOT 8282 AG
ELEV=943.87 (1988 datum)
01-ENG-113105-SHEET-323

PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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

Name Paul J. Cherne
Reg. No. 19860 Date 08-06-2014

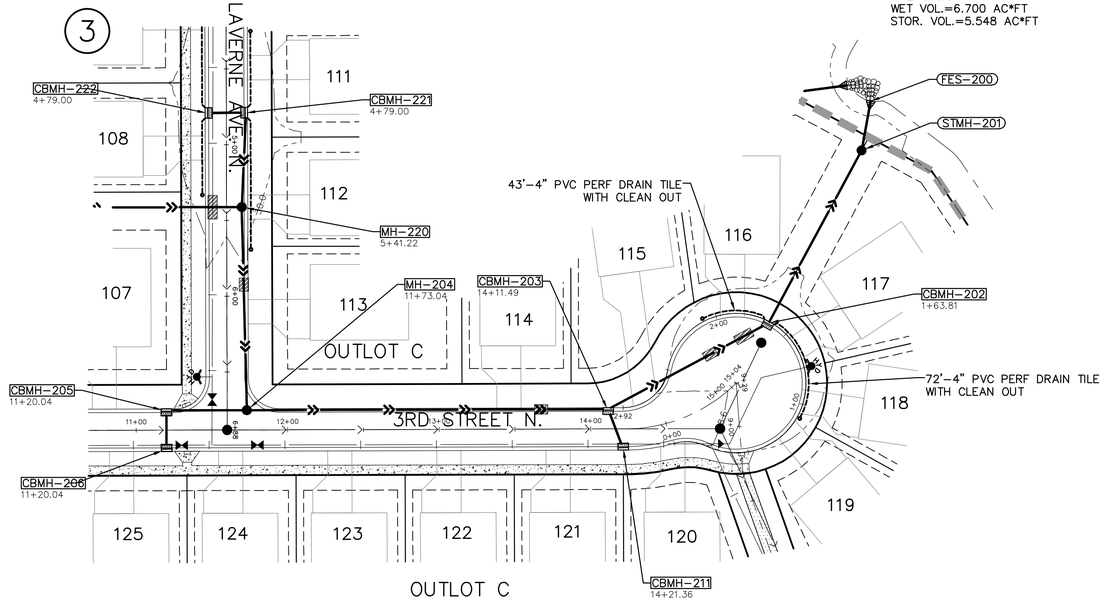
Revisions

Date	08-06-2014
Designed	PJC/KAW
Drawn	KAW/AJR

STORM SEWER CONSTRUCTION

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

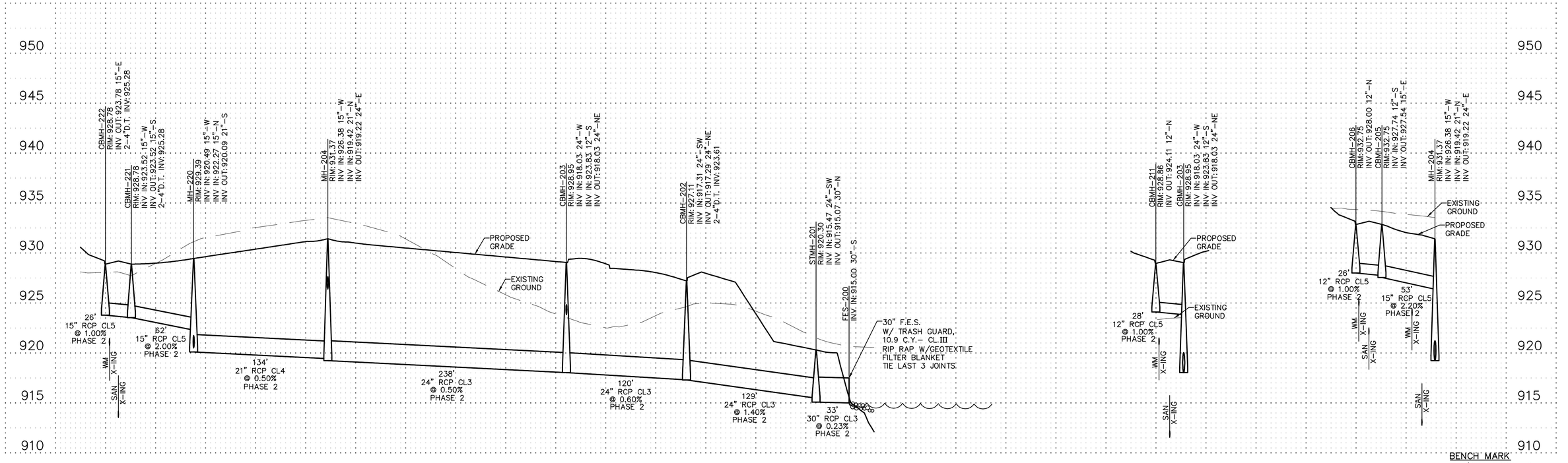
HUNTERS CROSSING
LAKE ELMO, MINNESOTA

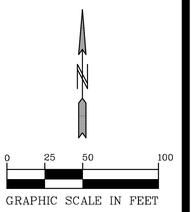


STORM SEWER CONSTRUCTION NOTES:

1. SEE CITY OF LAKE ELMO STANDARD DETAILS FOR PUBLIC INFRASTRUCTURE.
2. FINAL STRUCTURE OFF SET TO BE VERIFIED BY CONTRACTOR AND INSPECTOR BASED ON MATERIAL SUPPLIED TO PROJECT. FIELD STAKING SHALL BE SET ACCORDING TO BACK-OF-CURB.

STRUCTURE TABLE		
STRUCTURE NAME	STRUCTURE SIZE	NEENAH CASTING OR EQUAL
CBMH-202	48" DIA.	R-3067 V
CBMH-203	48" DIA.	R-3067 V
CBMH-205	48" DIA.	R-3067 V
CBMH-206	48" DIA.	R-3067 V
CBMH-211	48" DIA.	R-3067 V
CBMH-221	48" DIA.	R-3067 V
CBMH-222	48" DIA.	R-3067 V
MH-204	60" DIA.	R-1642
MH-220	48" DIA.	R-1642
STMH-201	60" DIA.	R-1642





BENCH MARK
MN/DOT 8282 AG
ELEV=943.87 (1988 datum)

01-ENG-113105-SHEET-324

PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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

Name Paul J. Cherne
Reg. No. 19860 Date 08-06-2014

Revisions

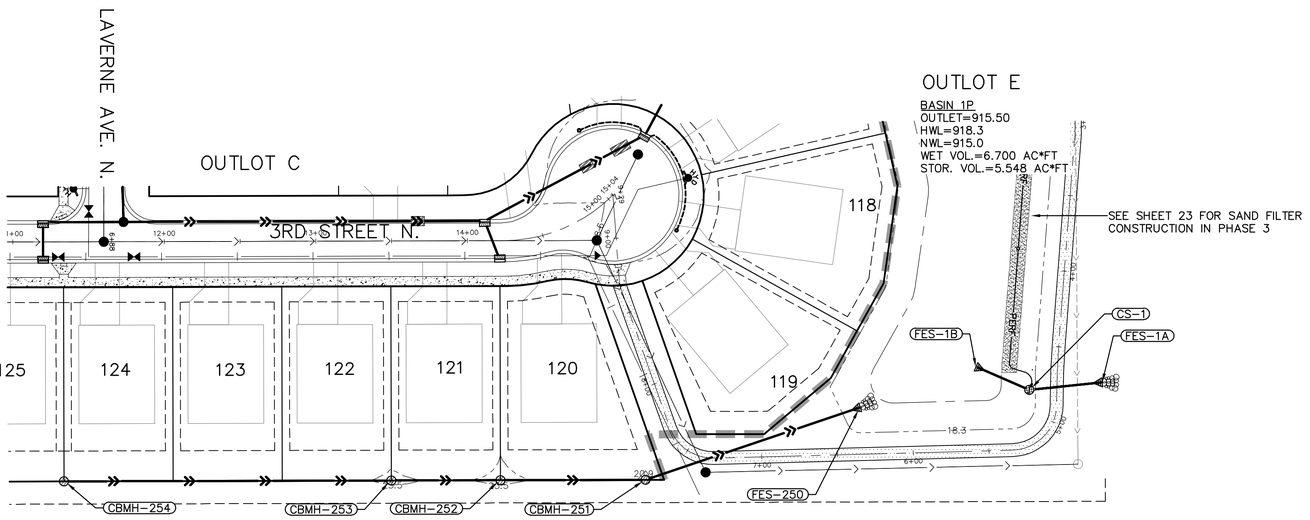
Date	08-06-2014
Designed	PJC/KAW
Drawn	KAW/AJR

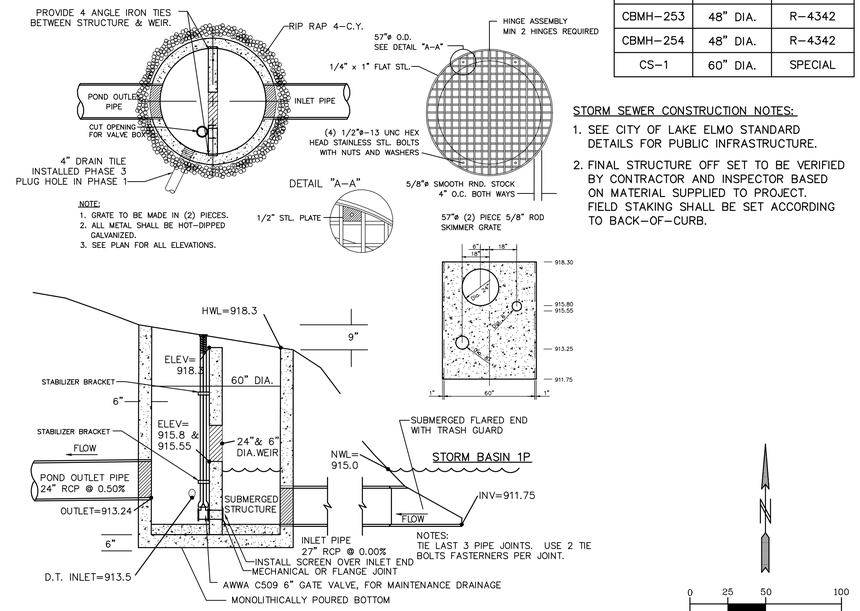
STORM SEWER CONSTRUCTION

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

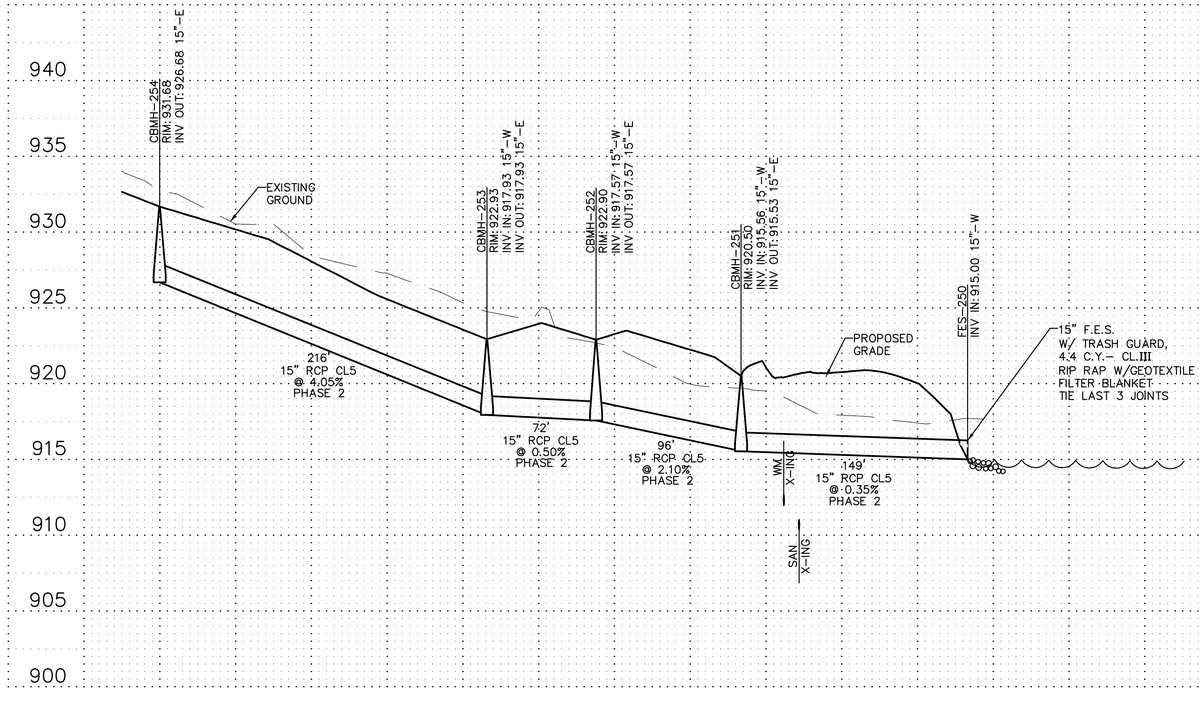
HUNTERS CROSSING
LAKE ELMO, MINNESOTA

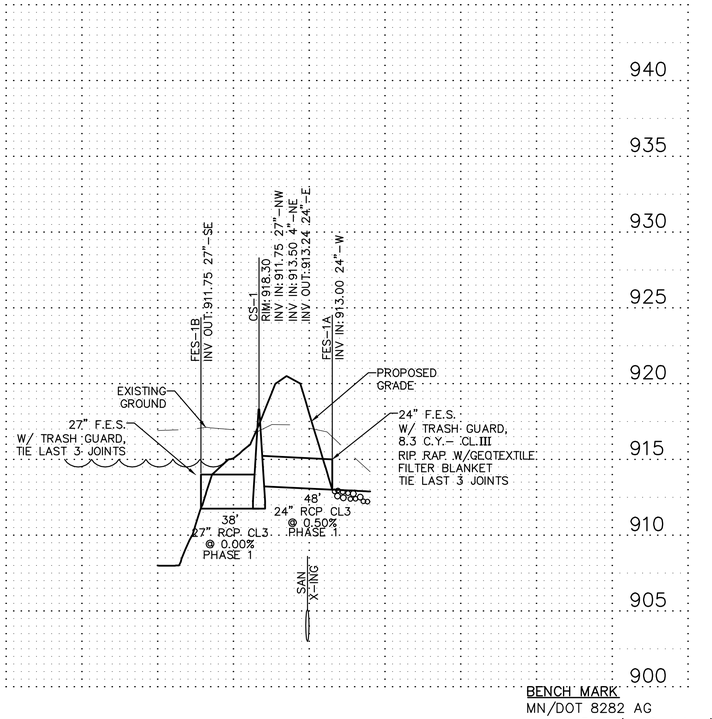
STRUCTURE TABLE		
STRUCTURE NAME	STRUCTURE SIZE	NEENAH CASTING OR EQUAL
CBMH-251	48" DIA.	R-4342
CBMH-252	48" DIA.	R-4342
CBMH-253	48" DIA.	R-4342
CBMH-254	48" DIA.	R-4342
CS-1	60" DIA.	SPECIAL





POND OUTLET CONTROL STRUCTURE CS-1
(NOT TO SCALE) (PHASE 1)





STORM SEWER CONSTRUCTION NOTES:

1. SEE CITY OF LAKE ELMO STANDARD DETAILS FOR PUBLIC INFRASTRUCTURE.
2. FINAL STRUCTURE OFF SET TO BE VERIFIED BY CONTRACTOR AND INSPECTOR BASED ON MATERIAL SUPPLIED TO PROJECT. FIELD STAKING SHALL BE SET ACCORDING TO BACK-OF-CURB.

BENCH MARK
MN/DOT 8282 AG
ELEV=943.87 (1988 datum)
01-ENG-113105-SHEET-325

PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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
Name Paul J. Cherne
Reg. No. 19860 Date 08-06-2014

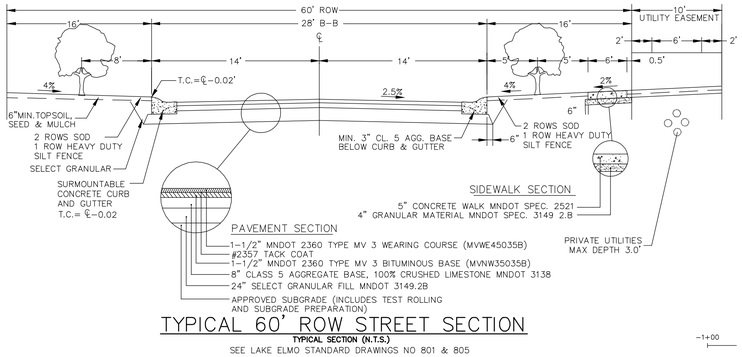
Revisions

Date	08-06-2014
Designed	PJC/KAW
Drawn	KAW/AJR

STORM SEWER CONSTRUCTION

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

HUNTERS CROSSING
LAKE ELMO, MINNESOTA

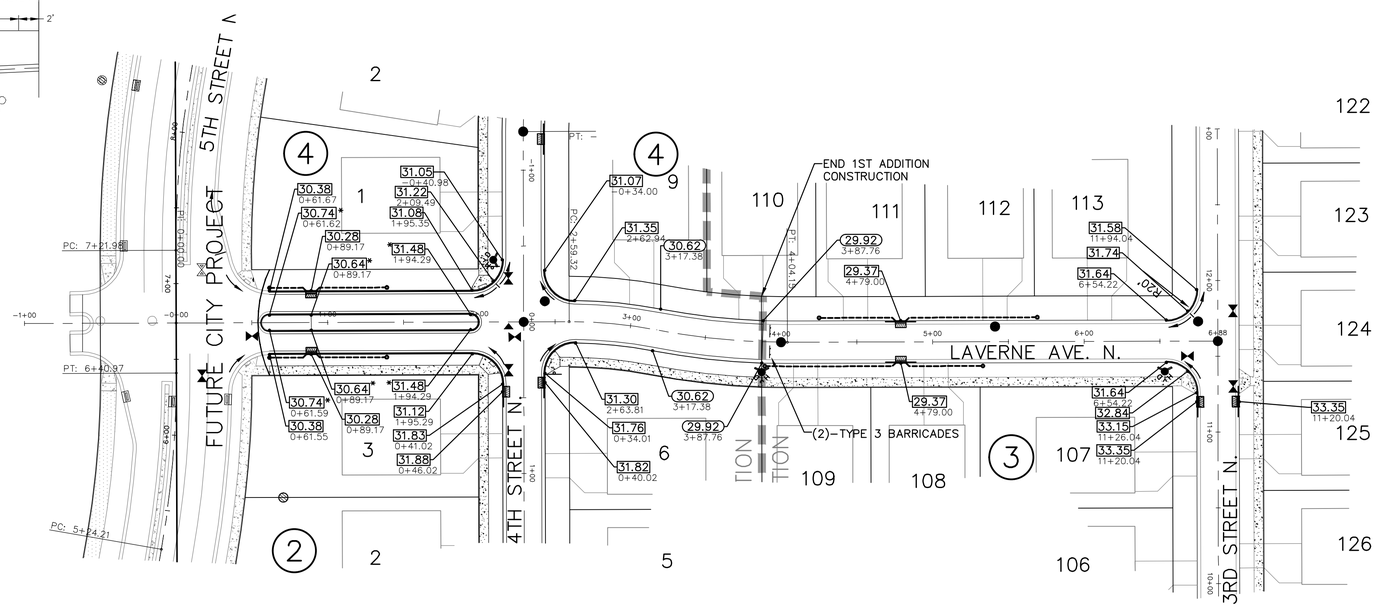


TYPICAL 60' ROW STREET SECTION

TYPICAL SECTION (N.T.S.)

