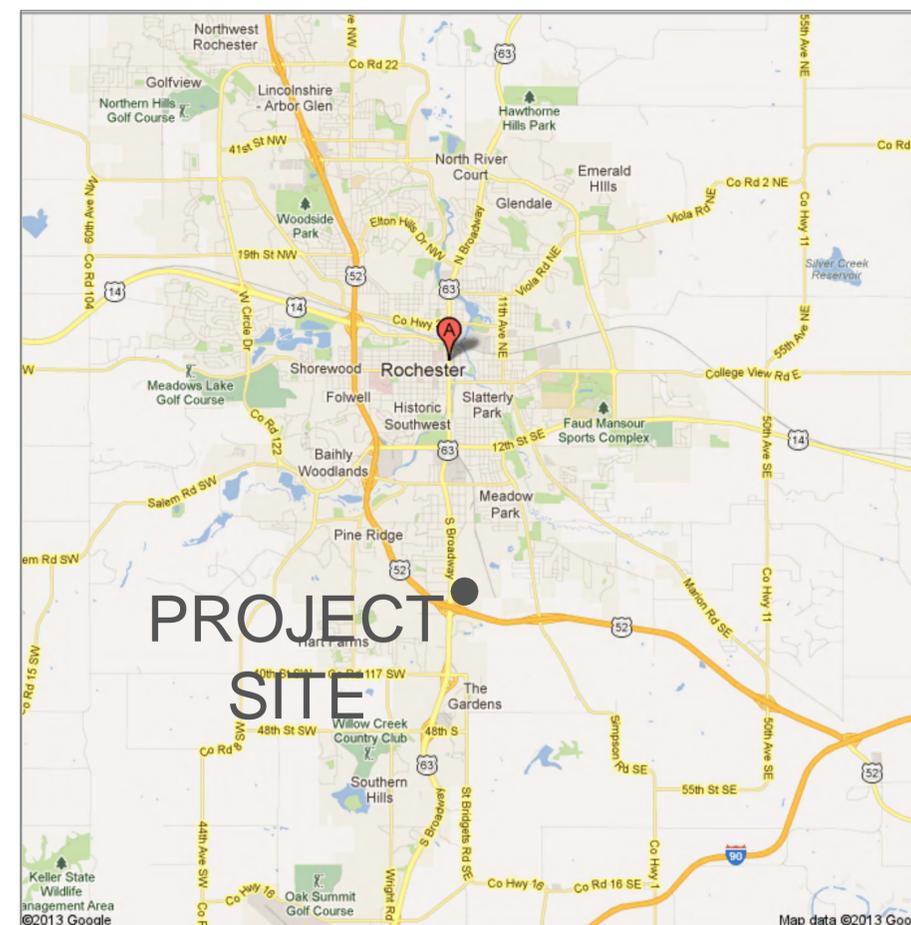


SHERWIN WILLIAMS ROCHESTER, MN

CIVIL DESIGN PLANS FOR: SITE, GRADING, UTILITIES & EROSION CONTROL

VICINITY MAP

HIGHWAY 63 SE AND 28TH ST. SE, ROCHESTER, MN



SHEET INDEX

- C0-1 COVER SHEET
- C1-1 EXISTING CONDITIONS PLAN
- C1-2 DEMOLITION PLAN
- C2-1 SITE PLAN
- C3-1 GRADING PLAN
- C4-1 UTILITY PLAN
- C5-1 EROSION CONTROL PLAN
- C6-1 DETAILS
- C6-2 DETAILS
- C6-3 DETAILS
- C6-4 DETAILS
- C6-5 DETAILS

DESIGN CONSULTANT

CIVIL ENGINEER
BEAZLEY CONSULTING
100 GAME FARM ROAD N.
MINNETRISTA, MN 55359

ERIC W. BEAZLEY, PE
TEL: 651-402-1670
eric@beazleyconsulting.com

WARNING:
A. EXTREME CAUTION MUST BE EXERCISED BEFORE AN EXCAVATION TAKES PLACE ON, OR NEAR THIS SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND/OR RELOCATION OF LINES.
B. THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATION OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES AND OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

PROJECT NO.: 13001
DRAWN BY: K. Beazley
CHECKED BY: E. Beazley
DATE: 05/05/2013
REVISION

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
ERIC W. BEAZLEY Date: 05/05/13 4:39:12 Registration No.

BEAZLEY
CONSULTING

SHERWIN WILLIAMS
ROCHESTER, MINNESOTA

03.21.13 City Review & Approval Subm.
04.02.13 City Review & Approval Subm.
05.05.13 Construction Docs. City Subm.

COVER SHEET

C1-0

LEGEND

-  Remove Existing Bituminous Pavement
-  Remove Existing Curb and Gutter

EXTREME CAUTION MUST BE EXERCISED BEFORE AN EXCAVATION TAKES PLACE ON OR NEAR THIS SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND/OR RELOCATION OF LINES.

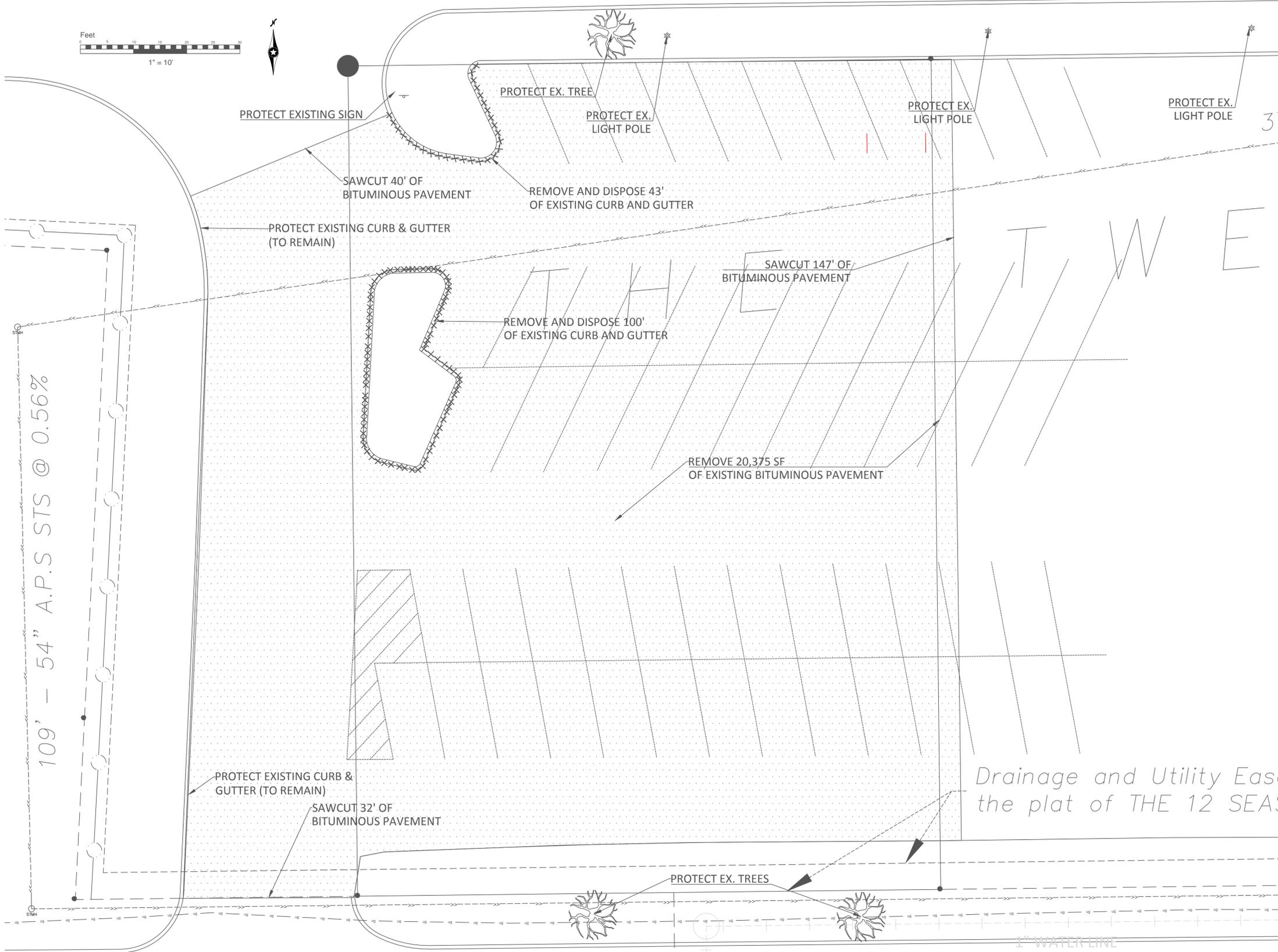
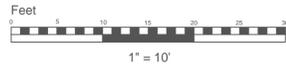
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EXISTING CONDITIONS NOTES

- A. The existing conditions information shown on this plan are per a survey completed by Carlson McCain dated October 18, 2012. The field survey was conducted on October 16, 2012.
- B. Contractor to verify building dimensions, and utility and basement depths.
- C. Utility information from plans and markings was combined with observed evidence of utilities to develop a view of the underground utilities shown hereon. However, lacking excavation, the exact location of underground features cannot be accurately, completely and reliably depicted. Where additional or more detailed information is required, excavation may be necessary.
- D. Other underground utilities of which we are unaware may exist. Verify all utilities critical to construction or design.
- E. Some underground utility locations are shown as marked onsite by those utility companies whose locators responded the Gopher State One Call.
- F. Existing conditions, including buried structures and utilities, have been shown hereon are subject to the following restrictions:
 1. Utility operators do not consistently respond to locate requests.
 2. Utility operators that do respond often will not locate services from their main line to the customer's structure or facility - they consider those segments private installations that are outside of their jurisdiction. If a private service to an adjoiner's site crosses this site, or a service to this site crosses an adjoiner's site, it may not be located since most operators will not mark such "private" services.
 3. Snow and ice during winter months may obscure otherwise visible evidence of a buried structure or utility.
 4. Maps provided by operators, either along with a field location or in lieu of such a location, are often inaccurate or inconclusive.

DEMOLITION NOTES

- A. The Contractor shall take all precautions necessary to avoid property damage to adjacent properties during the construction phase of the project. The Contractor will be held responsible for any damages to adjacent properties occurring during the construction phase of this project.
- B. The Contractor will be responsible for providing and maintaining traffic control devices such as barricades, warning signs, directional signs, flagmen and lights to control the movement of traffic where necessary. Placement of these devices shall be approved by the Owner prior to placement. Traffic control devices shall conform to the appropriate Minnesota Department of Transportation standards.
- C. In accordance with generally accepted construction practices, the Contractor will be solely and completely responsible for conditions on the job site, including safety of all persons and property during the performance of the work. This requirement will apply continuously and not be limited to normal working hours.
- D. The duty of the developer or engineer to conduct construction review of the Contractor's performance is not intended to review the adequacy of the Contractor's safety measures in, or near the construction site.
- E. Before beginning construction, the Contractor shall comply with the erosion control plan and/or permit.
- F. The Contractor shall field verify locations and elevations of existing utilities and topographic features prior to commencement of construction activity. The Contractor shall notify the engineer of any discrepancies or variations from the plans.
- G. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.
- H. Unless otherwise indicated, demolition waste becomes property of Contractor.
- I. If appropriate, refer to the environmental plans and specifications for hazardous material remediation.
- J. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
- K. Provide protection to allow safe passage of people around selective demolition area and to and from occupied portions of building.
- L. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
- M. Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations.
- N. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
- O. Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an approved landfill.
- P. Do not allow demolished materials to accumulate on-site.
- Q. See Architectural plans for hardscape application information.