SEE LAKE ELMO STANDARD DRAWINGS NO 801 & 805

CURVE TABLE						
CURVE	DELTA	LENGTH	RADIUS	TANGENT	PC	PT
C5	11°05'15"	58.05	300.00	29.12	2+59.32	3+17.38
C6	11°02'54"	86.77	450.00	43.52	3+17.38	4+04.15



CURB LEGEND

(08.15) = TOP OF CURB ELEVATION FOR SURMOUNTABLE

[08.32] = TOP OF CURB ELEVATION FOR B618 CURB (*=TIP OUT GUTTER)

07.82 = BITUMINOUS ELEVATION

= SURMOUNTABLE CURB & GUTTER

= B618 CURB & GUTTER

= BITUMINOUS EDGE

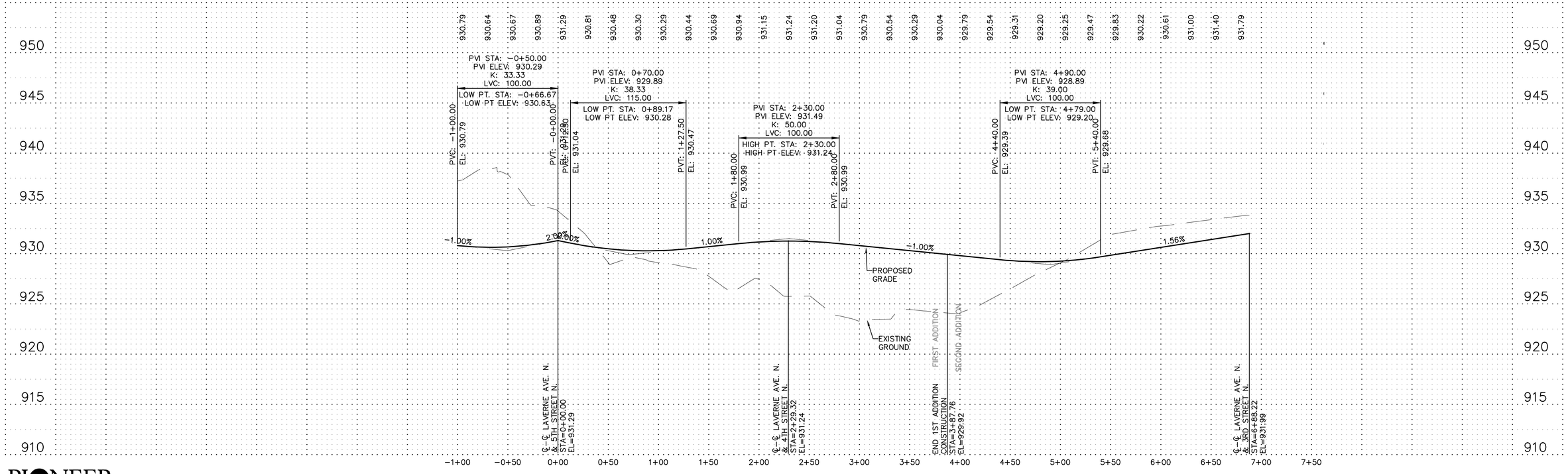
▶ = PED. RAMP

0 25 50 100

GRAPHIC SCALE IN FEET

BENCH MARK
MN/DOT 8282 AG
ELEV=943.87 (1988 datum)

LAVERNE AVE. N.



PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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

Name Paul J. Cherne
Reg. No. 19860 Date 08-06-2014

Revisions

Date	08-06-2014
Designed	PJC/KAW
Drawn	KAW/AJR

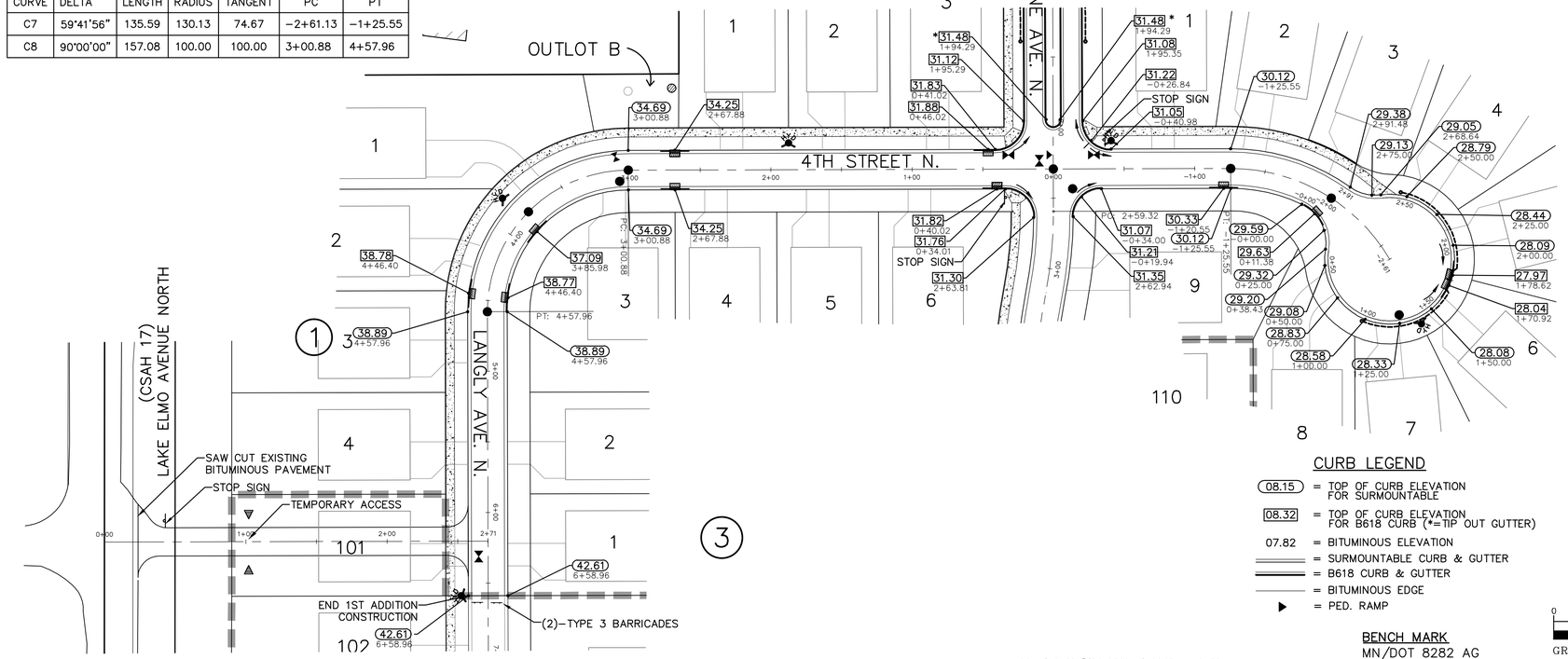
STREET CONSTRUCTION

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

HUNTERS CROSSING
LAKE ELMO, MINNESOTA

01-ENG-113105-SHEET-331

CURVE TABLE						
CURVE	DELTA	LENGTH	RADIUS	TANGENT	PC	PT
C7	59°41'56"	135.59	130.13	74.67	−2+61.13	−1+25.55
C8	90°00'00"	157.08	100.00	100.00	3+00.88	4+57.96



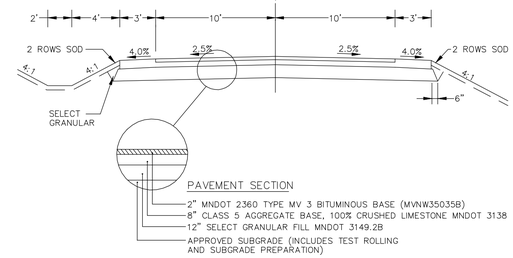
TEMPORARY ACCESS

CURB LEGEND

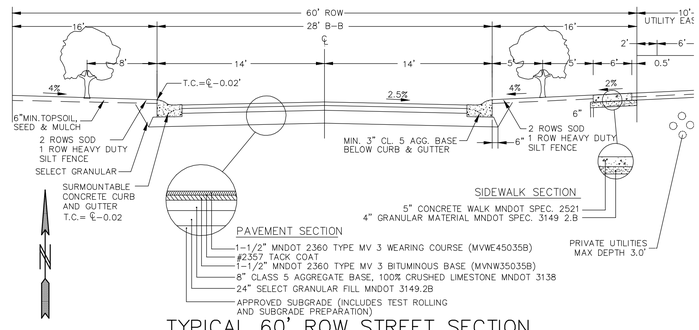
- 08.15 = TOP OF CURB ELEVATION FOR SURMOUNTABLE
- 08.32 = TOP OF CURB ELEVATION FOR B618 CURB (*=TIP OUT GUTTER)
- 07.82 = BITUMINOUS ELEVATION
- = SURMOUNTABLE CURB & GUTTER
- = B618 CURB & GUTTER
- = BITUMINOUS EDGE
- ▶ = PED. RAMP

BENCH MARK
MN/DOT 8282 AG
ELEV=943.87 (1988 datum)

0 25 50 100
GRAPHIC SCALE IN FEET



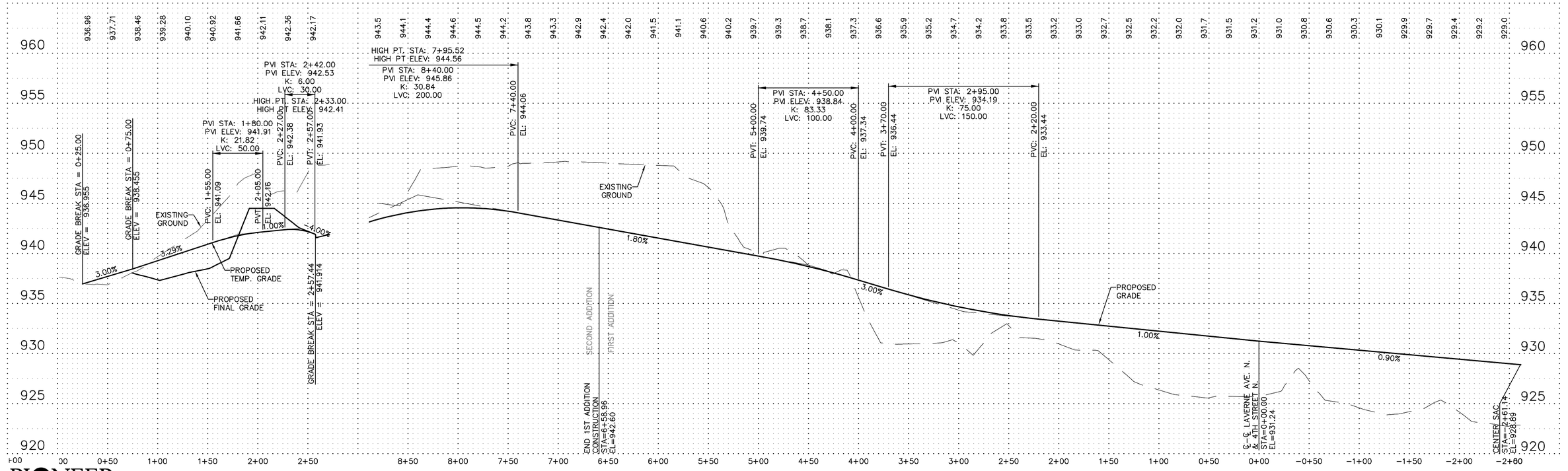
TEMPORARY ACCESS SECTION
TYPICAL SECTION (N.T.S.)



TYPICAL 60' ROW STREET SECTION
TYPICAL SECTION (N.T.S.)
SEE LAKE ELMO STANDARD DRAWINGS NO 801 & 805

LANGLY AVE. N.

4TH STREET N.



CURVE TABLE						
CURVE	DELTA	LENGTH	RADIUS	TANGENT	PC	PT
C9	90°00'00"	157.08	100.00	100.00	7+15.96	8+73.04
C10	45°00'02"	80.45	102.43	42.43	14+23.56	15+04.01

CURB LEGEND

(08.15) = TOP OF CURB ELEVATION FOR SURMOUNTABLE

[08.32] = TOP OF CURB ELEVATION FOR B618 CURB (*=TIP OUT GUTTER)

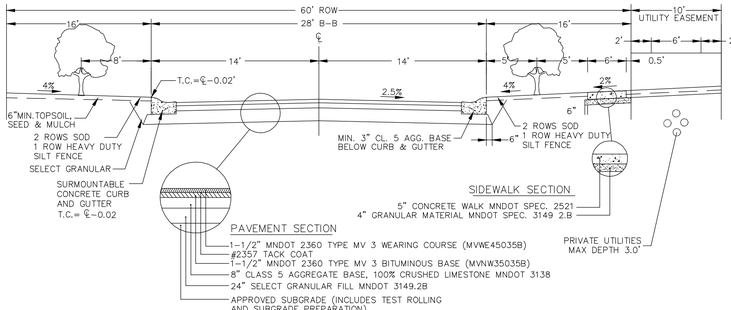
07.82 = BITUMINOUS ELEVATION

= SURMOUNTABLE CURB & GUTTER

= B618 CURB & GUTTER

= BITUMINOUS EDGE

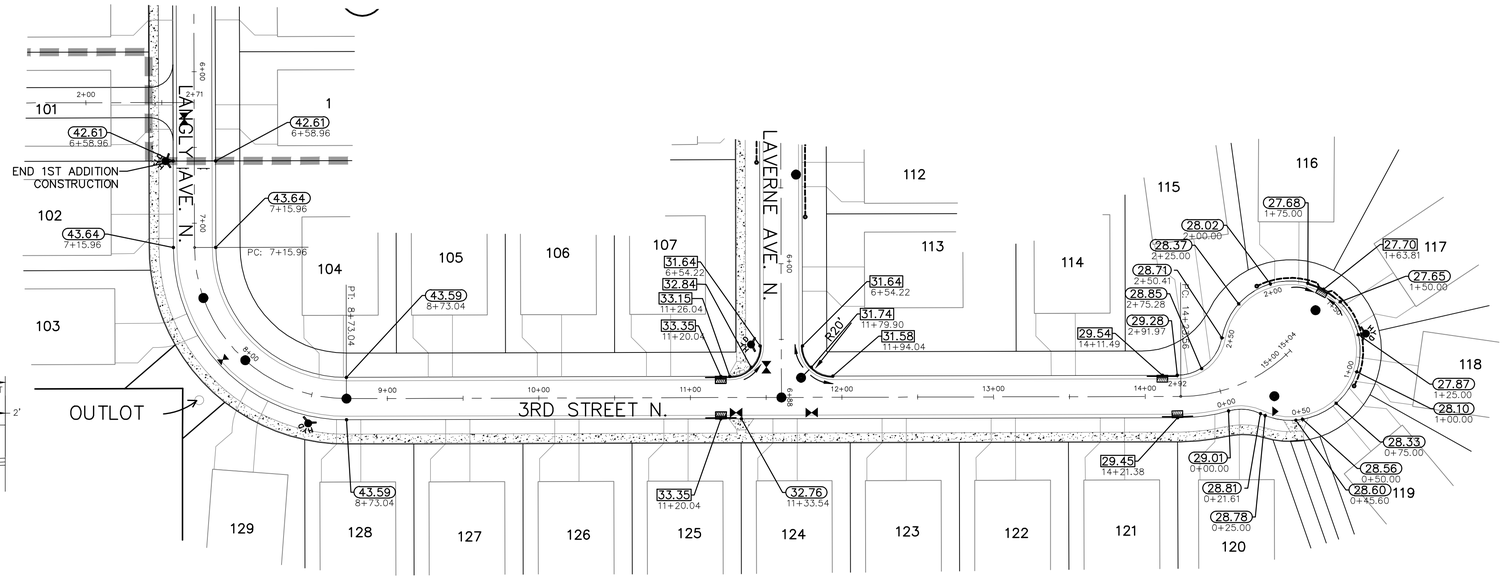
▶ = PED. RAMP

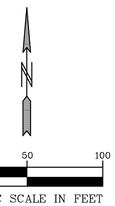


TYPICAL 60' ROW STREET SECTION

TYPICAL SECTION (N.T.S.)

SEE LAKE ELMO STANDARD DRAWINGS NO 801 & 805

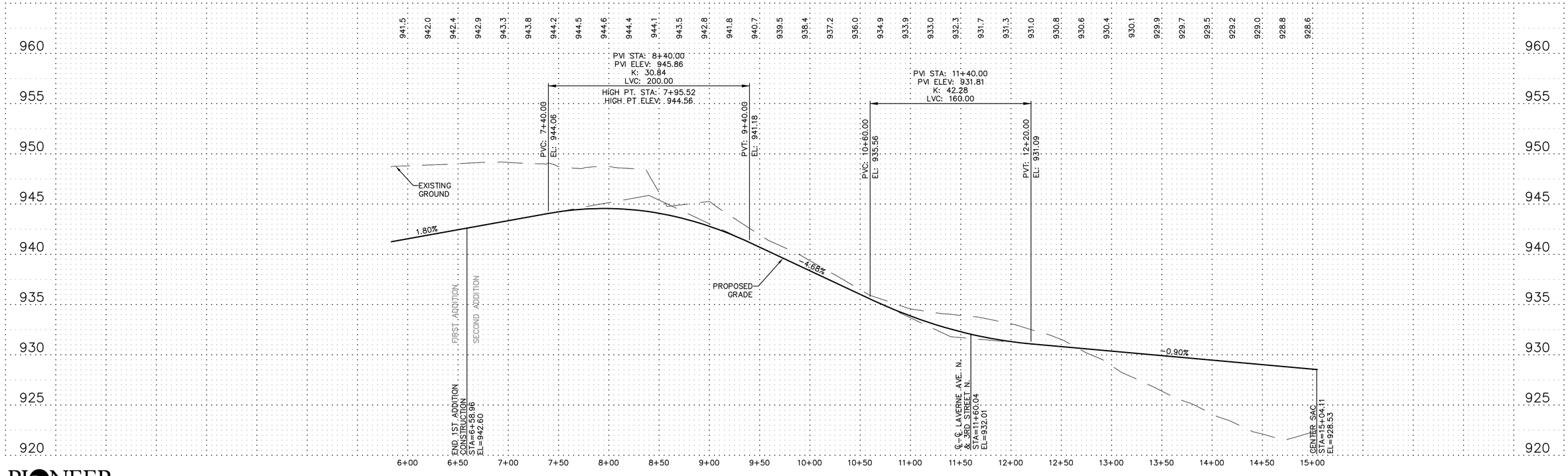




BENCH MARK
MN/DOT 8282 AG
ELEV=943.87 (1988 datum)

LANGLY AVE. N.