Drainage and Utility Easement the plat of THE 12 SEASONS

PROJECT NO.: 13001
 DRAWN BY: K. Bezzeley
 CHECKED BY: E. Bezzeley
 DATE: 05/05/2013
 REVISION

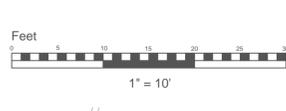
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 ERIC W. BEZZELEY
 Date: 05/05/13
 Registration No. 43912

BEZZELEY CONSULTING
 SHERWIN WILLIAMS
 ROCHESTER, MINNESOTA

03.21.13	City Review & Approval Subm.
04.02.13	City Review & Approval Subm.
05.05.13	Construction Docs. City Subm.

DEMOLITION PLAN

C1-2



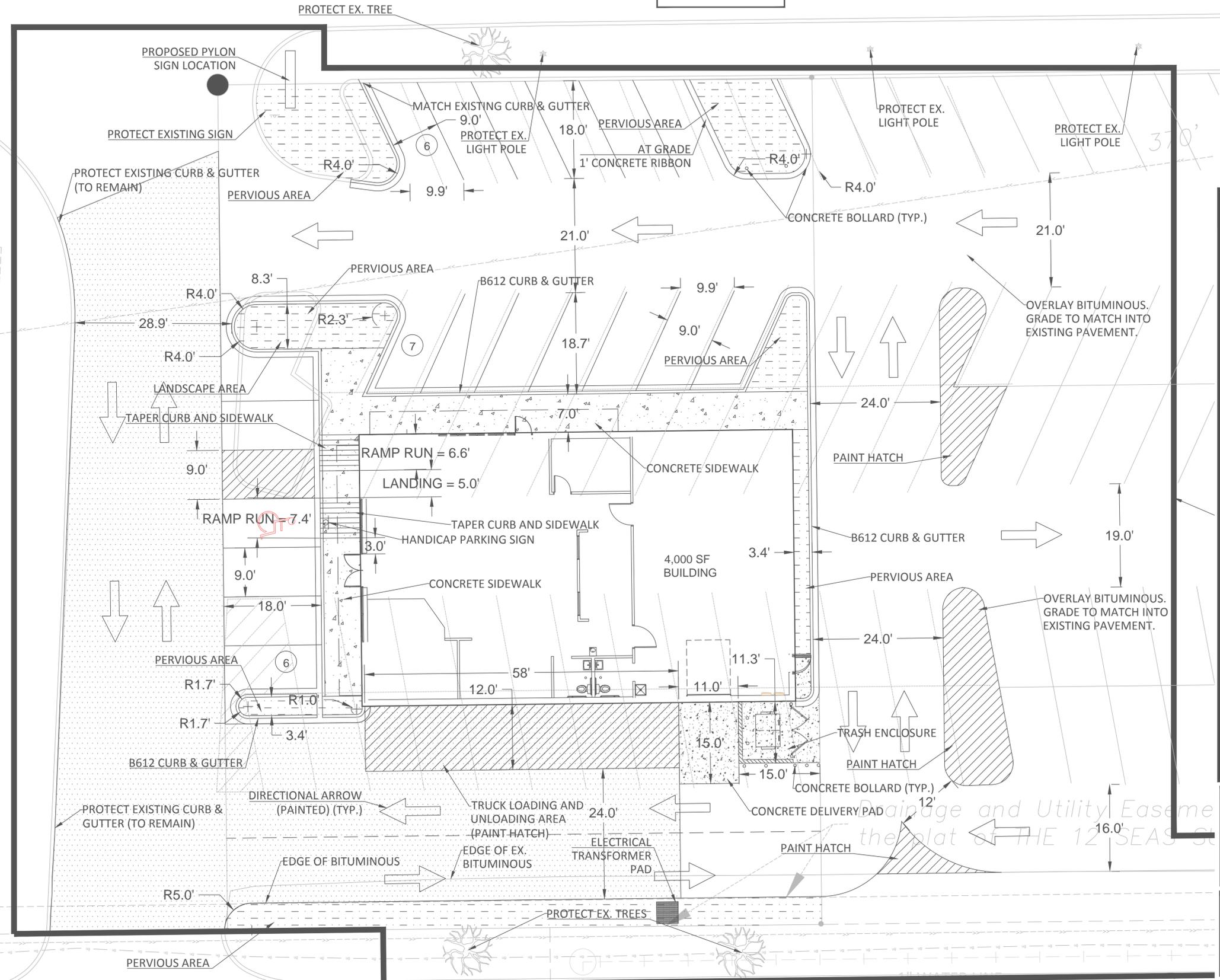
LEGEND	
	Heavy Duty Bituminous
	Landscape Area

PARKING CALCULATIONS	
Par 63.422 Floor Area = 2,213 sf	
REQUIRED: Retail Trade (1 STALL / 150 sf) = (1 / 150 * 2,213 sf) = 15 STALLS	
PROVIDED: 19 STALLS (INCLUDING 1 ACCESSIBLE STALL)	

AREA CALCULATIONS	
EXISTING PROJECT CONDITIONS	
EXISTING IMPERVIOUS AREA (sq ft)	15,392
EXISTING PERVIOUS AREA (sq ft)	1,696
TOTAL AREA (sq ft)	17,088
PROPOSED PROJECT IMPROVEMENTS	
PROPOSED IMPERVIOUS AREA (sq ft)	15,290
PROPOSED PERVIOUS AREA (sq ft)	1,798
TOTAL AREA (sq ft)	17,088
PROPOSED PERCENTAGE OF LANDSCAPE AREA = 10.5%	

EXISTING CONDITIONS NOTES

- The existing conditions information shown on this plan are per a survey completed by Carlson McCain dated October 18, 2010. The field survey was conducted on October 16, 2012.
- Contractor to verify building dimensions, and utility and basement depths.
- Utility information from plans and markings was combined with observed evidence of utilities to develop a view of the underground utilities shown hereon. However, lacking excavation, the exact location of underground features cannot be accurately, completely and reliably depicted. Where additional or more detailed information is required, excavation may be necessary.
- Other underground utilities of which we are unaware may exist. Verify all utilities critical to construction or design.
- Some underground utility locations are shown as marked onsite by those utility companies whose locators responded the Gopher State One Call.
- Existing conditions, including buried structures and utilities, have been shown hereon are subject to the following restrictions:
 - Utility operators do not consistently respond to locate requests.
 - Utility operators that do respond often will not locate services from their main line to the customer's structure or facility - they consider those segments private installations that are outside of their jurisdiction. If a private service to an adjacent site crosses this site, or a service to this site crosses an adjacent site, it may not be located since most operators will not mark such "private" services.
 - Snow and ice during winter months may obscure otherwise visible evidence of a buried structure or utility.
 - Maps provided by operators, either along with a field location or in lieu of such a location, are often inaccurate or inconclusive.



SITE PLAN NOTES

- All paving, concrete curb, gutter and sidewalk shall be furnished and installed in accordance with the requirements of the City. See Architectural and Landscape plans for additional hardscape applications.
- The City department of engineering, building inspections department and the construction engineer shall be notified at least 48 hours prior to work within the street right of way (sidewalk, street or driveways).
- Minnesota state statute requires notification per "Gopher State One Call" prior to commencing any grading, excavation or underground work.
- See contract specifications for any removal details.
- Before beginning construction, the Contractor shall comply with the erosion control plan and/or permit.
- The Contractor shall field verify locations and elevations of existing utilities and topographic features prior to commencement of construction activity. The Contractor shall notify the engineer of any discrepancies or variations from the plans.
- The Contractor will be responsible for providing and maintaining traffic control devices such as barricades, warning signs, directional signs, flagmen and lights to control the movement of traffic where necessary. Placement of these devices shall be approved by the Owner prior to placement. Traffic control devices shall conform to the appropriate Minnesota Department of Transportation standards.
- In accordance with generally accepted construction practices, the Contractor will be solely and completely responsible for conditions on the job site, including safety of all persons and property during the performance of the work. This requirement will apply continuously and not be limited to normal working hours.
- The duty of the developer or engineer to conduct construction review of the Contractor's performance is not intended to review the adequacy of the Contractor's safety measures in, or near the construction site.
- Any sign or fixture removed within the right of way, or as part of the site work shall be replaced by the contractor in accordance with the city requirements.
- Clear, grub and remove all trees, vegetation and site debris prior to grading. All removed material shall be hauled from the site daily. All clearing and grubbing and removals shall be performed per the contract specifications. Erosion control measures shall be performed per the contract specifications.
- Pedestrian ramps shall be provided at the locations shown.
- The Contractor shall saw-bit bituminous and concrete pavements as required per the specifications.
- Concrete curb and gutter to be B612.
- The contractor shall be required to obtain all permits from authorities and regulatory agencies having jurisdiction over this site and the adjacent right of ways, as required, prior to beginning work.
- Except for stripped topsoil and other materials indicated to be stockpiled or otherwise remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.
- Salvageable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises.
- Do not commence site-clearing operations until temporary erosion- and sedimentation-control and plant-protection measures are in place.
- Soil Stripping, Handling, and Stockpiling: Perform only when the topsoil is dry or slightly moist.
- Protect and maintain benchmarks and survey control points from disturbance during construction.
- Locate and clearly identify trees, shrubs, and other vegetation to remain, or to be relocated.
- The intent of the proposed construction is to preserve as much of the existing pavement, curb and gutter and sidewalk as possible. Protect existing site improvements to remain from damage during construction.
- Interrupting Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
 - Notify Owner not less than [two] 2 days in advance of proposed utility interruptions.
 - Do not proceed with utility interruptions without Owner's written permission.
- Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.
- Remove sod and grass before stripping topsoil.
- Strip topsoil to full depth in a manner to prevent intermingling with underlying subsoil or other waste materials.
- AA Remove subsoil and nonsoil materials from topsoil, including clay lumps, gravel, and other objects more than 2 inches in diameter; trash, debris, weeds, roots, and other waste materials.
- BB A Significant portion of the site improvements are not shown on this sheet, but are provided in detail on the architectural plans. This includes, but is not necessarily limited to, lighting and other improvements.

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PROJECT NO.: 13001
 DRAWN BY: K. Beazley
 CHECKED BY: E. Beazley
 DATE: 05/05/2013
 REVISION

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 ERIC W. BEAZLEY
 05/05/13 Date 43912 Registration No.