3RD STREET N.



PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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

Name Paul J. Cherne
Reg. No. 19860 Date 08-06-2014

Revisions

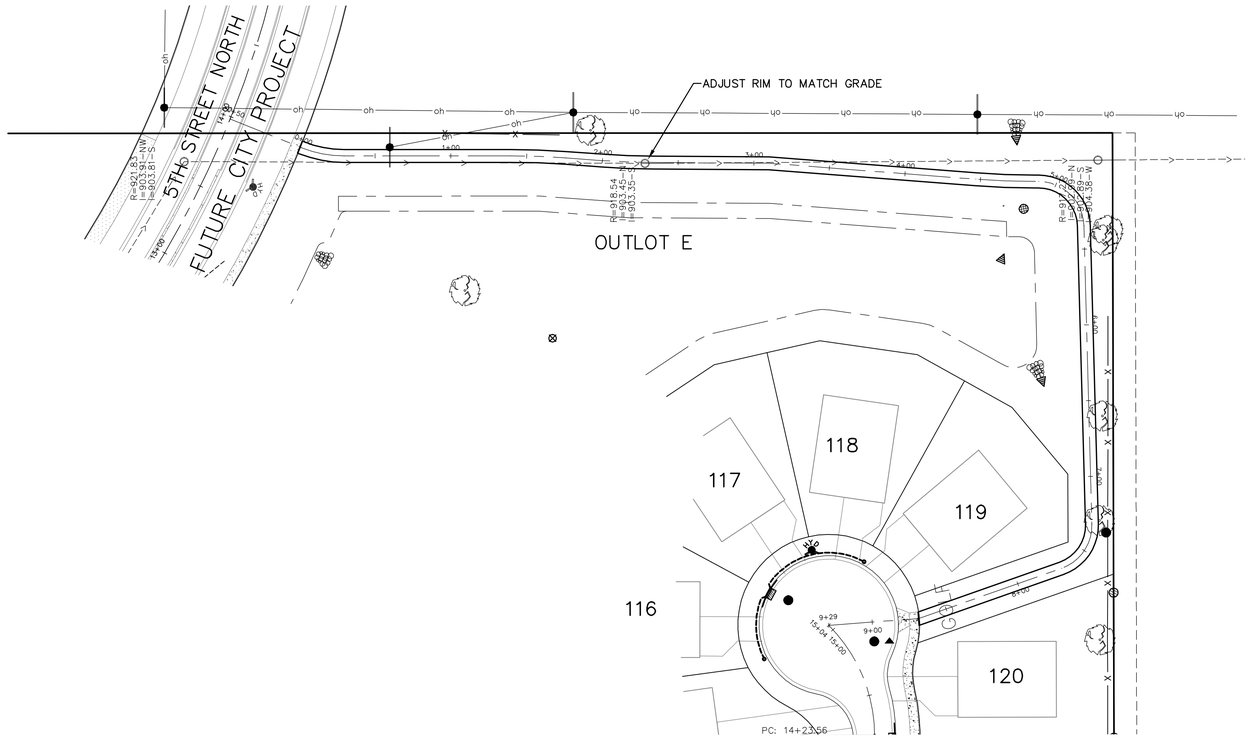
Date	08-06-2014
Designed	PJC/KAW
Drawn	KAW/AJR

STREET CONSTRUCTION

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

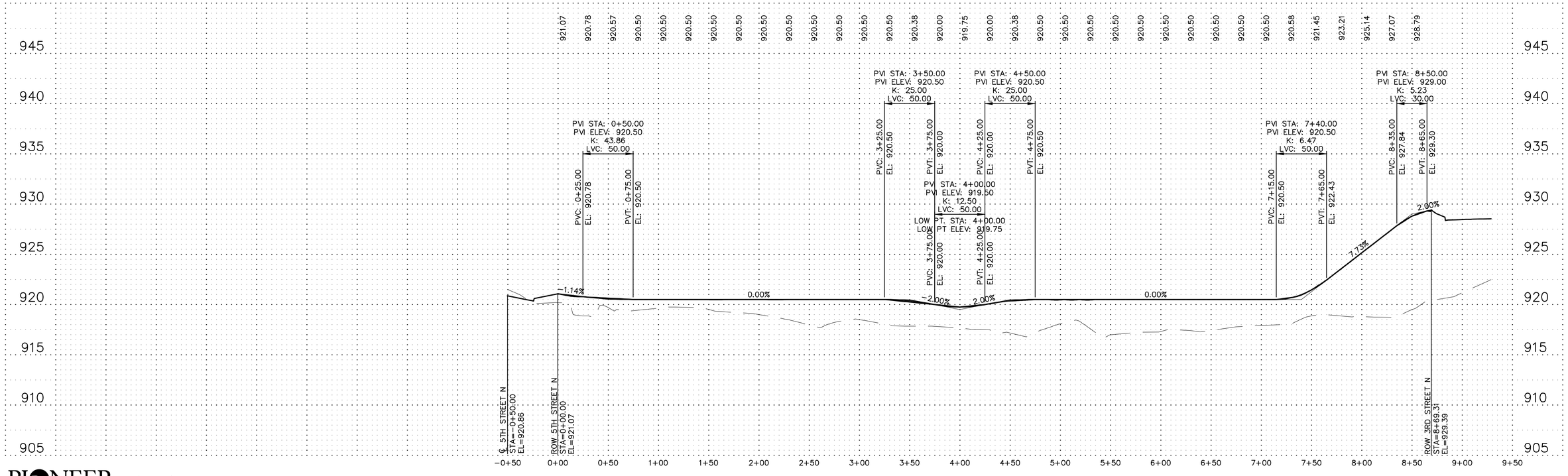
HUNTERS CROSSING
LAKE ELMO, MINNESOTA

01-ENG-113105-SHEET-333



BENCH MARK
MN/DOT 8282 AG
ELEV=943.87 (1988 datum)

BITUMINOUS TRAIL



PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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
Name Paul J. Cherne
Reg. No. 19860 Date 08-06-2014

Revisions

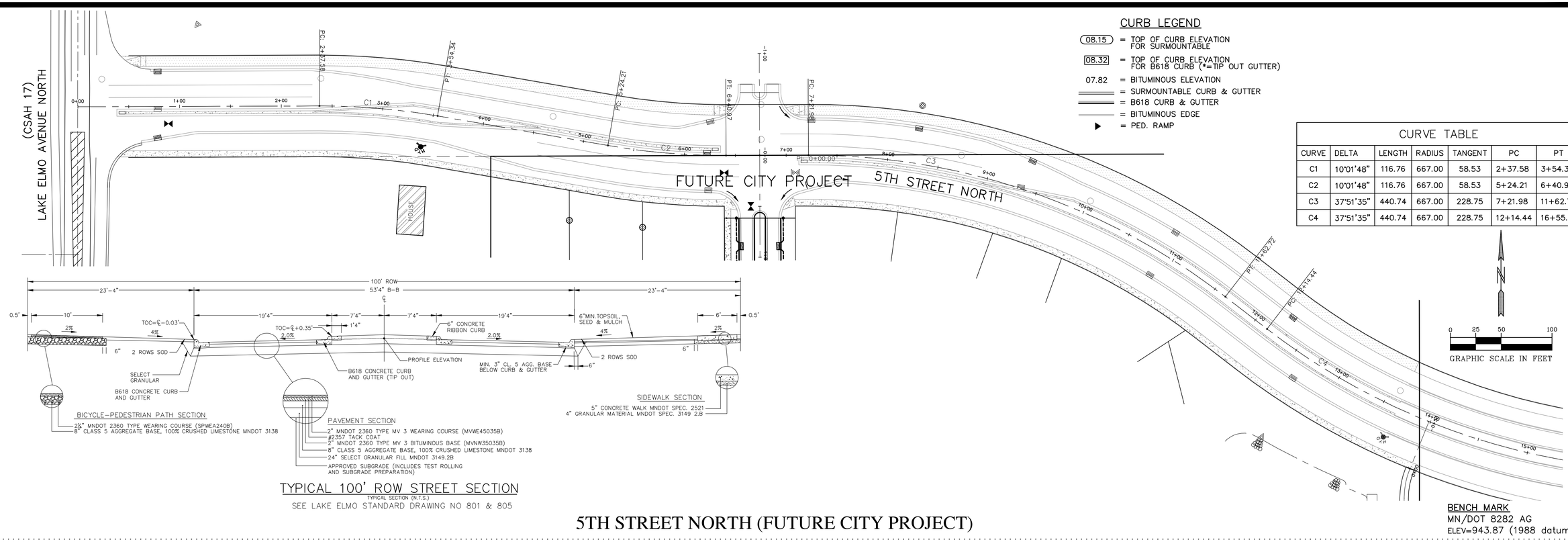
Date	08-06-2014
Designed	PJC/KAW
Drawn	KAW/AJR

BITUMINOUS TRAIL CONSTRUCTION (PHASE 2)

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

HUNTERS CROSSING
LAKE ELMO, MINNESOTA

01-ENG-113105-SHEET-334



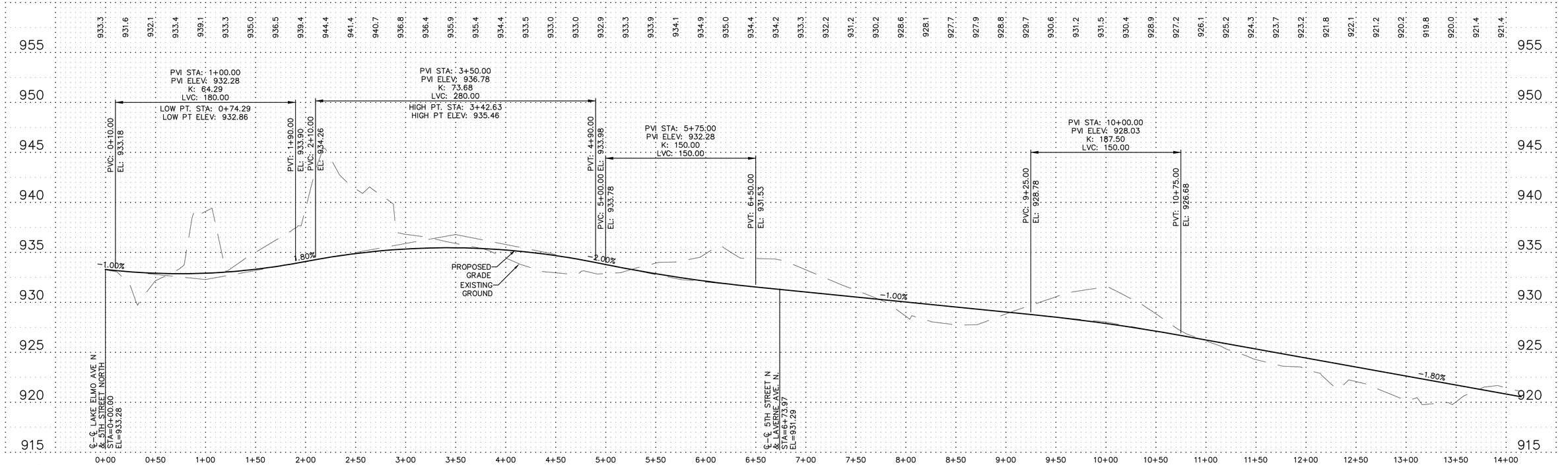
TYPICAL 100' ROW STREET SECTION

TYPICAL SECTION (N.T.S.)

SEE LAKE ELMO STANDARD DRAWING NO 801 & 805

5TH STREET NORTH (FUTURE CITY PROJECT)

BENCH MARK
MN/DOT 8282 AG
ELEV=943.87 (1988 datum)



NOT IN CONTRACT – FOR REFERENCE ONLY 01-ENG-113105-SHEET-335

PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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
Name Paul J. Cherne
Reg. No. 19860 Date 08-06-2014

Revisions

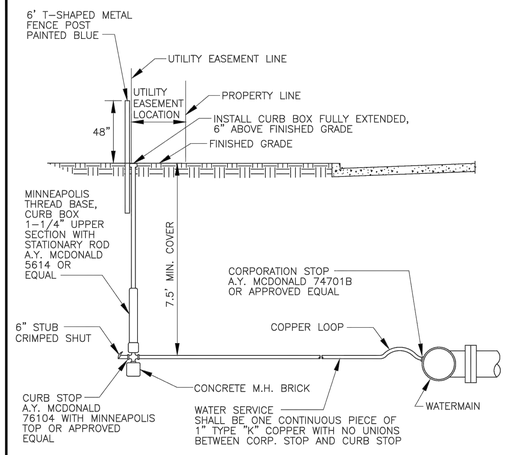
Date 08-06-2014
Designed PJC/KAW
Drawn KAW/AJR

STREET PLAN AND PROFILE

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

HUNTERS CROSSING
LAKE ELMO, MINNESOTA

16 OF 23



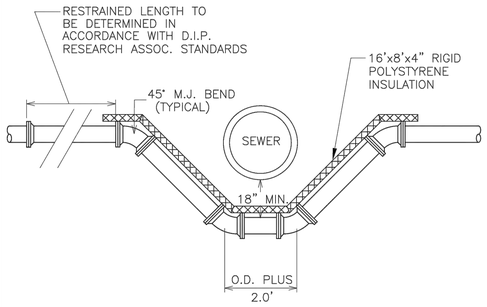
TYPICAL WATER SERVICE 1" TO 2 1/2" COPPER

NOTE:
SERVICE TAP TO BE MADE SLIGHTLY ABOVE SPRING LINE SO THAT COPPER LOOP SHALL NOT EXTEND ABOVE MAIN. MAINTAIN 7.5' MINIMUM COVER FOR ALL SERVICE LINES.

WATER SERVICE ON DIP MAIN

FEBRUARY 2013

CITY OF LAKE ELMO | STANDARD DRAWING NO. 207A | LAKE ELMO



NOTE: FITTINGS SHALL BE RESTRAINED WITH THE USE OF APPROVED MECHANICAL JOINT RESTRAINING GLANDS.

WATERMAIN OFFSET

FEBRUARY 2013

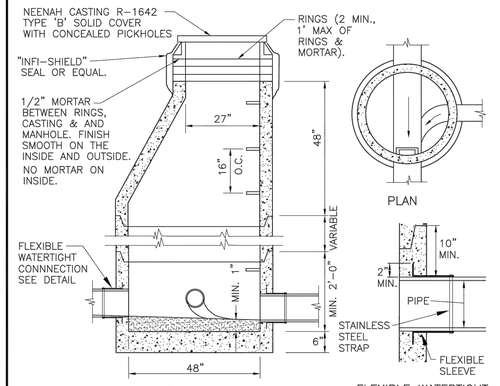
CITY OF LAKE ELMO | STANDARD DRAWING NO. 210 | LAKE ELMO

1. ALL SANITARY SEWER AND ACCESSORIES MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF LAKE ELMO STANDARD SPECIFICATIONS AND DETAILS.
2. ALL SANITARY SEWER PVC PIPE SHALL BE INSTALLED ACCORDING TO CITY STANDARD DRAWING 103 "GRANULAR MATERIAL BEDDING METHOD (FOR PVC SANITARY SEWER PIPE).
3. UNLESS NOTED OTHERWISE, ALL SMOOTH WALLED SANITARY SEWER PVC PIPE AND FITTINGS SHALL BE SDR 35 WITH ELASTOMERIC GASKETED JOINTS.
4. ALL SANITARY SEWER SERVICES SHALL BE 4-INCH PVC, SCH. 40 OR SDR 26 PIPE.
5. SMOOTH WALLED PVC PIPE AND FITTINGS SHALL CONFORM WITH THE REQUIREMENTS OF ASTM D-3034 FOR THE SIZE, STANDARD DIMENSION RATIO (SDR), AND STRENGTH REQUIREMENTS INDICATED ON THE PLANS, SPECIFICATIONS, AND SPECIAL PROVISIONS.
6. REINFORCED CONCRETE PIPE AND FITTINGS SHALL CONFORM WITH THE REQUIREMENTS OF MnDOT SPEC 3236 (REINFORCED CONCRETE PIPE) FOR THE TYPE, SIZE, AND STRENGTH CLASS SPECIFIED HEREIN.
7. JOINTS OF MANHOLE RISER SECTIONS SHALL BE TONGUE AND GROOVE WITH RUBBER "O" RING JOINTS PROVIDED ON ALL SANITARY SEWER MANHOLES.
8. SANITARY SEWER INLET AND OUTLET PIPES SHALL BE JOINED TO THE MANHOLE WITH A GASKETED, FLEXIBLE, WATERTIGHT CONNECTION TO ALLOW DIFFERENTIAL SETTLEMENT OF THE PIPE AND MANHOLE TO TAKE PLACE.
9. A 1'-0" TO 1'-4" MANHOLE SECTION SHALL BE INSTALLED UNDER THE CONE SECTION TO ALLOW FOR HEIGHT ADJUSTMENT WHENEVER POSSIBLE.
10. ALL SERVICE LINE STUBS MUST HAVE A 2"x2" HARDWOOD MARKER WITH METAL SPIKE RUNNING FROM THE END OF PIPE TO FINISHED GRADE ELEVATION.
11. UPON MAKING A CONNECTION TO AN EXISTING SANITARY SEWER STUB OR MANHOLE, DIRT AND DEBRIS SHALL BE PREVENTED FROM ENTERING THE EXISTING SEWER BY IMMEDIATELY INSTALLING WATERTIGHT PLUGS AS NEEDED IN THE EXISTING MANHOLE.

STANDARD PLAN NOTES
SANITARY SEWER PLANS

FEBRUARY 2013

CITY OF LAKE ELMO | STANDARD DRAWING NO. 300A | LAKE ELMO



NO WOOD SHALL BE USED FOR ADJUSTING CASTING; CEMENT MORTAR ONLY.

CAST IRON MANHOLE FRAME & COVER AS PER SPECIFICATIONS.

MANHOLE STEPS SHALL BE CAST IRON, ALUMINUM OR STEEL REINFORCED PLASTIC, PER ASTM C478. STEP LOCATION SHALL BE AS NOTED IN THE SPECIFICATIONS.

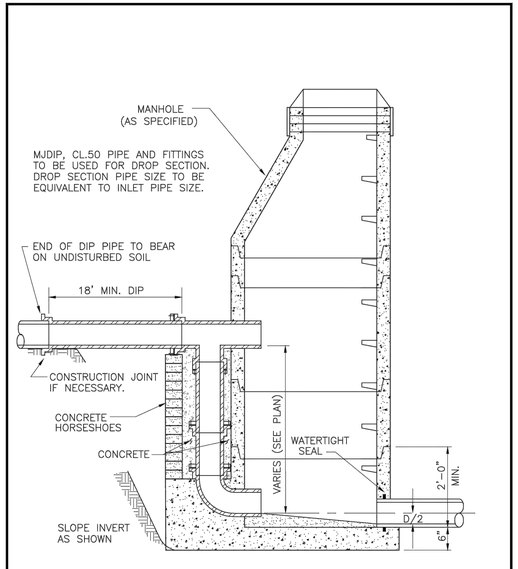
PRECAST REINFORCED CONCRETE MANHOLE SECTIONS PER ASTM C478, FURNISHED WITH O-RING GASKETS AND LUBRICANT EXCEPT AS OTHERWISE SPECIFIED. A 12" OR 16" BARREL SECTION SHALL BE INSTALLED UNDER THE CONE WHENEVER POSSIBLE.

PIPE CONNECTIONS TO MANHOLE SHALL BE MADE WATER TIGHT BY CAST INPLACE RUBBER BOOT AND CEMENT MORTAR. INSIDE SURFACE SHALL BE FINISHED SMOOTH.

SANITARY SEWER MANHOLE, TYPE 301
(PIPES 27" OR LESS)

FEBRUARY 2013

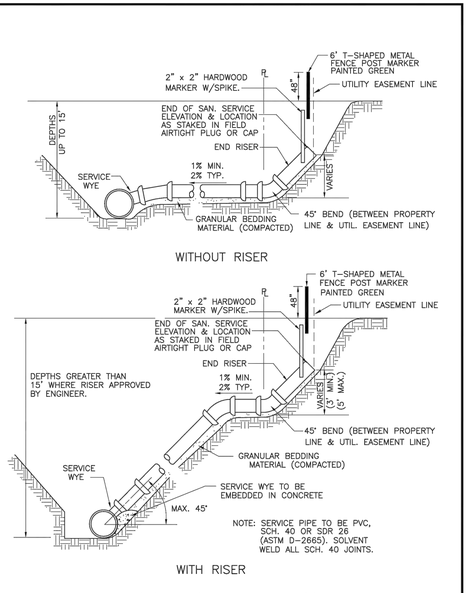
CITY OF LAKE ELMO | STANDARD DRAWING NO. 301 | LAKE ELMO



SANITARY SEWER OUTSIDE DROP

FEBRUARY 2013

CITY OF LAKE ELMO | STANDARD DRAWING NO. 306 | LAKE ELMO



SANITARY SEWER SERVICE

FEBRUARY 2013

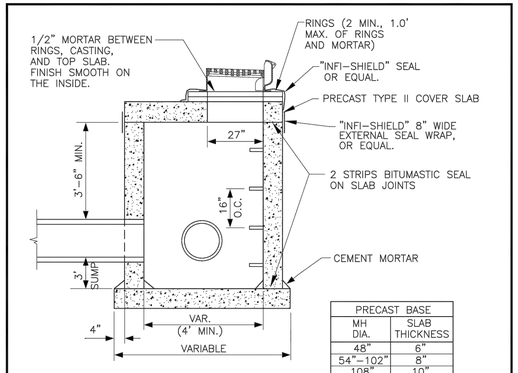
CITY OF LAKE ELMO | STANDARD DRAWING NO. 313 | LAKE ELMO

1. ALL STORM SEWER AND ACCESSORIES MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF LAKE ELMO STANDARD SPECIFICATIONS AND DETAILS.
2. REINFORCED CONCRETE PIPE AND FITTINGS SHALL CONFORM WITH THE REQUIREMENTS OF MnDOT SPEC 3236 (REINFORCED CONCRETE PIPE) FOR THE TYPE, SIZE, AND STRENGTH CLASS SPECIFIED HEREIN.
3. PRECAST CONCRETE MANHOLE AND CATCH BASIN SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-477.
4. A 1'-0" TO 1'-4" MANHOLE SECTION SHALL BE INSTALLED UNDER THE CONE SECTION TO ALLOW FOR HEIGHT ADJUSTMENT WHENEVER POSSIBLE.
5. JOINTS OF MANHOLE RISER SECTIONS SHALL BE TONGUE AND GROOVE WITH RUBBER "O" RING JOINTS PROVIDED ON ALL STORM SEWER MANHOLES.
6. RIP-RAP SHALL BE HAND-PLACED OVER GEOTEXTILE FABRIC AND CONFORM TO MnDOT SPEC. 3601, CLASS III, OR AS SPECIFIED HEREIN.
7. THE GEOTEXTILE FABRIC USED UNDER RIP-RAP SHALL EXTEND 3 FT UNDER THE APRON.
8. FURNISH & INSTALL TRASH GUARDS ON ALL FLARED END SECTIONS.
9. ALL SILT SHALL BE CLEANED OUT FROM THE RIP-RAP AT THE END OF THE PROJECT.

STANDARD PLAN NOTES
STORM SEWER PLANS

FEBRUARY 2013

CITY OF LAKE ELMO | STANDARD DRAWING NO. 400A | LAKE ELMO



PRECAST BASE	
MH DIA.	SLAB THICKNESS
48"	6"
54"-102"	8"
108"	10"
120"	12"

NOTES: NO WOOD SHALL BE USED FOR ADJUSTING CASTING; CEMENT MORTAR ONLY.

CAST IRON FRAME & GRATE CASTINGS PER SPECIFICATIONS.

MANHOLE STEPS SHALL BE CAST IRON, ALUMINUM, OR STEEL REINFORCED PLASTIC PER ASTM C478. LOCATION SHALL BE AS NOTED IN THE SPECIFICATIONS.

PRECAST REINFORCED CONCRETE BASE SLAB & COVER SLAB PER ASTM C478.

PRECAST REINFORCED CONCRETE MANHOLE SECTIONS PER ASTM C478, FURNISHED WITH O-RING GASKETS & LUBRICANT, OR 8" CONCRETE MANHOLE BLOCK MANHOLE SECTION WITH 1/2" MORTARED EXTERIOR

FILL OPENING BETWEEN PIPE AND MANHOLE WALL WITH CEMENT MORTAR. INSIDE SURFACE SHALL BE FINISHED SMOOTH.

CATCH BASIN/MANHOLE WITH SUMP, TYPE 405

FEBRUARY 2013

CITY OF LAKE ELMO | STANDARD DRAWING NO. 405 | LAKE ELMO

PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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

Name Paul J. Cherne
Reg. No. 19860 Date 08-06-2014

Revisions

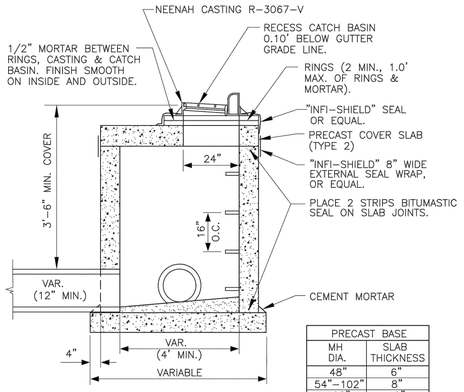
Date	08-06-2014
Designed	PJC/KAW
Drawn	KAW/AJR

CITY DETAILS

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

HUNTERS CROSSING
LAKE ELMO, MINNESOTA

01-ENG-113105-SHEET-DTLS



PRECAST BASE	
MH DIA.	SLAB THICKNESS
48"	6"
54"-102"	8"
108"	10"
120"	12"

NO WOOD SHALL BE USED FOR ADJUSTING CASTING; CEMENT MORTAR ONLY.

CAST IRON FRAME & GRATE CASTINGS PER SPECIFICATIONS.

MANHOLE STEPS SHALL BE CAST IRON, ALUMINUM OR STEEL REINFORCED PLASTIC PER ASTM C478. LOCATION SHALL BE AS NOTED IN THE SPECIFICATIONS.

PRECAST REINFORCED CONCRETE BASE SLAB & COVER SLAB PER ASTM C478,

PRECAST REINFORCED CONCRETE MANHOLE SECTIONS PER ASTM C478, OR 8" CONCRETE MANHOLE BLOCK WITH 1/2" MORTARED EXTERIOR.

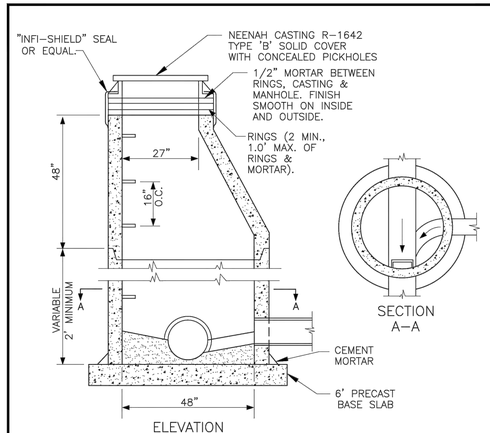
FURNISH PRECAST CONCRETE MANHOLE SECTIONS WITH O-RING GASKETS & LUBRICANT EXCEPT AS OTHERWISE SPECIFIED.

FILL OPENING BETWEEN PIPE AND MANHOLE WALL WITH CEMENT MORTAR. INSIDE SURFACE SHALL BE FINISHED SMOOTH.

CATCH BASIN/MANHOLE, TYPE 406

FEBRUARY 2013

CITY OF LAKE ELMO | STANDARD DRAWING NO. 406 LAKE ELMO



ELEVATION

NO WOOD SHALL BE USED FOR ADJUSTING CASTING; CEMENT MORTAR ONLY.

CAST IRON MANHOLE FRAME & COVER AS PER SPECIFICATIONS.

MANHOLE STEPS SHALL BE CAST IRON, ALUMINUM OR STEEL REINFORCED PLASTIC PER ASTM C478. LOCATION SHALL BE AS NOTED IN THE SPECIFICATIONS.

PRECAST REINFORCED CONCRETE MANHOLE SECTIONS & BASE SLAB PER ASTM C478.

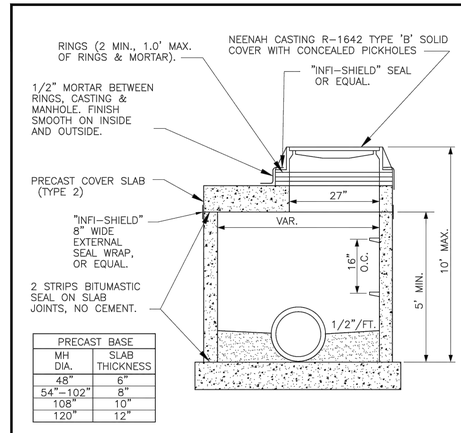
FURNISH PRECAST MANHOLE SECTIONS WITH O-RING GASKETS & LUBRICANT EXCEPT AS OTHERWISE SPECIFIED.
A 12" OR 16" BARREL SECTION SHALL BE INSTALLED UNDER THE CONE WHENEVER POSSIBLE.

FILL OPENING BETWEEN PIPE & MH WALL WITH CEMENT MORTAR. INSIDE SURFACE SHALL BE FINISHED SMOOTH.

STORM SEWER MANHOLE, TYPE 407
(PIPES 27" OR LESS)

FEBRUARY 2013

CITY OF LAKE ELMO | STANDARD DRAWING NO. 407 LAKE ELMO



PRECAST BASE	
MH DIA.	SLAB THICKNESS
48"	6"
54"-102"	8"
108"	10"
120"	12"

NO WOOD SHALL BE USED FOR ADJUSTING CASTING; CEMENT MORTAR ONLY.

CAST IRON MANHOLE FRAME & COVER AS PER SPECIFICATIONS.

MANHOLE STEPS SHALL BE CAST IRON, ALUMINUM OR STEEL REINFORCED PLASTIC PER ASTM C478. LOCATION SHALL BE AS NOTED IN THE SPECIFICATIONS.

PRECAST REINFORCED CONCRETE MANHOLE SECTIONS & BASE SLAB PER ASTM C478.

FURNISH PRECAST MANHOLE SECTIONS WITH O-RING GASKETS & LUBRICANT EXCEPT AS OTHERWISE SPECIFIED.

FILL OPENING BETWEEN PIPE & MH WALL WITH CEMENT MORTAR. INSIDE SURFACE SHALL BE FINISHED SMOOTH.

STORM SEWER MANHOLE, TYPE 409

FEBRUARY 2013

CITY OF LAKE ELMO | STANDARD DRAWING NO. 409 LAKE ELMO

TABLE OF QUANTITIES
RIPRAP AT RCP OUTLETS

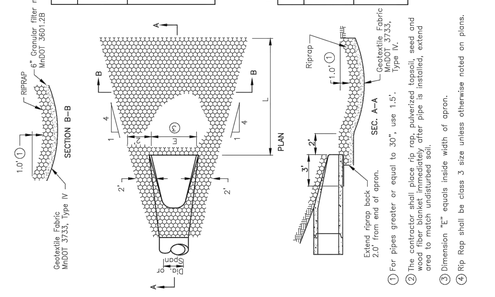
		CLASS II d_{50}=6"	CLASS III d_{50}=9"	CLASS IV d_{50}=12"
Dia. Round Pipe (Ft.)	L	12" Depth Riprap (Cu.Yd.)	18" Depth Riprap (Cu.Yd.)	24" Depth Riprap (Cu.Yd.)	12" Depth Granular Filter (Cu.Yd.)
12	8	2.8	4.4	6.5	2.8
15	10	2.9	4.6	6.8	3.0
18	12	3.0	4.8	7.1	3.2
24	14	3.2	5.1	7.6	3.5
30	16	3.4	5.4	8.0	3.7
36	18	3.5	5.6	8.3	3.9
48	20	3.7	5.9	8.7	4.1

		CLASS II d_{50}=6"	CLASS III d_{50}=9"	CLASS IV d_{50}=12"
Span Pipe Arch (Ft.)	L	8" Depth Riprap (Cu.Yd.)	15" Depth Riprap (Cu.Yd.)	24" Depth Riprap (Cu.Yd.)	9" Depth GRANULAR Filter (Cu.Yd.)
18	12	3.9	5.9	8.7	4.1
22	14	4.1	6.2	9.2	4.3
25	16	4.2	6.4	9.5	4.5
29	18	4.4	6.7	9.9	4.6
36	20	4.6	7.0	10.4	4.8

TABLE OF QUANTITIES
RIPRAP AT RCP-A OUTLETS or BOXES OF EQUIVALENT SPAN WIDTH

		Class II d_{50}=6"	Class III d_{50}=9"	Class IV d_{50}=12"
Span Pipe Arch (Ft.)	L	8" Depth GRANULAR Filter (Cu.Yd.)	15" Depth Riprap (Cu.Yd.)	4.5" Depth GRANULAR Filter (Cu.Yd.)	18" Depth Riprap (Cu.Yd.)	9" Depth GRANULAR Filter (Cu.Yd.)
18	12	2.8	5.9	4.1	10.8	5.9
22	14	3.6	6.4	5.4	11.8	7.2
25	16	4.2	6.9	6.2	12.7	8.2
29	18	4.8	7.5	7.0	13.7	9.5
36	20	5.5	8.2	8.1	15.1	10.9
42	22	6.4	19.0	9.5	23.4	12.7

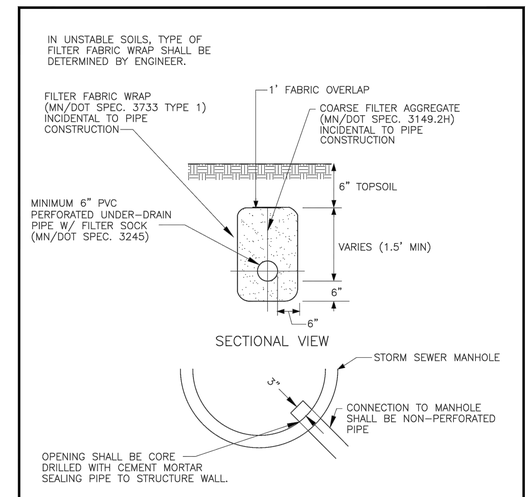
Note: Requirements for riprap and filter blanket will be designated in the plans.



RIPRAP AT RCP OUTLETS

FEBRUARY 2013

CITY OF LAKE ELMO | STANDARD DRAWING NO. 411 LAKE ELMO

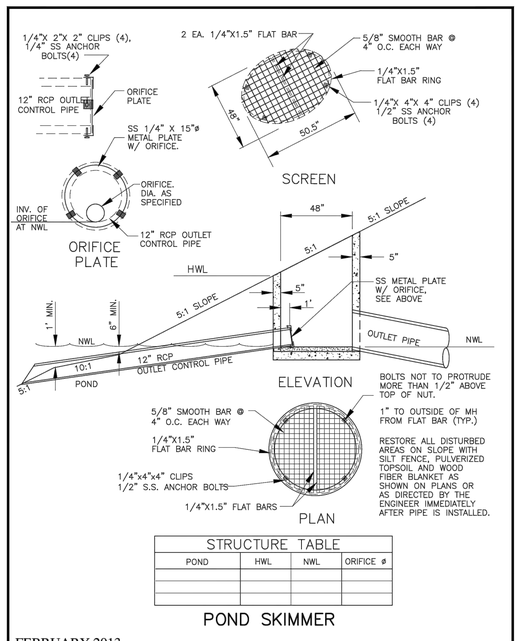


PLAN VIEW
AT CONNECTION TO
STORM SEWER STRUCTURE

DRAIN TILE
USED BY DIRECTION OF CITY ENGINEER ONLY

FEBRUARY 2013

CITY OF LAKE ELMO | STANDARD DRAWING NO. 412 LAKE ELMO

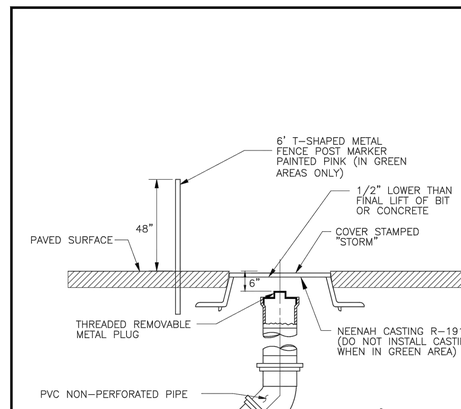


STRUCTURE TABLE			
POND	HWL	NWL	ORIFICE ø

POND SKIMMER

FEBRUARY 2013

CITY OF LAKE ELMO | STANDARD DRAWING NO. 417 LAKE ELMO

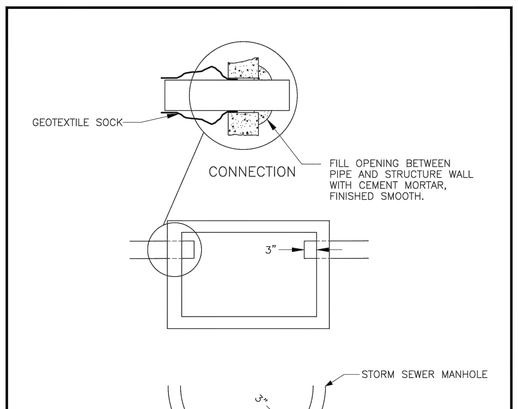


NOTE:
INSTALL CLEANOUTS AT A PROPERTY LINE WHENEVER POSSIBLE.

DRAINTILE CLEANOUT
(CASTING USED FOR CURB STOPS IN HARD SURFACES)

FEBRUARY 2013

CITY OF LAKE ELMO | STANDARD DRAWING NO. 419 LAKE ELMO



DRAIN TILE CONNECTIONS

FEBRUARY 2013

CITY OF LAKE ELMO | STANDARD DRAWING NO. 420 LAKE ELMO

PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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. Name: Paul J. Cherne. Reg. No. 19860. Date 08-06-2014.