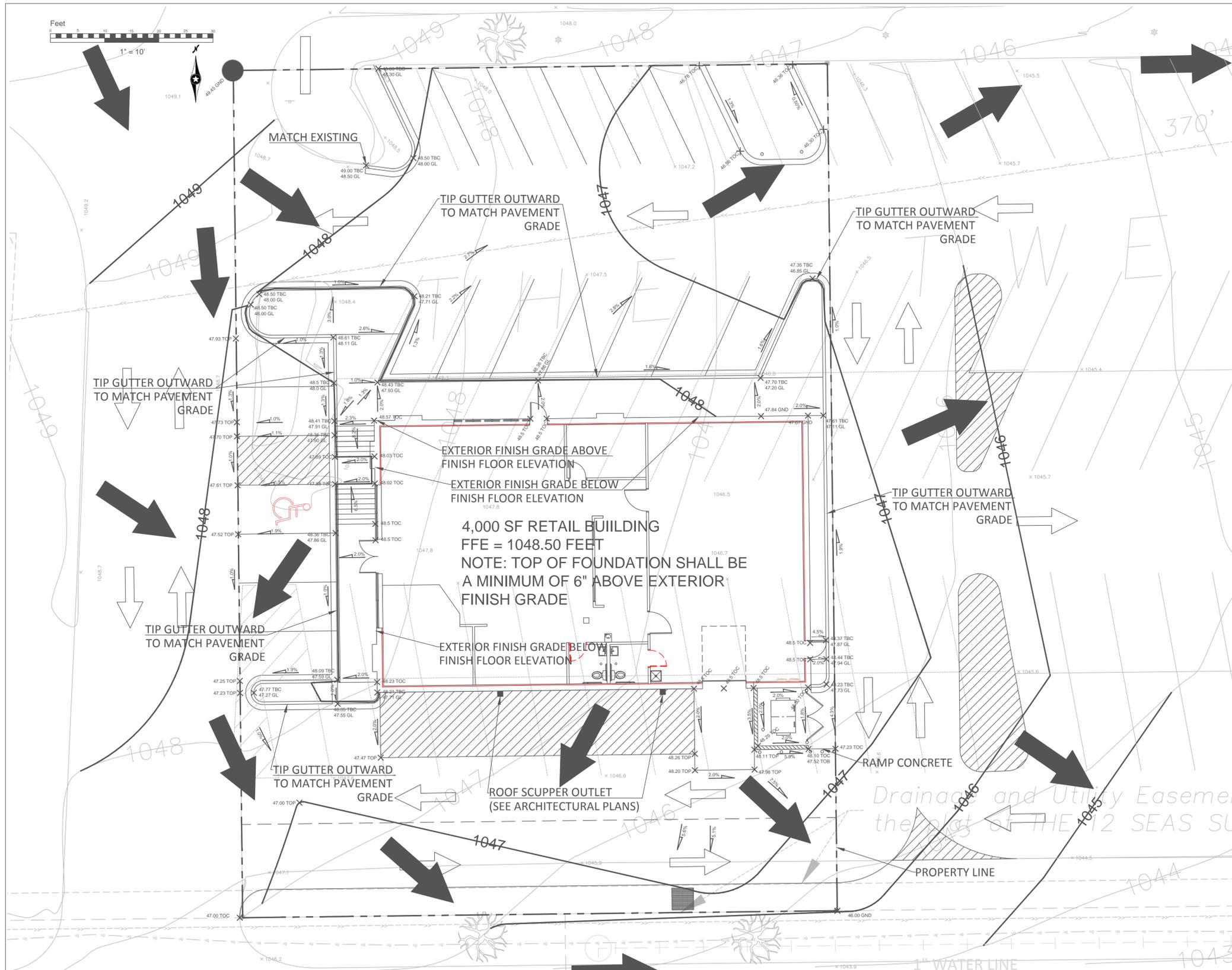
BEAZLEY CONSULTING

SHERWIN WILLIAMS
 ROCHESTER, MINNESOTA

03.21.13 City Review & Approval Subm.
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 05.05.13 Construction Docs. City Subm.

SITE PLAN

C2-1



LEGEND

CONC.	CONCRETE		FLOW ARROW
EX.	EXISTING	TBC	TOP BACK OF CURB
FFE	FINISH FLOOR ELEVATION	TOB	TOP OF BITUMINOUS
GL	GUTTER FLOW LINE	TOC	TOP OF CONCRETE
GND	GROUND	TOP	TOP OF PAVEMENT

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATION OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES AND OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

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THE OWNER IS AWARE OF DESIGN SLOPES LESS THAN 2% AND ACCEPTS ANY ISSUES THAT MAY RESULT IN THE DESIGN.