Revisions

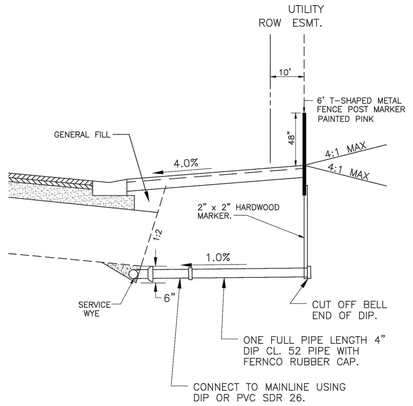
Date	08-06-2014
Designed	PJC/KAW
Drawn	KAW/AJR

CITY DETAILS

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

HUNTERS CROSSING
LAKE ELMO, MINNESOTA

01-ENG-113105-SHEET-DTLS



NOTE:
JOINTS BETWEEN DIP PIPES MUST BE GASKETED.
IF PVC PIPE IS USED TO CONNECT TO THE MAINLINE DRAINTILE, CONNECT TO DIP PIPE WITH A "FERNCO" FLEXIBLE COUPLING.

EDGE DRAIN SERVICE (AS DIRECTED BY ENGINEER)

FEBRUARY 2013

CITY OF LAKE ELMO

STANDARD DRAWING NO. 421 LAKE ELMO

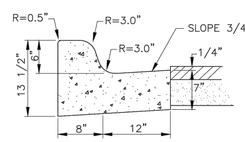
1. BITUMINOUS TRAILS AND SIDEWALKS MUST BE CONSTRUCTED TO MAINTAIN POSITIVE DRAINAGE AWAY FROM THE PATHWAYS THROUGHOUT THE ENTIRE LENGTH.
2. TOPSOIL AND BACKFILLING OPERATIONS MUST BE COMPLETED TO AVOID DAMAGE TO THE BITUMINOUS TRAILS AND SIDEWALKS. FINAL GRADE OF BACKFILL AND TOPSOIL MUST BE FLUSH WITH THE PATH EDGE TO AVOID TRAPPING WATER.
3. DIVIDE SIDEWALK INTO SECTIONS WITH CONTRACTION JOINTS. SPACING SHALL NOT BE LESS THAN 3 FT NOR GREATER THAN 12 FT IN ANY DIMENSION. PLACE ½ INCH EXPANSION JOINT FILLER AT 50 FT (MAXIMUM) INTERVALS.
4. CONCRETE PEDESTRIAN RAMPS MUST BE CONSTRUCTED AT ALL INTERSECTIONS.

STANDARD PLAN NOTES
SIDEWALKS AND TRAILS

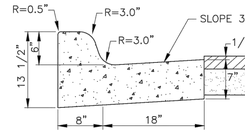
FEBRUARY 2013

CITY OF LAKE ELMO

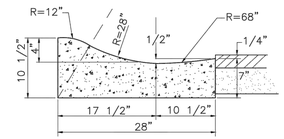
STANDARD DRAWING NO. 500A LAKE ELMO



MnDOT B612
CONCRETE CURB AND GUTTER



MnDOT B618
CONCRETE CURB AND GUTTER



SURMOUNTABLE
CONCRETE CURB AND GUTTER

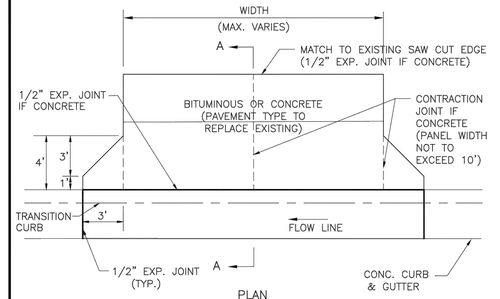
NOTE:
CONSTRUCT B618 CURB & GUTTER AT INTERSECTION RADII FROM P.C. TO P.T. PROVIDE 10-FOOT TRANSITION FROM SURMOUNTABLE CURB & GUTTER TO B618 CURB & GUTTER AT INTERSECTIONS AND CATCH BASINS.

CONCRETE CURB & GUTTER

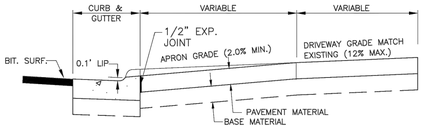
FEBRUARY 2013

CITY OF LAKE ELMO

STANDARD DRAWING NO. 501 LAKE ELMO



PLAN



SECTION A–A

DRIVEWAY TYPE	SURFACE THICKNESS	BASE THICKNESS
BITUMINOUS	3 INCHES	6 INCHES
CONCRETE	6 INCHES	4 INCHES

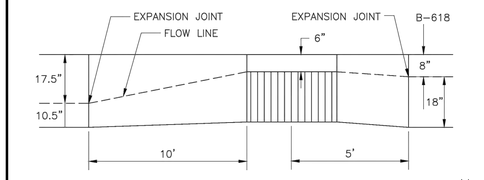
NOTES :
1. BITUMINOUS SHALL BE MnDOT 2360 TYPE SP, GRADATION MIXTURE NO. A WEARING COURSE.
2. AGGREGATE BASE SHALL BE MnDOT 3138 CL. 5, 100% CRUSHED STONE.

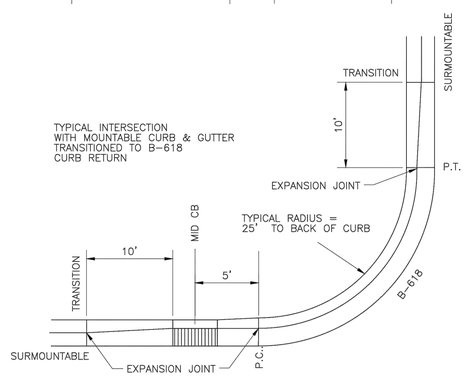
RESIDENTIAL DRIVEWAY

FEBRUARY 2013

CITY OF LAKE ELMO

STANDARD DRAWING NO. 504 LAKE ELMO



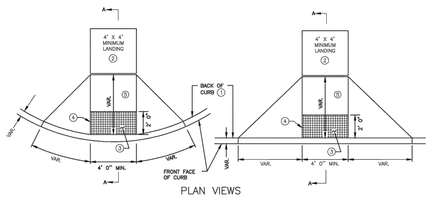


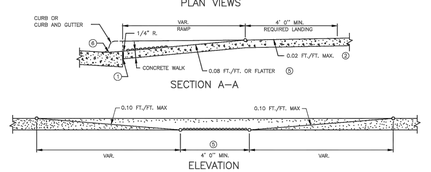
CATCH BASIN PLACEMENT AND CURB & GUTTER TRANSITION AT INTERSECTIONS

FEBRUARY 2013

CITY OF LAKE ELMO

STANDARD DRAWING NO. 506 LAKE ELMO





NOTES:

TO COMPLY WITH THE AMERICANS WITH DISABILITIES ACT (ADA), ALL STATE AGENCIES ARE REQUIRED TO UTILIZE THIS STANDARD PLATE. MODIFICATIONS ARE ALLOWED PROVIDED THEY MEET PUBLIC RIGHTS-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG). LOCAL AGENCIES ARE REQUIRED TO ADOPT SIMILAR DESIGNS.

SHARED-USE PATHS SHALL HAVE DETECTABLE WARNINGS ACROSS THE ENTIRE WIDTH OF PATH WHEN THE PATH CROSSES A ROAD. DETECTABLE WARNINGS ARE NOT TO BE USED ON SIDEWALKS OR PATHS WHEN CROSSING ALLEYS OR RESIDENTIAL DRIVEWAYS. DETECTABLE WARNINGS SHOULD BE USED WHERE PEDESTRIAN ACCESS ROUTES CROSS COMMERCIAL DRIVEWAYS THAT ARE PROVIDED WITH TRAFFIC CONTROL DEVICES OR OTHERWISE PERMITTED TO OPERATE LIKE A PUBLIC ROADWAY.

SLOPES ARE DEFINED AS ABSOLUTE ELEVATION DIFFERENCE PER LENGTH OF RUN. (AS OPPOSED TO A RELATIVE SLOPE WITH RESPECT TO A CURB LINE OR CURB HEIGHT.)

NO SIGNAL POLES, SIGN POSTS, CABINETS, OR OTHER OBSTRUCTIONS ARE ALLOWED IN THE RAMP OR PATH OF TRAVEL.

1/2-INCH EXPANSION JOINT. 1/2-INCH PREFORMED JOINT FILLER MATERIAL, AASHTO M 213.

PROVIDE A 4' X 4' MINIMUM LANDING. SEE PLANS FOR PROPOSED RUNNING SLOPE AND CROSS SLOPE, NEITHER OF WHICH MAY EXCEED 0.02 FT./FT. AS CONSTRUCTED.

PLACE THE DETECTABLE WARNING AT THE BACK OF CURB. WHEN THE DETECTABLE WARNING SYSTEM IS A PREFORMED RECTANGLE PLACED AT THE BACK OF A RADIAL CURB LINE, HAND FORM THE CURB TO FILL THE GAP. DETECTABLE WARNING AREA SHALL BE 2' 0" MIN. IN THE DIRECTION PERPENDICULAR TO THE GRADE BREAK AND SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP.

WHERE RADIAL WARNING SURFACES ARE USED OR IN OTHER CIRCUMSTANCES WHERE THE EDGE OF THE WARNING SURFACE IS NOT PARALLEL TO THE EDGE OF THE CURB RAMP PATH OF TRAVEL, THE EDGE OF THE DETECTABLE WARNING SURFACE SHOULD NEVER BE MORE THAN 3 INCHES FROM THE EDGE OF THE RAMP. DETECTABLE WARNING AREA SHALL CONTRAST VISUALLY WITH THE ADJACENT GUTTER, ROADWAY, OR WALKWAY, EITHER LIGHT ON DARK OR DARK ON LIGHT. CONTRAST MAY BE PROVIDED ON THE FULL RAMP SURFACE, EXCLUDING THE FLARED SIDES.

CROSS SLOPE OF THE RAMP MAY NOT EXCEED 0.02 FT./FT. AS CONSTRUCTED.

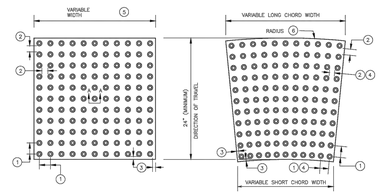
ANY VERTICAL LIP THAT OCCURS AT THE FLOW LINE MAY NOT BE GREATER THAN 1/4 INCH.

PEDESTRIAN CURB RAMP

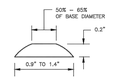
FEBRUARY 2013

CITY OF LAKE ELMO

STANDARD DRAWING NO. 507 LAKE ELMO



RECTANGULAR PLATES RADIAL PLATES



SECTION A–A
TRUNCATED DOME

TYPICAL RADIAL
TRUNCATED DOME PLATES

RADIUS (TEXT) (7)	LONG CHORD WIDTH (INCHES)	SQ. FT. PER PLATE	PLATES REQUIRED FOR 90 DEGREE TURN
10	23–1/2	3.53	8
15	18–13/16	2.93	15
15	23–1/2	3.67	12
20	18–13/16	3.00	20
20	18–7/8	2.96	20
25	20–1/2	3.28	23
25	23–9/16	3.77	20
30	22–5/8	3.65	25
35	22	3.56	30

NOTES:

DETECTABLE WARNING SURFACES SHALL FOLLOW THE PUBLIC RIGHTS-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG).

DETECTABLE WARNINGS CONSIST OF TRUNCATED DOMES ALIGNED IN A SQUARE OR RADIAL GRID PATTERN.

DETECTABLE WARNINGS ARE REQUIRED:
- –WHERE RAMPS, LANDINGS, OR BLENDED TRANSITIONS PROVIDE A FLUSH PEDESTRIAN CONNECTION TO THE ROADWAY.
- –WHERE PEDESTRIAN ACCESS ROUTES CROSS COMMERCIAL DRIVEWAYS THAT ARE PROVIDED WITH TRAFFIC CONTROL DEVICES OR OTHERWISE PERMITTED TO OPERATE LIKE A PUBLIC ROADWAY.
- –AT PEDESTRIAN RAILWAY CROSSINGS.
- –ON RAIL PLATFORMS WHERE BOARDING EDGES ARE NOT PROTECTED.

DETECTABLE WARNINGS SHALL EXTEND:
- –IN THE FULL WIDTH OF THE DIRECTION OF TRAVEL.
- –A FULL WIDTH OF 24" IN RAMPS, LANDINGS, OR BLENDED TRANSITION, WITHIN 3" OF FULL WIDTH ON EITHER END.
- –THE FULL LENGTH OF THE PUBLIC USE AREA OF A RAIL PLATFORM.

DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH ADJACENT GUTTER, ROADWAY, OR WALKWAY, EITHER A LIGHT-ON-DARK OR DARK-ON-LIGHT. CONTRAST MAY BE PROVIDED ON THE FULL RAMP SURFACE, EXCLUDING THE FLARED SIDES.

TRUNCATED DOME PANELS SHALL BE FROM MNDOT'S APPROVED/QUALIFIED PRODUCT LISTS. PANELS SHALL BE CAST IRON.

DETECTABLE WARNING SURFACE SHALL BE PAID FOR AS TRUNCATED DOMES BY THE SQUARE FOOT.

ALL TRUNCATED DOME SYSTEMS SHALL BE PLACED IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER.

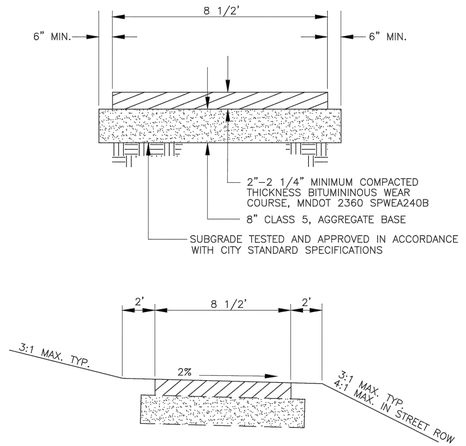
1. CENTER TO CENTER DOME SPACING: 1.6" MINIMUM, 2.4" MAXIMUM.
2. BASE TO BASE DOME SPACING: 0.65" MINIMUM.
3. DOME BASE TO PLATE EDGE SPACING: 0.35" MINIMUM, 0.75" MAXIMUM.
4. SPACING VARIES ON RADIAL PLATES.
5. TYPICAL WIDTHS AVAILABLE: 12", 18", 24", 30", 36". CHECK WITH MANUFACTURERS FOR AVAILABLE WIDTHS.
6. ON RADIAL PLATE, RADIUS DEFINED AT BACK OF CURB.
7. TYPICAL RADII. CHECK WITH MANUFACTURERS FOR AVAILABLE RADII.

DETECTABLE WARNING SURFACE– TRUNCATED DOMES

FEBRUARY 2013

CITY OF LAKE ELMO

STANDARD DRAWING NO. 508 LAKE ELMO



NOTE
1. BITUMINOUS TRAILS SHALL HAVE CONCRETE PED RAMPS AT ALL STREET INTESECTIONS.
2. PROVIDE 2% CROSS–SLOPE TO MAINTAIN POSITIVE DRAINAGE AWAY FROM TRAIL SURFACE THROUGHOUT LENGTH OF TRAIL.

BICYCLE–PEDESTRIAN PATH

FEBRUARY 2013

CITY OF LAKE ELMO

STANDARD DRAWING NO. 509 LAKE ELMO

PIONEERengineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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

Name Paul J. Cherne
Reg. No. 19860 Date 08-06-2014

Revisions

Date	08-06-2014
Designed	PJC/KAW
Drawn	KAW/AJR

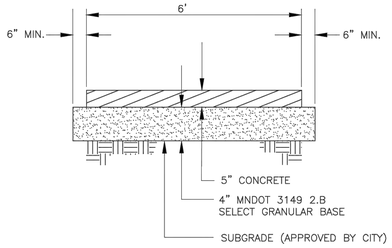
CITY DETAILS

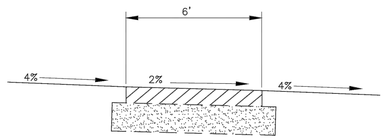
RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

HUNTERS CROSSING
LAKE ELMO, MINNESOTA

01-ENG-113105-SHEET-DTLS

19 OF 23





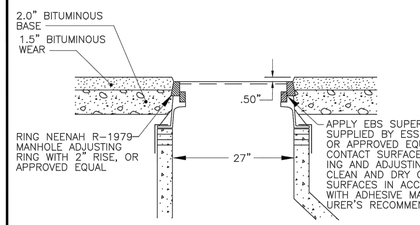
NOTE
1. SIDEWALKS SHALL HAVE CONCRETE PED RAMPS AT ALL STREET INTESECTIONS.
2. PROVIDE 2% CROSS-SLOPE TO MAINTAIN POSITIVE DRAINAGE AWAY FROM SIDEWALK THROUGHOUT LENGTH OF WALK.

CONCRETE SIDEWALK

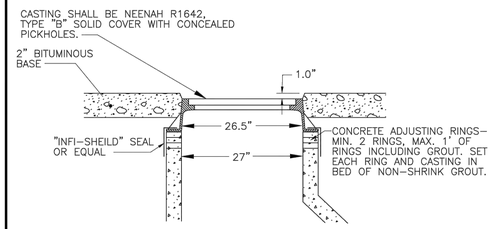
FEBRUARY 2013

CITY OF LAKE ELMO

STANDARD DRAWING NO. 510 LAKE ELMO



BITUMINOUS WEAR COURSE ADJACENT DETAIL
NOT TO SCALE



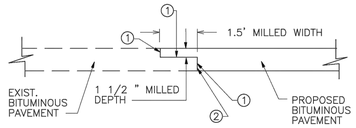
BITUMINOUS BASE COURSE ADJACENT DETAIL
NOT TO SCALE

MANHOLE CASTING ADJUSTMENT

FEBRUARY 2013

CITY OF LAKE ELMO

STANDARD DRAWING NO. 511 LAKE ELMO



MILLED LAP JOINT SHALL BE CONSTRUCTED WHERE MATCHING INTO EXISTING BITUMINOUS PAVEMENT. MILL IMMEDIATELY PRIOR TO CONSTRUCTING BITUMINOUS WEARING COURSE.

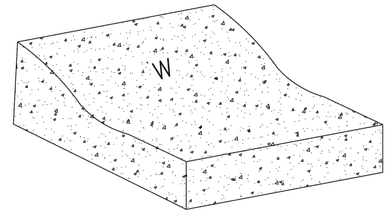
NOTES:
1. APPLY BITUMINOUS TACK COAT, MnDOT SPEC. 2357.
2. SAW BITUMINOUS PAVEMENT FULL DEPTH TO ESTABLISH A NEAT LINE FROM WHICH TO EXTEND THE NEW WORK.

MILLED LAP JOINT

FEBRUARY 2013

CITY OF LAKE ELMO

STANDARD DRAWING NO. 512 LAKE ELMO



W-RELATIVE CURB STOP LOCATION

NOTES:
1. CURB MARKERS ARE AVAILABLE FROM CITY HALL WITH A DEPOSIT.
2. CURB MARKINGS SHALL BE POSITIONED IN THE FACE OF THE CURB, WHILE THE CONCRETE IS IN A PLASTIC STATE, PERPENDICULAR TO THE LOCATION OF CURB STOPS.
3. WHERE B6XX CURB IS USED, PLACE CURB MARKING ON FACE OF CURB.

CONCRETE CURB MARKING
(FOR CURB STOPS)

FEBRUARY 2013

CITY OF LAKE ELMO

STANDARD DRAWING NO. 513 LAKE ELMO

1. THE CONTRACTOR SHALL CONDUCT OPERATIONS AND IMPLEMENT MINNESOTA POLLUTION CONTROL AGENCY (MPCA) BEST MANAGEMENT PRACTICES (BMP) TO CONTROL SITE SILTATION AND EROSION INTO DRAINAGE WAYS. THE CONTRACTOR SHALL COMPLY WITH ALL CONDITIONS AND COMPLETION DATES RELATIVE TO ALL PERMITS ISSUED FOR THE WORK TO BE COMPLETED. THE ENGINEER MAY ISSUE A STOP WORK ORDER FOR ALL DEVELOPMENT WORK AND BUILDING CONSTRUCTION FOR NONCOMPLIANCE WITH THESE MEASURES.

2. SEQUENCING. ALL SILT FENCE AND OTHER EROSION CONTROL MEASURES SHALL BE IN PLACE AND APPROVED BY ENGINEER PRIOR TO ANY REMOVALS, EXCAVATION OR CONSTRUCTION AND SHALL BE MAINTAINED UNTIL VIABLE TURF OR GROUND COVER HAS BEEN ESTABLISHED AND APPROVED BY THE ENGINEER.

3. SILT FENCE. THE CONTRACTOR SHALL INSTALL SILT FENCE AT THE LOCATIONS SHOWN ON THE PLANS AND IN ACCORDANCE WITH THE CITY STANDARD DETAILS. SILT FENCE DAMS AND INTERIM SUMPS SHALL BE PLACED TO INTERCEPT SILT FROM CONCENTRATED RUNOFF FROM OPEN GRADED AREAS. ADDITIONAL SILT FENCE SHALL BE REQUIRED AS DIRECTED BY THE ENGINEER.

4. STOCKPILES. ALL STOCKPILE AREAS SHALL HAVE SILT FENCE OR SEDIMENT TRAPPING SYSTEMS PLACED AROUND THE ENTIRE PERIMETER.

5. INLET PROTECTION. THE CONTRACTOR SHALL INSTALL INLET PROTECTION ON ALL EXISTING STORM SEWER INLETS IN ACCORDANCE WITH THE CITY STANDARD DETAILS. INLET PROTECTION SHALL ALSO BE PROVIDED ON ALL PROPOSED STORM SEWER INLETS IMMEDIATELY FOLLOWING CONSTRUCTION OF THE INLET. INLET PROTECTION MUST BE INSTALLED IN A MANNER THAT WILL NOT IMPOUND WATER FOR EXTENDED PERIODS OF TIME OR IN A MANNER THAT PRESENTS A HAZARD TO VEHICULAR OR PEDESTRIAN TRAFFIC.

6. TEMPORARY SEDIMENT BASINS. THE CONTRACTOR SHALL INCORPORATE TEMPORARY SEDIMENT BASINS THROUGHOUT THE CONSTRUCTION SITE TO CAPTURE RUNOFF AND SLOW THE FLOW OF WATER AND ALLOW SEDIMENT TO SETTLE OUT. TEMPORARY SEDIMENT BASINS SHALL BE INSTALLED AS DIRECTED BY THE CITY ENGINEER.

7. ROCK CONSTRUCTION ENTRANCE. A ROCK ENTRANCE SHALL BE CONSTRUCTED AND MAINTAINED AS SHOWN ON THE PLAN TO REDUCE TRACKING OF SILT AND DIRT ONTO THE PUBLIC STREETS. A GEOTEXTILE FABRIC SHALL BE PLACED UNDERNEATH THE ROCK. THE ROCK SHALL BE PERIODICALLY REPLENISHED TO MAINTAIN THE INTENDED PERFORMANCE. MUD AND DEBRIS SHALL BE REMOVED OR SCRAPED FROM TIRES AND VEHICLE UNDERCARRIAGE PRIOR TO LEAVING THE SITE.

8. STREET SWEEPING. ALL STREETS USED FOR ACCESS TO THE SITE AND HAUL ROUTES USED FOR CONSTRUCTION EQUIPMENT AND MATERIAL SUPPLIES SHALL BE CLEANED AT THE END OF EACH WORKING DAY. THE CITY OR ENGINEER MAY ORDER ADDITIONAL SWEEPING OF THE STREETS AS DEEMED REQUIRED AT DEVELOPER/CONTRACTOR EXPENSE.

9. POSITIVE DRAINAGE AND PROTECTION. THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE THROUGHOUT THE SITE AT ALL TIMES. LOW POINTS WITHIN AND ALONG ROADWAYS ARE EXPRESSLY PROHIBITED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY DITCHES, PIPING OR OTHER MEANS TO FACILITATE PROPER DRAINAGE DURING CONSTRUCTION. TO PROTECT PREVIOUSLY GRADED AREAS FROM EROSION, WOOD FIBER BLANKET SHALL BE PLACED IMMEDIATELY ON STEEP SLOPES (1:3 OR GREATER) AND EMBANKMENTS, PERMANENT AND TEMPORARY PONDS, AND OUTLETS AND OVERFLOWS TO PROTECT THE COMPLETED GRADE AND MINIMIZE SILT IN THE RUNOFF.

STANDARD PLAN NOTES
GRADING AND EROSION CONTROL PLANS

FEBRUARY 2013

CITY OF LAKE ELMO

STANDARD DRAWING NO. 600A LAKE ELMO

10. DRAINAGE DITCHES. THE NORMAL WETTED PERIMETER OF ANY TEMPORARY OR PERMANENT DRAINAGE DITCH OR SWALE THAT DRAINS WATER FROM ANY PORTION OF THE CONSTRUCTION SITE, OR DIVERTS WATER AROUND THE SITE, MUST BE STABILIZED WITHIN 200 LINEAL FEET FROM THE PROPERTY EDGE, OR FROM THE POINT OF DISCHARGE INTO ANY SURFACE WATER. STABILIZATION OF THE LAST 200 LINEAL FEET MUST BE COMPLETED WITHIN 24 HOURS AFTER CONNECTING TO A SURFACE WATER. STABILIZATION OF THE REMAINING PORTIONS OF ANY TEMPORARY OR PERMANENT DITCHES OR SWALES MUST BE COMPLETE WITHIN 14 DAYS AFTER CONNECTING TO A SURFACE WATER AND CONSTRUCTION IN THAT PORTION OF THE DITCH HAS TEMPORARILY OR PERMANENTLY CEASED. TEMPORARY OR PERMANENT DITCHES OR SWALES THAT ARE BEING USED AS A SEDIMENT CONTAINMENT SYSTEM (WITH PROPERLY DESIGNED ROCK DITCH CHECKS, BIO ROLLS, SILT DIKES, ETC.) DO NOT NEED TO BE STABILIZED. THESE AREAS MUST BE STABILIZED WITHIN 24 HOURS AFTER NO LONGER BEING USED AS A SEDIMENT CONTAINMENT SYSTEM.

11. TURF ESTABLISHMENT. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION BUT IN NO CASE LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.

12. MAINTENANCE AND INSPECTION. EROSION CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION AND UNTIL SATISFACTORY ESTABLISHMENT OF PERMANENT GROUND COVER IS OBTAINED. ALL EROSION AND SEDIMENTATION CONTROL MEASURES, AND STORMWATER OUTFALLS MUST BE BE INSPECTED WEEKLY, AND WITHIN 24 HOURS OF THE SITE RECEIVING 0.5 INCHES OF RAIN. REPAIRS MUST BE MADE ON THE SAME DAY OR FOLLOWING DAY OF THE INSPECTION. UNSATISFACTORY CONDITIONS NOT REPAIRED OR CLEANED UP WITHIN 48-HOURS OF NOTIFICATION SHALL RESULT IN A STOP WORK ORDER, AND/OR SAID WORK SHALL BE COMPLETED AT CONTRACTOR'S EXPENSE.

13. REMOVAL. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL TEMPORARY EROSION CONTROL MEASURES, STRUCTURES AND DEVICES ONLY AFTER RECEIVING ENGINEER APPROVAL. ALL DEBRIS, STAKES, AND SILTS ALONG SILT FENCES SHALL BE REMOVED AND DISPOSED OFF SITE. THE CONTRACTOR SHALL HAND RAKE SILTED AREAS ALONG THE FENCE LOCATIONS TO PROVIDE A SMOOTH FINAL GRADE AND SHALL RESTORE THE GROUND SURFACE WITH SEED OR SOD, AS REQUIRED, TO MATCH THE FINISHED GRADE TO THE ADJACENT AREA.

14. FINAL STORM SEWER SYSTEM. AT THE COMPLETION OF THE WORK AND BEFORE THE FINAL WALK THROUGH, THE CONTRACTOR SHALL REMOVE STORM SEWER INLET PROTECTION MEASURES AND THOROUGHLY FLUSH THE STORM SEWER SYSTEM. SEDIMENT AND DEBRIS SHALL BE COMPLETELY REMOVED AND CLEANED AT THE INLETS, OUTLETS, AND DOWNSTREAM OF EACH OUTLET. RIPRAP AND GEOTEXTILE FABRIC MAY REQUIRE REPLACEMENT AS DIRECTED BY THE ENGINEER TO OBTAIN A LIKE NEW INSTALLATION ACCEPTABLE TO THE CITY.

15. DITCH CHECK (BIOROLL BLANKET SYSTEM). BIOROLL AND BLANKET SYSTEMS SHALL BE BE INSTALLED AS DITCH CHECKS ONLY IN SPECIFIED LOCATIONS AS APPROVED BY THE CITY ENGINEER. BIOROLLS ARE NOT TO BE UTILIZED IN AREAS WHERE VEHICLE AND CONSTRUCTION TRAFFIC OCCUR.

STANDARD PLAN NOTES
GRADING AND EROSION CONTOL PLANS

FEBRUARY 2013

CITY OF LAKE ELMO

STANDARD DRAWING NO. 600B LAKE ELMO

16. FLOTATION SILT CURTAIN. FLOTATION SILT CURTAIN SHALL BE UTILIZED WHEN CONSTRUCTION ACTIVITIES OCCUR DIRECTLY ADJACENT TO LAKES, STREAMS OR WETLANDS IN ORDER TO CONTAIN SEDIMENTS NEAR THE BANKS OF WORKING AREAS. THE INSTALLATION OF FLOTATION SILT CURTAINS WILL BE REQUIRED AS DIRECTED BY THE CITY ENGINEER.

17. CONCRETE WASHOUT ONSITE. ALL LIQUID AND SOLID WASTES GENERATED BY CONCRETE WASHOUT OPERATIONS MUST BE CONTAINED IN A LEAK-PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER. A COMPACTED CLAY LINER THAT DOES NOT ALLOW WASHOUT LIQUIDS TO ENTER GROUND WATER IS CONSIDERED AN IMPERMEABLE LINER. THE LIQUID AND SOLID WASTES MUST NOT CONTACT THE GROUND, AND THERE MUST NOT BE RUNOFF FROM THE CONCRETE WASHOUT OPERATIONS OR AREAS. LIQUID AND SOLID WASTES MUST BE DISPOSED OF PROPERLY AND IN COMPLIANCE WITH MPCA REGULATIONS. A SIGN MUST BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES.

STANDARD PLAN NOTES
GRADING AND EROSION CONTOL PLANS

FEBRUARY 2013

CITY OF LAKE ELMO

STANDARD DRAWING NO. 600C LAKE ELMO

1. RESTORE ALL DISTURBED AREAS WITH 6 INCHES OF TOPSOIL CONFORMING TO MNDOT 3877.

2. PROTECT ALL STORM SEWER INLETS AS SPECIFIED HEREIN AND MAINTAIN UNTIL STREET CONSTRUCTION IS COMPLETED.

3. MAINTAIN ALL SILT FENCE AND REPAIR OR REPLACE AS NEEDED OR REQUIRED UNTIL TURF HAS BEEN ESTABLISHED.

4. RESTORATION WORK SHALL BEGIN WITHIN 7 DAYS OF FINAL GRADING.

5. A MINIMUM OF 2 ROWS OF SOD SHALL BE PLACED ADJACENT TO THE BACK OF CURBS ALONG ALL BOULEVARDS. SILT FENCE SHALL BE PLACED DIRECTLY BEHIND THE SOD IN ACCORDANCE WITH THE CITY STANDARD DETAILS.

6. BOULEVARD AND DITCH RESTORATION INCLUDES FINE GRADING, WHICH INCLUDES THE REMOVAL OF ROCKS, DEBRIS AND SOIL CHUNKS, WHILE MAINTAINING POSITIVE DRAINAGE.

STANDARD PLAN NOTES
SITE RESTORATION PLANS

FEBRUARY 2013

CITY OF LAKE ELMO

STANDARD DRAWING NO. 600D LAKE ELMO

PIONEERengineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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
Name Paul J. Cherne
Reg. No. 19860 Date 08-06-2014

Revisions

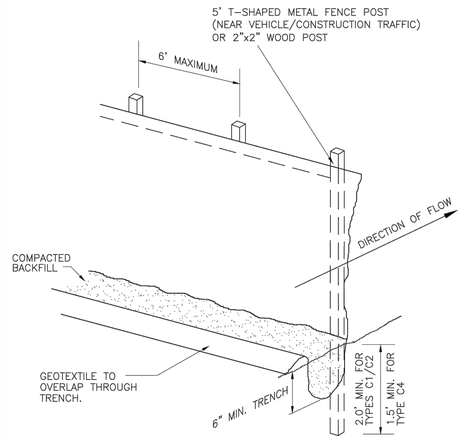
Date	08-06-2014
Designed	PJC/KAW
Drawn	KAW/AJR

CITY DETAILS

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

HUNTERS CROSSING
LAKE ELMO, MINNESOTA

01-ENG-113105-SHEET-DTLS



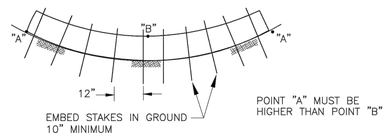
NOTE : –SILT FENCE INSTALLATION SHALL CONFORM TO MNDOT2573.3, TYPE C1/C2 NEAR VEHICLE/CONSTRUCTION TRAFFIC, TYPE C4 AT ALL OTHER LOCATIONS.
–MATERIALS SHALL CONFORM TO MNDOT 3886.

SILT FENCE

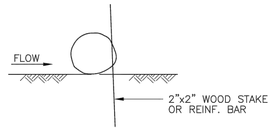
FEBRUARY 2013

CITY OF LAKE ELMO

STANDARD DRAWING NO. 601 LAKE ELMO



DITCH SECTION



FIBER ROLL SECTION

NOTE:
STAKE TO BE INSTALLED AT AN ANGLE OF APPROXIMATELY 45° ON THE DOWNSTREAM SIDE OF THE FIBER ROLL. ENSURE THAT STAKE DOES NOT PUSH DOWN THE FIBER ROLL FROM ITS FULL HEIGHT.

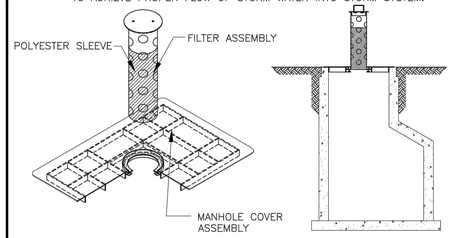
DITCH CHECK (FIBER ROLL)

FEBRUARY 2013

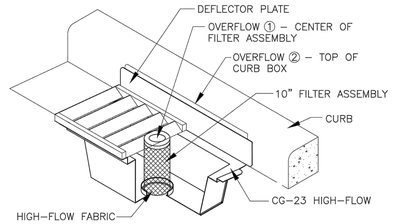
CITY OF LAKE ELMO

STANDARD DRAWING NO. 603 LAKE ELMO

NOTE: MAINTAIN AND CLEAN OUT DEVICES AS NECESSARY TO ACHIEVE PROPER FLOW OF STORM WATER INTO STORM SYSTEM.



WIMCO RD-23 OR APPROVED EQUAL



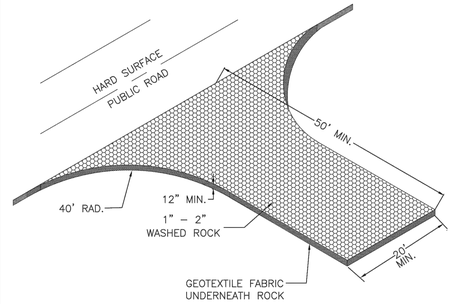
WIMCO CG-23 HIGH-FLOW OR APPROVED EQUAL

SEDIMENT CONTROL AROUND STORM SEWER INLET

FEBRUARY 2013

CITY OF LAKE ELMO

STANDARD DRAWING NO. 604 LAKE ELMO



NOTES:

① MAXIMUM WIDTH OF CONSTRUCTION ENTRANCE IS 24 FEET.

② A MNDOT 3733 TYPE V GEOTEXTILE FABRIC SHALL BE USED UNDER THE ROCK TO PREVENT MIGRATION OF THE UNDERLYING SOIL INTO THE STONE.

③ CONSTRUCTION ENTRANCE IS REQUIRED FOR ALL NEW HOME CONSTRUCTION AND NEW STREET CONSTRUCTION.

④ CONSTRUCTION ENTRANCE SHALL BE MAINTAINED TO PREVENT TRACKING OF MUD ONTO ROADWAYS THAT ADJOIN THE PROJECT. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL ROCK OR REMOVAL AND REINSTALLATION OF THE ROCK ENTRANCE.

⑤ REMOVE MUD AND DEBRIS FROM TIRES AND VEHICLE UNDERCARRIAGE PRIOR TO LEAVING THE SITE.

ROCK CONSTRUCTION ENTRANCE

FEBRUARY 2013

CITY OF LAKE ELMO

STANDARD DRAWING NO. 605 LAKE ELMO

1. STREET LIGHTING SHALL BE INSTALLED PER CITY STANDARDS 5 FEET BACK OF CURB IN LOCATIONS SHOWN ON PLAN.
2. ALL SIGNS MUST MEET MMUTCD.
3. ALL SIGN SHEATHING TO BE HIGH INTENSITY DIAMOND GRADE.
4. SIGN POSTS TO BE UNPAINTED GALVANIZED METAL, 2.75 LBS/FT.
5. CITY TO FURNISH AND INSTALL STREET SIGNS.
6. POLY PREFORMED PAVEMENT MATERIAL SHALL BE USED FOR ALL PAVEMENT SYMBOLS.
7. PAINT FOR PAVEMENT MARKINGS SHALL MEET THE REQUIREMENTS OF MnDOT "SPECIFICATIONS FOR WHITE AND YELLOW, THREE MINUTE DRY, ALKYD TRAFFIC PAINTS".