GRADING PLAN NOTES

- A. All disturbed areas are to receive a minimum of 4-inches of topsoil mixed with 2-inches of compost (for a total of 6-inches), and sod or seed. These areas shall be watered by the Contractor until the sod or seed is growing in a healthy manner. See Landscape plan for more information.
- B. The Contractor shall take all precautions necessary to avoid property damage to adjacent properties during the construction phase of the project. The Contractor will be held responsible for any damages to adjacent properties occurring during the construction phase of the project.
- C. The Contractor will be responsible for providing and maintaining traffic control devices such as barricades, warning signs, directional signs, flagmen and lights to control the movement of traffic where necessary. Placement of these devices shall be approved by the Owner prior to placement. Traffic control devices shall conform to the appropriate Minnesota Department of Transportation standards.
- D. In accordance with generally accepted construction practices, the Contractor will be solely and completely responsible for conditions on the job site, including safety of all persons and property during the performance of the work. This requirement will apply continuously and not be limited to normal working hours.
- E. The duty of the developer or engineer to conduct construction review of the Contractor's performance is not intended to review the adequacy of the Contractor's safety measures in, or near the construction site.
- F. The contractor shall be required to obtain all permits from authorities and regulatory agencies having jurisdiction over this site, as required, prior to beginning work.
- G. Before beginning construction, the Contractor shall comply with the erosion control plan and/or permit.
- H. The Contractor shall field verify locations and elevations of existing utilities and topographic features prior to commencement of construction activity. The Contractor shall notify the engineer of any discrepancies or variations from the plans.
- I. Backfill: Soil material used to fill an excavation.
- J. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.
- K. Fill: Soil materials used to raise existing grades.
- L. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during earth moving operations.
 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.
- M. Do not conduct work on adjoining property unless directed by Engineer.
- N. Do not commence earth-moving operations until temporary erosion- and sedimentation-control measures are in place.
- O. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- P. Satisfactory Soils: Soil Classification [Groups GW, GP, GM, SW, SP, and SM according to ASTM D 2487] [Groups A-1, A-2-4, A-2-5, and A-3 according to AASHTO M 145], or a combination of these groups; free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
- Q. Unsatisfactory Soils: Soil Classification [Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D 2487] [Groups A-2-6, A-2-7, A-4, A-5, A-6, and A-7 according to AASHTO M 145], or a combination of these groups.
 1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.
- R. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch (37.5-mm) sieve and not more than 12 percent passing a No. 200 (0.075-mm) sieve.
- S. Drainage Course: Narrowly graded mixture of washed, crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2-inch (37.5-mm) sieve and 0 to 5 percent passing a No. 8 (2.36-mm) sieve.
- T. Sand: ASTM C 33; fine aggregate.
- U. Install Detectable Warning Tape above constructed utilities. Detectable warning tape is defined as: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored as follows:
 1. Red: Electric.
 2. Yellow: Gas, oil, steam, and dangerous materials.
 3. Orange: Telephone and other communications.
 4. Blue: Water systems.
 5. Green: Sewer systems.
- V. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth moving operations.
- W. Protect and maintain erosion and sedimentation controls during earth moving operations.
- X. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.
- Y. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.
- Z. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch. If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.
 1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.
 2. Excavation for Underground Tanks, Basins, and Mechanical or Electrical Utility Structures: Excavate to elevations and dimensions indicated within a tolerance of plus or minus 1 inch. Do not disturb bottom of excavations intended as bearing surfaces.
- AA. Excavations at Edges of Tree- and Plant-Protection Zones:
 3. Excavate by hand to indicated lines, cross sections, elevations, and subgrades. Use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.
- BB. Place backfill on subgrades free of mud, frost, snow, or ice.
- CC. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
 1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill soil material at 98 percent.
 2. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 95 percent.
 3. Under turf or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 85 percent.
- DD. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
 1. Provide a smooth transition between adjacent existing grades and new grades.
 2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.
- EE. Site Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
 1. Turf or Unpaved Areas: Plus or minus 1 inch
 2. Walks: Plus or minus 1 inch
 3. Pavements: Plus or minus 1/2 inch

OWNER: Jim LaVale
 Towle Acquisition Services, LLC
 225 South 6th Street, Suite 4100
 Minneapolis, MN 55402
 p: 612-751-1919
 e: lavallejim@comcast.net

PROJECT NO.: 13001
 DRAWN BY: K. Beazley
 CHECKED BY: E. Beazley
 DATE: 05/05/2013
 REVISION

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 ERIC W. BEAZLEY Date 05/05/13 43912 Registration No.

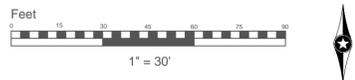
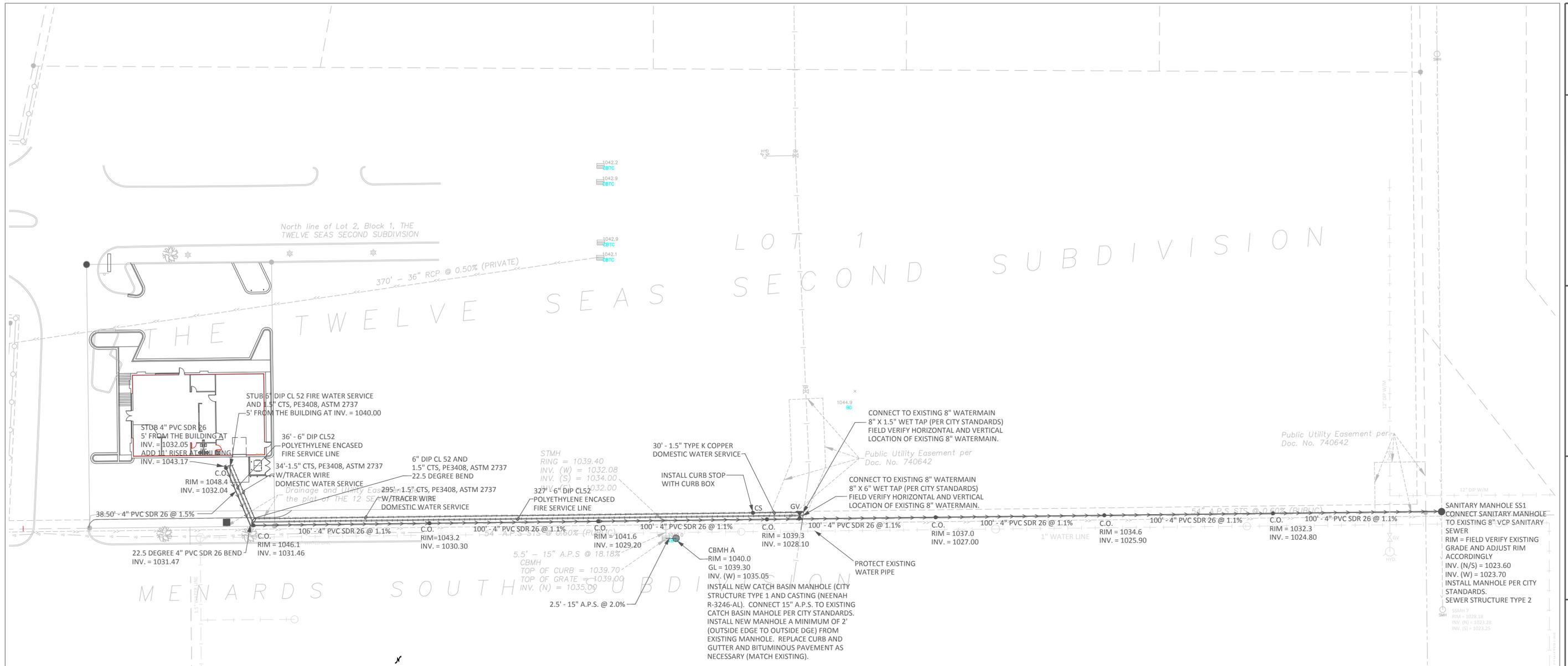
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SHERWIN WILLIAMS ROCHESTER, MINNESOTA