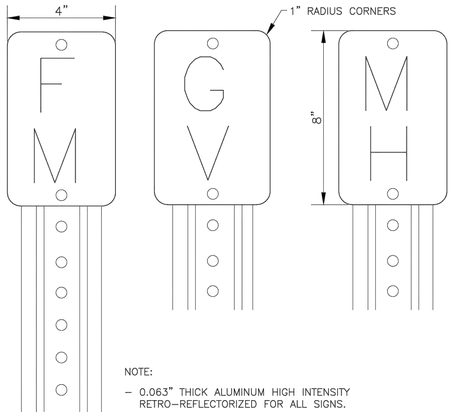
STANDARD PLAN NOTES

SIGNING/PAVEMENT MARKINGS/LIGHTING PLANS

FEBRUARY 2013

CITY OF LAKE ELMO

STANDARD DRAWING NO. 700A LAKE ELMO



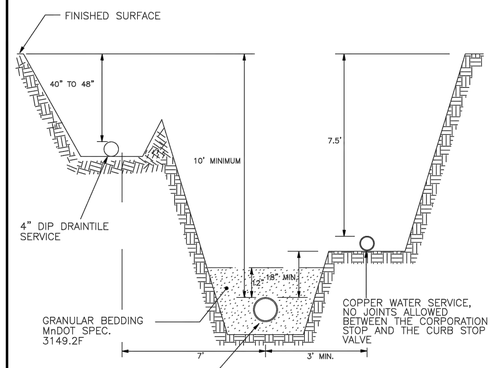
NOTE:
- 0.063" THICK ALUMINUM HIGH INTENSITY RETRO-REFLECTORIZED FOR ALL SIGNS.
- BLACK LETTERS ON WHITE BACKGROUND FOR MANHOLE.
- WHITE LETTERS ON BLUE BACKGROUND FOR GATE VALVE.
- WHITE LETTERS ON GREEN BACKGROUND FOR FORCEMAIN – "FM".
- U-CHANNEL POST, MINIMUM 3.0 LB./FT., 7.5' LONG, GALVANIZED & BURIED 2.5'.
- PLACE MARKERS AT ALL OFF ROAD MANHOLES AND GATE VALVES.

OFF ROAD STRUCTURE MARKERS

FEBRUARY 2013

CITY OF LAKE ELMO

STANDARD DRAWING NO. 705 LAKE ELMO



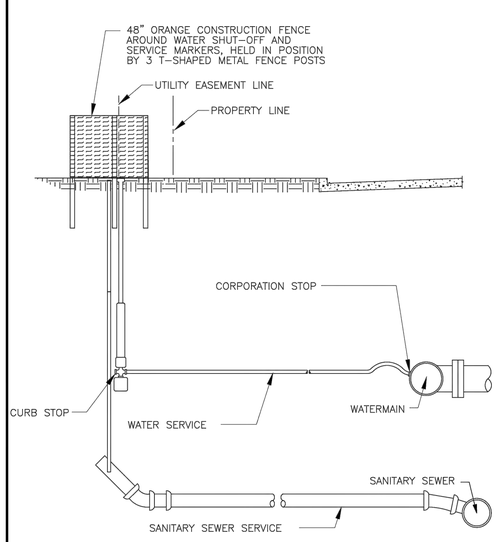
NOTE: IF 18" OF VERTICAL SEPARATION BETWEEN THE SANITARY SERVICE AND WATER SERVICE CAN NOT BE MAINTAINED 10' OF HORIZONTAL SEPARATION IS REQUIRED.

SANITARY, WATER & DRAIN TILE SERVICE INSTALLATION

FEBRUARY 2013

CITY OF LAKE ELMO

STANDARD DRAWING NO. 712 LAKE ELMO



TYPICAL SERVICE PROTECTION

FEBRUARY 2013

CITY OF LAKE ELMO

STANDARD DRAWING NO. 713 LAKE ELMO

PIONEERengineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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

Name Paul J. Cherne
Reg. No. 19860 Date 08-06-2014

Revisions

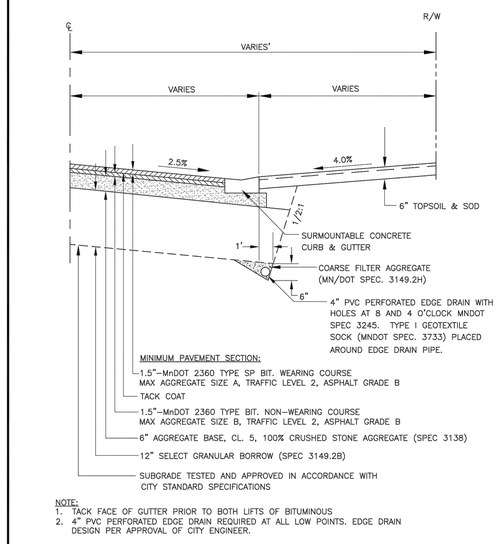
Date	08-06-2014
Designed	PJC/KAW
Drawn	KAW/AJR

CITY DETAILS

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

HUNTERS CROSSING
LAKE ELMO, MINNESOTA

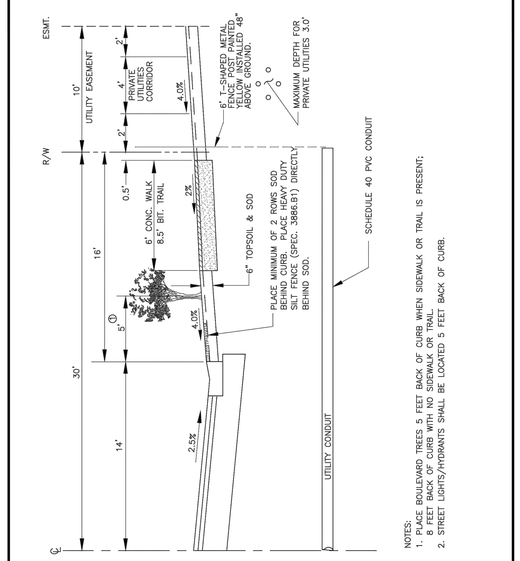
01-ENG-113105-SHEET-DTLS



TYPICAL LOCAL RESIDENTIAL STREET SECTION
(MINIMUM 7-TON DESIGN)

FEBRUARY 2013

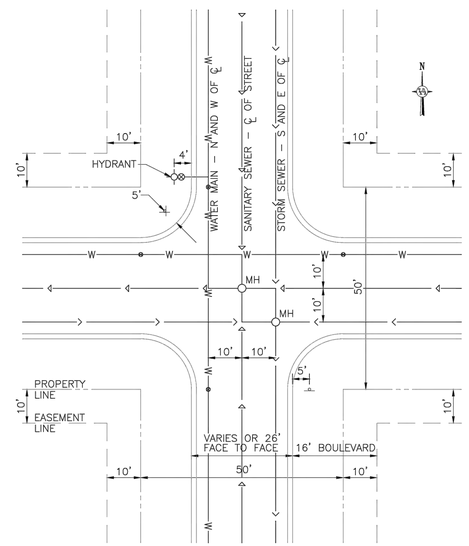
CITY OF LAKE ELMO | STANDARD DRAWING NO. 801 LAKE ELMO



TYPICAL RIGHT OF WAY LAYOUT

FEBRUARY 2013

CITY OF LAKE ELMO | STANDARD DRAWING NO. 805 LAKE ELMO



URBAN STREET UTILITY LOCATION

FEBRUARY 2013

CITY OF LAKE ELMO | STANDARD DRAWING NO. 806 LAKE ELMO

1. PROVIDE AND INSTALL PLANT MATERIALS THAT MEET SPECIFICATIONS AND ARE OF THE SIZE, TYPE AND SPECIES GIVEN IN THE PLANT SCHEDULE OR SHOWN ON THE PLANS.

2. PLANT LIST QUANTITIES ARE PROVIDED FOR CONVENIENCE, IN THE EVENT OF QUANTITY DISCREPANCIES, THE DRAWING SCALE SHALL TAKE PRECEDENCE.

3. NO PLANT MATERIAL SUBSTITUTIONS SHALL BE MADE WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE CITY.

4. ALL PLANT MATERIALS TO BE SPECIMEN GRADE, MINNESOTA-GROWN AND/OR HARDY. SPECIMEN GRADE SHALL ADHERE TO, BUT IS NOT LIMITED BY, THE FOLLOWING STANDARDS:
   - ALL PLANTS SHALL BE FREE FROM DISEASE, PESTS, WOUNDS, AND SCARS.
   - ALL PLANTS SHALL BE FREE FROM NOTICEABLE GAPS, HOLES, OR DEFORMITIES.
   - ALL PLANTS SHALL BE FREE FROM BROKEN OR DEAD BRANCHES.
   - ALL PLANTS SHALL HAVE HEAVY, HEALTHY BRANCHING AND LEAFING.
   - CONIFEROUS TREES SHALL HAVE AN ESTABLISHED MAIN LEADER AND A HEIGHT TO WIDTH RATIO OF NO LESS THAN 5:3.

5. PLANT MATERIALS SHALL MEET AMERICAN STANDARD FOR NURSERY STOCK (ANSIZ 60.1) REQUIREMENTS FOR SIZE AND TYPE SPECIFIED, AND SHALL BE INSTALLED PER ANS NURSERY PLANTING PRACTICES.

6. CONTRACTOR SHALL CONTACT GOPHER STATE "ONE CALL" (651-454-0002) TO VERIFY UNDERGROUND UTILITY LOCATIONS PRIOR TO PLANTING AND PLANT MATERIAL DELIVERY.

7. PLANTS SHALL BE PLANTED IMMEDIATELY UPON ARRIVAL AT THE SITE.

8. ALL AREAS NOT SPECIFICALLY SHOWN AS PLANTED IN OTHER LANDSCAPE MATERIALS AND ALL SLOPES AND ON-SITE AREAS DISTURBED BY CONSTRUCTION, SHALL BE SEEDED, FERTILIZED, MULCHED, WATERED AND MAINTAINED UNTIL HARDY GRASS GROWTH IS ESTABLISHED AND ACCEPTED BY THE CITY.

9. CONTRACTOR SHALL PROTECT AND MAINTAIN ALL PLANTINGS, INCLUDING MULCHING, MOWING, WATERING, AND PRUNING UNTIL THE PLANT MATERIAL IS FULLY ESTABLISHED.

10. ALL BOULEVARD AREAS AND AREAS DISTURBED ADJACENT TO THE SITE SHALL BE REPAIRED, REPLACED, OR CORRECTED BY THE CONTRACTOR WITH QUALITY LAWN SOD.

11. PLANT MATERIALS SHALL BE SUBJECT TO A FULL ONE-YEAR WARRANTY BEGINNING UPON FINAL WRITTEN ACCEPTANCE BY THE CITY. DEFECTIVE MATERIALS SHALL BE REPLACED, AND REPLACEMENT MATERIALS SHALL RECEIVE A FULL ONE-YEAR WARRANTY FROM THE REPLACEMENT PLANTING DATE.

12. TREES SHALL BE FURTHER WARRANTED TO REMAIN UPRIGHT FOR A FULL TWO-YEAR PERIOD.

STANDARD PLAN NOTES
LANDSCAPE PLANS

FEBRUARY 2013

CITY OF LAKE ELMO | STANDARD DRAWING NO. 900A LAKE ELMO

PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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
Name Paul J. Cherne
Reg. No. 19860 Date 08-06-2014

Revisions

Date	08-06-2014
Designed	PJC/KAW
Drawn	KAW/AJR

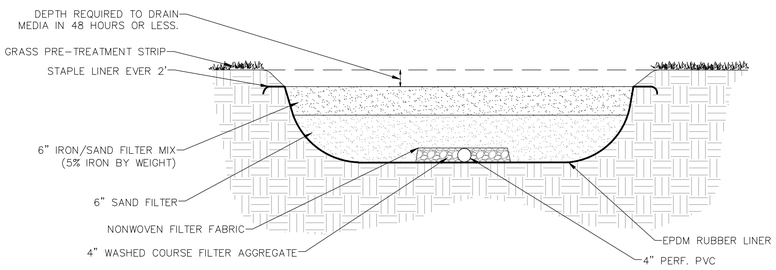
CITY DETAILS

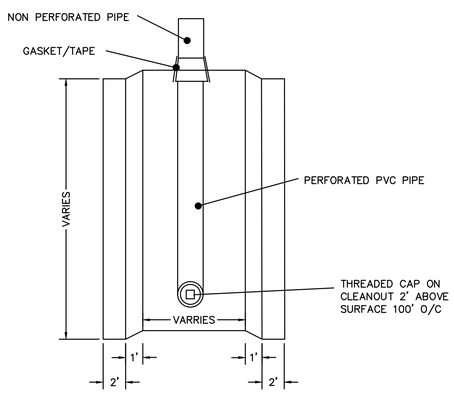
RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

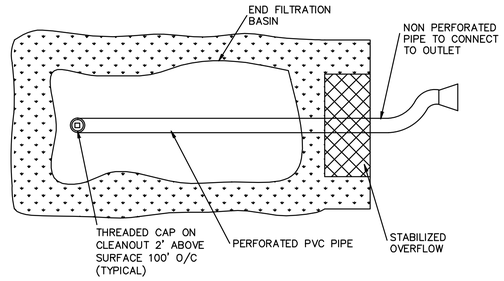
HUNTERS CROSSING
LAKE ELMO, MINNESOTA

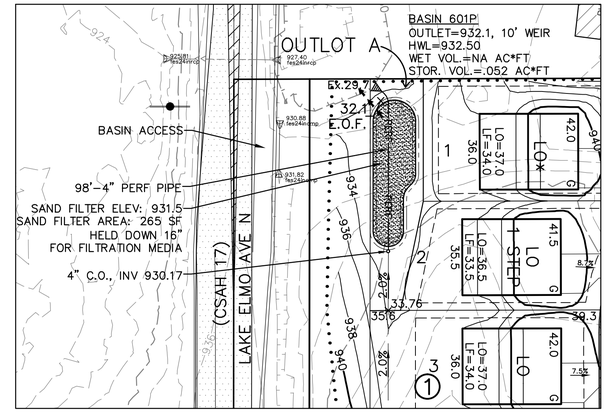
01-ENG-113105-SHEET-DTLS

22 OF 23



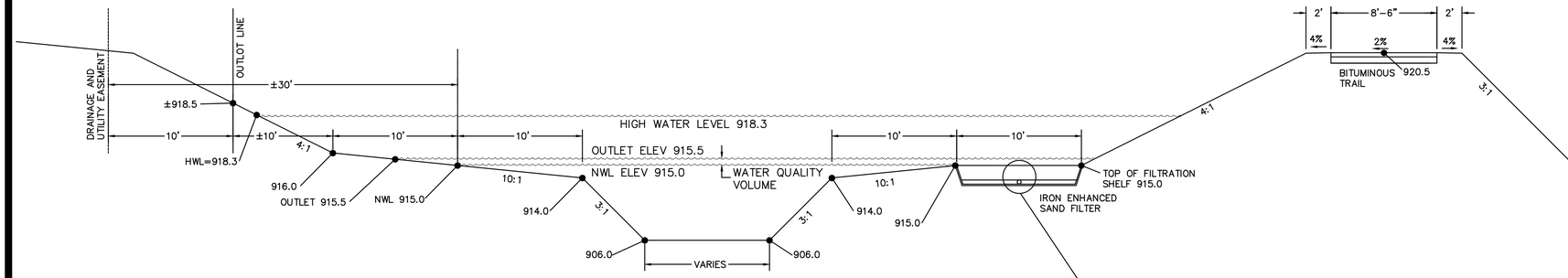


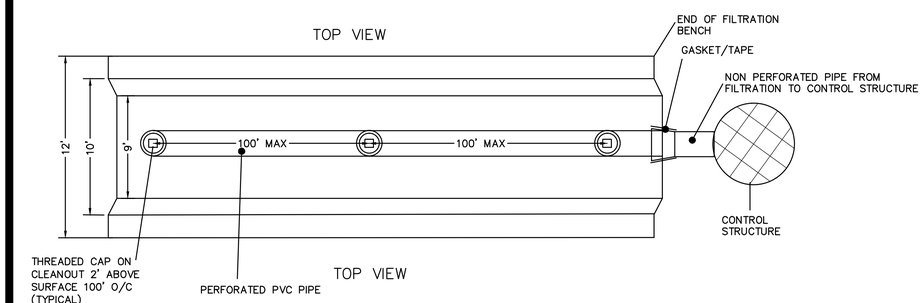


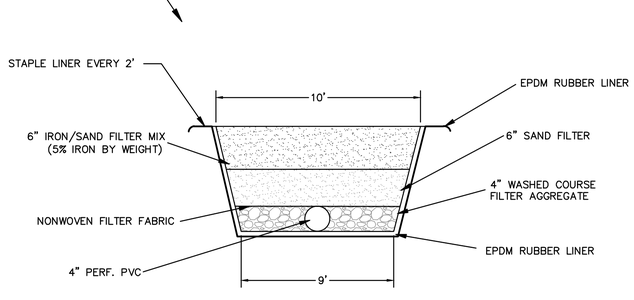


BASIN WITH IRON ENHANCED SAND FILTER SECTION (OUTLOT A)

N.T.S.

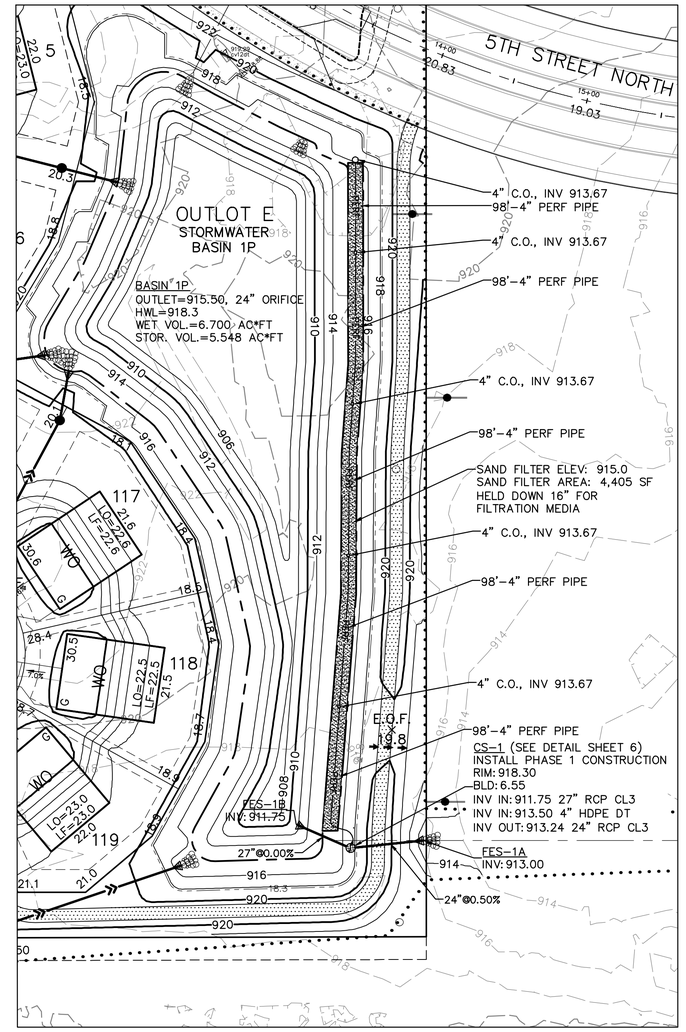


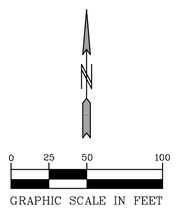




POND SECTION WITH IRON ENHANCED SAND FILTER (OUTLOT E)

N.T.S.





PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

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

Name Paul J. Cherne
Reg. No. 19860 Date 08-06-2014

Revisions

Date	08-06-2014
Designed	PJC/KAW
Drawn	KAW/AJR

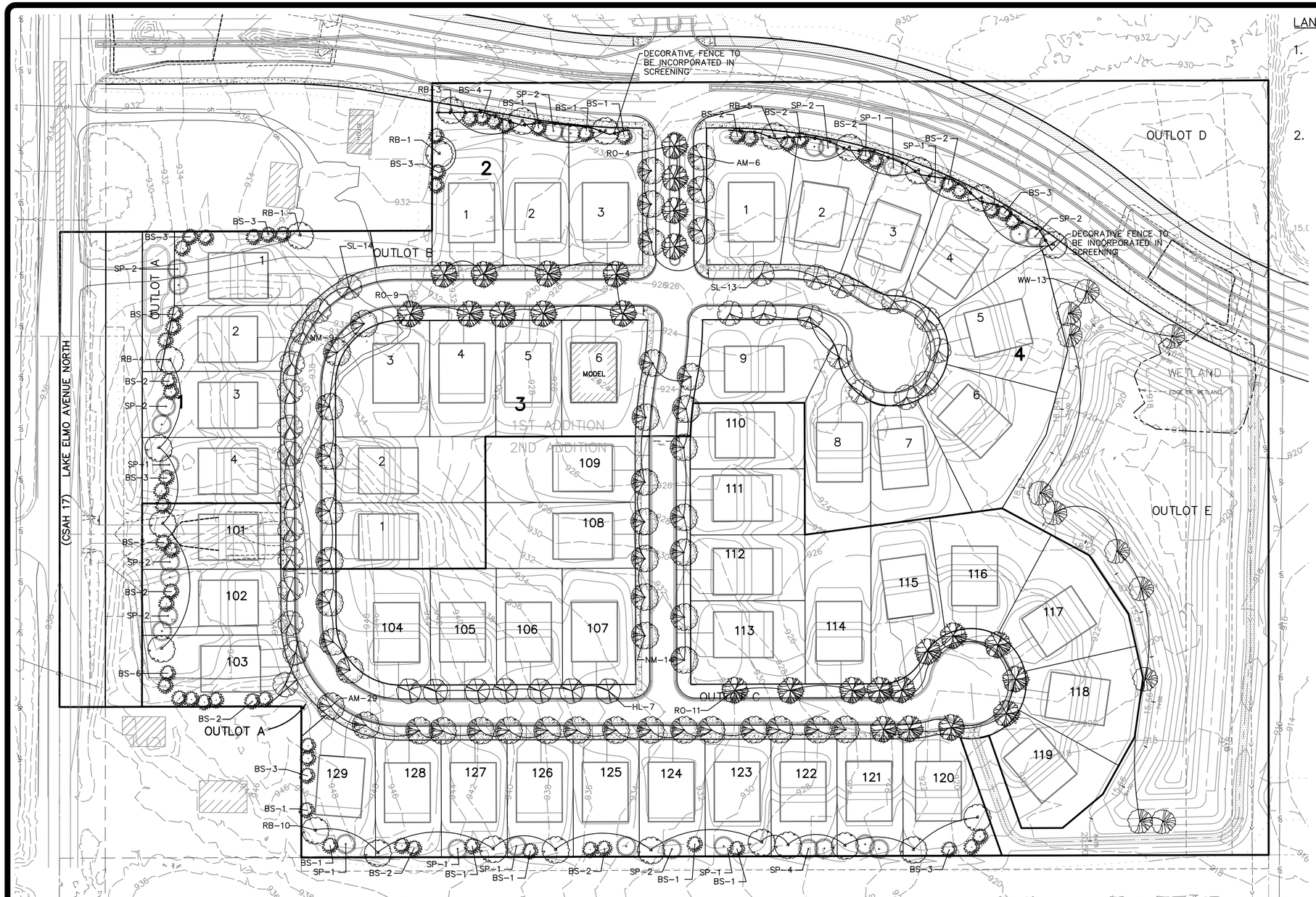
IRON ENHANCED SAND FILTER PLAN
PHASE 3 - SITE CLOSEOUT

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

HUNTERS CROSSING
LAKE ELMO, MINNESOTA

23 OF 23

01-ENG-113105-SHEET-DTLS-FILT



LANDSCAPE REQUIREMENTS:

1. ONE TREE TO BE PLANTED FOR EVERY FIFTY FEET OF STREET FRONTAGE.
   TOTAL PROPOSED STREET FRONTAGE: 2,440 LINEAR FT /50 = 48.8X2=97.6
   REQUIRED TREES: 98 TREES (EQUAL TO 245")

2. FIVE TREES TO BE PLANTED FOR EVERY ONE ACRE OF LAND THAT IS BEING DEVELOPED.
   TOTAL AREA: 21.5 ACRES (EXCLUDING 5TH STREET ROW)
   REQUIRED TREES: 108 TREES (EQUAL TO 270")

MITIGATION REQUIREMENTS:
(SEE TREE PRESERVATION PLAN FOR MORE DETAIL)

TOTAL INCHES: 2,106"
ALLOWED 30% REMOVAL: 631"
TOTAL INCHES REMOVED: 1,677
TOTAL INCHES TO MITIGATE: 1,046"
- COMMON TREE REMOVAL: 1,018"
- CONIFEROUS TREE REMOVAL: 12"
- HARDWOOD TREE REMOVAL: 16"

REPLACE COMMON TREES AT A RATE OF 1/4 TOTAL INCHES REMOVED: 1,018"/4=255"
REPLACE CONIFEROUS TREES AT A RATE OF 1/2 TOTAL INCHES REMOVED: 12"/2=6"
REPLACE HARDWOOD TREES AT A RATE OF 1/2 TOTAL INCHES REMOVED: 16"/2=8"

TOTAL INCHES REQUIRED FOR MITIGATION: 269"

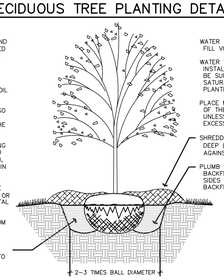
LANDSCAPE SUMMARY:

TOTAL TREES REQUIRED:		
STREET FRONTAGE REQUIREMENT:	98	(245")
DEVELOPED ACREAGE REQUIREMENT:	108	(270")
MITIGATION:		(269")
TOTAL INCHES REQUIRED:		(515")
*DEVELOPED ACREAGE REQUIREMENT USED TOWARD MITIGATION REQUIREMENT.		
TOTAL TREES PROPOSED:		
DECIDUOUS (2.5" EACH):	140	(350")
EVERGREEN (6' EQUIV. TO 3" EACH):	90	(270")
TOTAL:	230	(620")

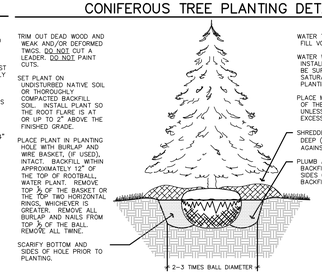
KEY	COMMON NAME/SCIENTIFIC NAME	ROOT	QUANTITY
	OVERSTORY TREES		
AM	AUTUMN BLAZE MAPLE/ACER X FREEMANI 'AUTUMN BLAZE'	2.5" B&B	22
SL	SENTRY LINDEN/TILIA AMERICANA 'SENTRY'	2.5" B&B	27
HL	THORNLESS HONEYLOCUST/GLEDITSIA TRACANTHOS VAR INERMIS	2.5" B&B	7
RB	RIVER BIRCH/BETULA NIGRA	10' B&B	24
NM	NORTHWOODS RED MAPLE/ACER RUBRUM	2.5" B&B	23
RO	RED OAK/QUERCUS RUBRA	2.5" B&B	26
WW	WHITE WILLOW/ SALIX ALBA 'NIOBE'	2.5" B&B	11
	EVERGREEN TREES		
BS	BLACK HILLS SPRUCE/PICEA GLAUCA DENSATA	6' B&B	63
SP	SCOTCH PINE/PINUS SYLVESTRUS	6' B&B	27

0 30 60 120
GRAPHIC SCALE IN FEET

DECIDUOUS TREE PLANTING DETAIL



CONIFEROUS TREE PLANTING DETAIL



LANDSCAPE NOTES

- THE LANDSCAPE CONTRACTOR SHALL VISIT THE PROJECT SITE TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS PRIOR TO SUBMITTING A BID.
- THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT OF PROPOSED PHYSICAL START DATE AT LEAST 7 DAYS IN ADVANCE.
- THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FIELD VERIFICATION OF ALL EXISTING UTILITY LOCATIONS ON THE PROJECT SITE WITH GOPHER STATE ONE CALL 1-800-252-1166 PRIOR TO COMMENCING WORK. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF EXISTING UTILITIES DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER. NOTIFY THE LANDSCAPE ARCHITECT OF ANY CONFLICTS TO FACILITATE PLANT RELOCATION.
- GRADING TO BE PERFORMED BY OTHERS.
- NO PLANT MATERIAL SHALL BE INSTALLED UNTIL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
- ALL PLANT MATERIAL SHALL MEET THE STANDARDS FOUND IN THE AMERICAN ASSOCIATION OF NURSERYMEN-AMERICAN STANDARD FOR NURSERY STOCK.
- ALL CONTAINER MATERIAL TO BE GROWN IN THE CONTAINER A MINIMUM OF SIX (6) MONTHS PRIOR TO PLANTING ON SITE.
- DECIDUOUS AND CONIFEROUS TREES SHALL NOT BE STAKED, BUT THE LANDSCAPE CONTRACTOR MUST GUARANTEE STANDABILITY TO A WIND SPEED OF 60 M.P.H.
- THE LANDSCAPE CONTRACTOR SHALL PROVIDE A MINIMUM GUARANTEE OF ONE YEAR ONE TIME REPLACEMENT ON NEW PLANT MATERIALS. GUARANTEE SHALL BE AGREED UPON BY DEVELOPER/BUILDER AND LANDSCAPE CONTRACTOR.
- THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY PLANTS WHICH ARE DEEMED UNSATISFACTORY BEFORE, DURING OR AFTER INSTALLATION.
- IF THERE IS A DESCREPANCY BETWEEN THE NUMBER OF PLANTS SHOWN ON THE PLAN AND THE NUMBER SHOWN ON THE PLANT LIST, THE NUMBER SHOWN ON THE PLAN WILL TAKE PRECEDENCE.
- THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MULCHES AND PLANTING SOIL QUANTITIES TO COMPLETE WORK SHOWN ON THE PLAN. THE LANDSCAPE CONTRACTOR SHALL VERIFY ALL QUANTITIES SHOWN ON THE PLANT SCHEDULE.
- COMMERCIAL GRADE POLY LAWN EDGING SHALL BE INSTALLED WHERE NOTED.
- THE LANDSCAPE CONTRACTOR SHALL REPAIR ALL DAMAGE TO THE SITE CAUSED BY THE PLANTING OPERATION AT NO COST TO THE OWNER.
- THE LANDSCAPE CONTRACTOR SHALL KEEP PAVEMENTS CLEAN UNSTAINED. ALL PEDESTRIAN AND VEHICLE ACCESS TO BE MAINTAINED THROUGHOUT CONSTRUCTION PERIOD. ALL WASTES SHALL BE PROMPTLY REMOVED FROM THE SITE. ANY DAMAGE TO EXISTING FACILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE CODES, REGULATIONS AND PERMITS GOVERNING THE WORK.
- STORAGE OF MATERIALS OR SUPPLIES ON-SITE WILL NOT BE ALLOWED.

01-PLAN-113105-SHEET-LAND

PIONEERengineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Landscape Architect under the laws of the State of Minnesota
Name Jennifer L. Thompson
Reg. No. 44763 Date

Revisions

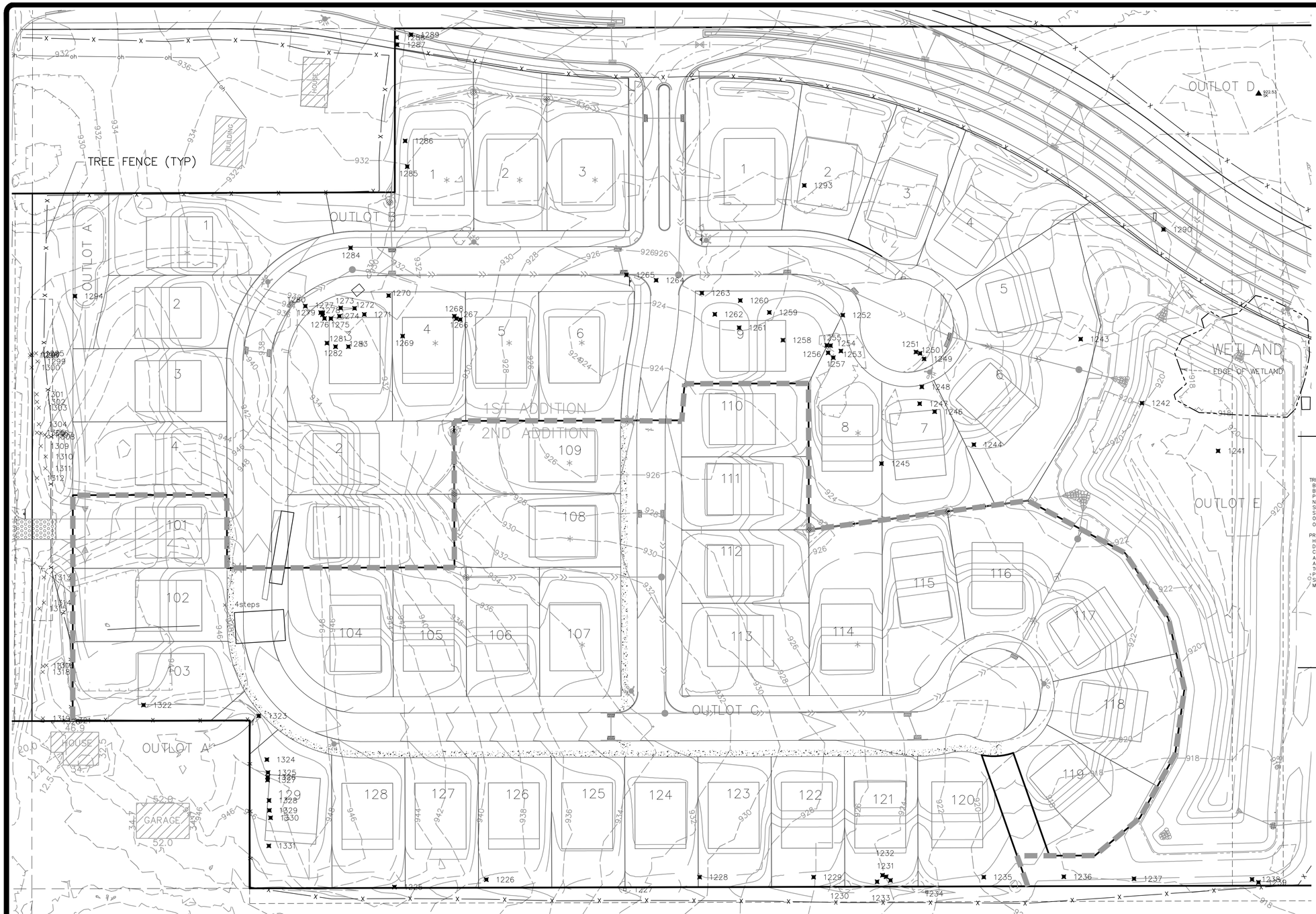
Date	08-08-2014
Designed	TML/jlt
Drawn	TML/jlt

LANDSCAPE PLAN

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

HUNTERS CROSSING
LAKE ELMO, MINNESOTA

L1 OF 1



Total Inches: 2,106"
Allowed 30% Removal: 631"
Total Inches Removed: 1,677"
Total Inches to Mitigate: 1,046"
Common Tree Removal: 1,018"
Coniferous Tree Removal: 12"
Hardwood Tree Removal: 16"
Common Tree Removal: 1,018"
Replace at a rate of 1/4: 1,018"/4=255"
Conifersous Tree Removal: 12"
Replace at a rate of 1/2: 12"/2=6"
Hardwood Tree Removal: 16"
Replace at a rate of 1/2: 16"/2=8"
Total Inches Required: 269"

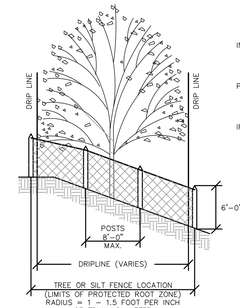
SEE DOCUMENT TITLED "HUNTERS CROSSING TREE INVENTORY" FOR A DETAILED TREE INVENTORY
SEE SHEET L1 FOR LANDSCAPE PLAN

TREE PROTECTION DETAIL

NOT TO SCALE

TREES TO BE SAVED SHALL BE FENCED OFF WITH BRIGHT ORANGE POLYETHYLENE SAFETY NETTING OR HEAVY DUTY SILT FENCE AND STEEL STAKES AT THE DRIP LINE, OR AS DIRECTED BY THE OWNER'S CONSULTANT.

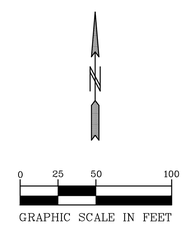
PROTECTION FENCE WILL HELP INSURE AGAINST DAMAGE BY VEHICLES, COMPACTION OF SOILS AND/OR THE CHEMICAL ALTERATION OF SOILS DUE TO CONCRETE WASHOUT, PAINTS AND LEAKAGE OR SPILLAGE OF ANY TOXIC MATERIALS.



INSTALL TREE OR SILT FENCE PRIOR TO OR AT SAME TIME AS LAND CLEARING.

PROTECTION FENCE SHOULD REMAIN IN PLACE UNTIL ALL CONSTRUCTION IS COMPLETE.

IF PROTECTION FENCE IS DAMAGED OR REMOVED, NEW FENCING MUST BE PLACED BACK IN ORIGINAL POSITION UNTIL CONSTRUCTION IS COMPLETE.



× 1245 = TREE TO BE SAVED
⊠ 1245 = TREE TO BE REMOVED
□ 1245 = TREE LOCATED OFFSITE

PIONEER engineering
CIVIL ENGINEERS LAND PLANNERS LAND SURVEYORS LANDSCAPE ARCHITECTS
2422 Enterprise Drive
Mendota Heights, MN 55120
(651) 681-1914
Fax: 681-9488
www.pioneereng.com

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Landscape Architect under the laws of the State of Minnesota

Name Jennifer L. Thompson
Reg. No. 44763 Date

Revisions

Date	08-08-2014
Designed	TML
Drawn	TML

TREE PRESERVATION PLAN

RYLAND HOMES
7599 ANAGRAM DRIVE
EDEN PRAIRIE, MINNESOTA 55344

HUNTERS CROSSING
LAKE ELMO, MINNESOTA

T1 OF 1

01-PLAN-113105-SHEET-TREE