03.21.13 City Review & Approval Subm.
 04.02.13 City Review & Approval Subm.
 05.05.13 Construction Docs. City Subm.

GRADING PLAN

C3-1



EXISTING CONDITIONS NOTES

- A. The existing conditions information shown on this plan are per a survey completed by Carlson McCain dated October 18, 2010. The field survey was conducted on October 16, 2012.
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- D. Other underground utilities of which we are unaware may exist. Verify all utilities critical to construction or design.
- E. Some underground utility locations are shown as marked onsite by those utility companies whose locators responded the Gopher State One Call.
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 1. Utility operators do not consistently respond to locate requests.
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 3. Snow and ice during winter months may obscure otherwise visible evidence of a buried structure or utility.
 4. Maps provided by operators, either along with a field location or in lieu of such a location, are often inaccurate or inconclusive.

UTILITY PLAN NOTES

1. CONTRACTOR SHALL PROTECT EXISTING UTILITIES NOT DEEMED FOR REMOVAL FROM DAMAGE.
2. ALL UTILITIES SHALL BE FURNISHED AND INSTALLED PER THE REQUIREMENTS OF THE SPECIFICATIONS, AND APPLICABLE REGULATORY AGENCIES.
3. SEE THE DETAIL SHEETS AND CONTRACT SPECIFICATIONS FOR SPECIFIC UTILITY DETAILS AND UTILITY SERVICE DETAILS.
4. ALL UTILITIES SHALL TERMINATE 5' FROM THE BUILDING UNLESS OTHERWISE NOTED.
5. SEE THE MECHANICAL PLANS FOR WATER AND SANITARY CONNECTIONS 5' FROM THE BUILDING.
6. ALL UTILITY PIPE BEDDING SHALL BE CONSTRUCTED PER THE REQUIREMENTS OF THE CITY AND THE REPORT OF GEOTECHNICAL EXPLORATION AND REVIEW DEVELOPED BY AMERICAN ENGINEERING TESTING, INC.
7. ALL CONNECTIONS TO EXISTING UTILITIES SHALL BE PERFORMED PER THE REQUIREMENTS OF THE CITY. THE CITY DEPARTMENT OF ENGINEERING AND BUILDING INSPECTIONS DEPARTMENT AND THE CONSTRUCTION ENGINEER MUST BE NOTIFIED AT LEAST 48 HOURS PRIOR TO ANY WORK WITHIN THE PUBLIC RIGHT-OF-WAY, OR WORK IMPACTING PUBLIC UTILITIES.
8. THE CONTRACTOR SHALL BE REQUIRED TO OBTAIN ALL PERMITS FROM AUTHORITIES AND REGULATORY AGENCIES HAVING JURISDICTION OVER THIS SITE, AS REQUIRED, PRIOR TO BEGINNING WORK.
9. THE CONTRACTOR SHALL FIELD ADJUST WATER SERVICE TO AVOID CONFLICTS WITH SANITARY SEWER, STORM SEWER SMALL UTILITIES AND SERVICES AS REQUIRED.
10. ALL STREET REPAIRS AND PATCHING SHALL BE PERFORMED PER THE REQUIREMENTS OF THE CITY, COUNTY OR STATE, AS APPLICABLE. ALL TRAFFIC CONTROL SHALL BE PROVIDED BY THE CONTRACTOR AND SHALL BE ESTABLISHED PER THE REQUIREMENTS OF THE CITY, COUNTY OR STATE AS APPLICABLE. THIS SHALL INCLUDE ALL SIGNAGE, BARRICADES, FLASHERS AND FLAGGERS AS NEEDED. ALL PUBLIC STREETS SHALL BE OPEN TO TRAFFIC AT ALL TIMES. NO ROAD CLOSURES SHALL BE PERMITTED WITHOUT EXPRESSED WRITTEN AUTHORITY OF THE CITY, COUNTY AND/OR STATE, AS APPLICABLE.
11. ALL NEW WATERMAIN MUST HAVE A MINIMUM OF 8'-FEET OF COVER. INSULATION SHALL BE PROVIDED WHERE 8'-FEET OF COVER CANNOT BE ATTAINED.
12. ADJUST ALL EXISTING STRUCTURES, BOTH PUBLIC AND PRIVATE TO THE PROPOSED GRADES WHERE DISTURBED AND COMPLY WITH ALL REQUIREMENTS OF THE UTILITY OWNERS. STRUCTURES BEING RESET TO PAVED AREAS MUST MEET THE OWNER'S REQUIREMENTS FOR TRAFFIC LOADING.
13. REFER TO THE REPORT OF GEOTECHNICAL EXPLORATION AND REVIEW PREPARED BY AMERICAN ENGINEERING TESTING, INC. FOR GEOTECHNICAL CONCERNS AND CONSTRUCTION REQUIREMENTS RELATED TO SUBGRADE CORRECTIONS, UTILITY CONSTRUCTION, PAVEMENT CONSTRUCTION, ETC.

STRUCTURE SCHEDULE

ID	DESCRIPTION
SS1	48" CITY STANDARD STRUCTURE TYPE 2
CBMH A	48" CITY STANDARD STRUCTURE TYPE 1

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATION OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES AND OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

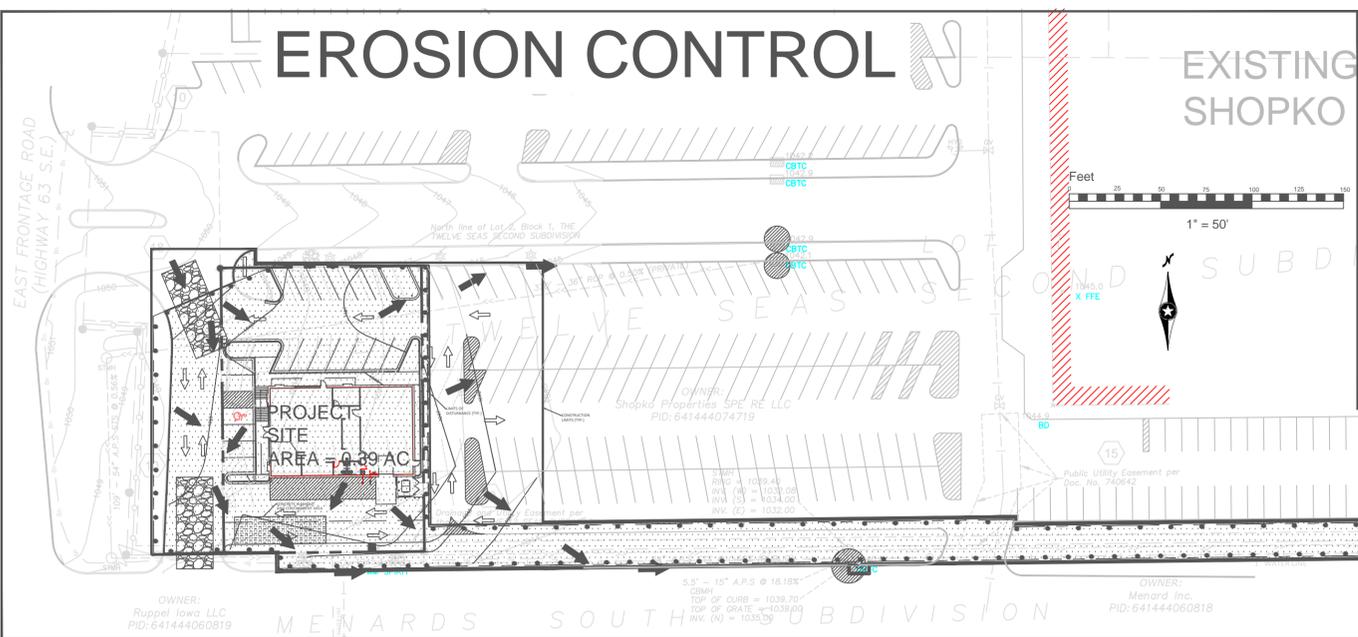
EXTREME CAUTION MUST BE EXERCISED BEFORE AN EXCAVATION TAKES PLACE ON OR NEAR THIS SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND/OR RELOCATION OF LINES.

PROJECT NO.: 13001
 DRAWN BY: K. Beazley
 CHECKED BY: E. Beazley
 DATE: 05/05/2013
 REVISION
 I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 ERIC W. BEAZLEY Date 05/05/13 43912 Registration No.

BEAZLEY CONSULTING
SHERWIN WILLIAMS ROCHESTER, MINNESOTA
 City Review & Approval Subm. 03.21.13
 City Review & Approval Subm. 04.02.13
 Construction Docs. City Subm. 05.05.13

UTILITY PLAN
C4-1

EROSION CONTROL



EXISTING CONDITIONS NOTES

- The existing conditions information shown on this plan are per a survey completed by Carlson McCain dated October 18, 2012. The field survey was conducted on October 16, 2012.
- Contractor to verify building dimensions, and utility and basement depths.
- Utility information from plans and markings was combined with observed evidence of utilities to develop a view of the underground utilities shown hereon. However, lacking excavation, the exact location of underground features cannot be accurately, completely and reliably depicted. Where additional or more detailed information is required, excavation may be necessary.
- Other underground utilities of which we are unaware may exist. Verify all utilities critical to construction or design.
- Some underground utility locations are shown as marked onsite by those utility companies whose locators responded to the Gopher State One Call.
- Existing conditions, including buried structures and utilities, have been shown hereon are subject to the following restrictions:
 - Utility operators do not consistently respond to locate requests.
 - Utility operators that do respond often will not locate services from their main line to the customer's structure or facility - they consider those segments private installations that are outside of their jurisdiction. If a private service to an adjoining site crosses this site, or a service to this site crosses an adjoining site, it may not be located since most operators will not mark such "private" services.
 - Snow and ice during winter months may obscure otherwise visible evidence of a buried structure or utility.
 - Maps provided by operators, either along with a field location or in lieu of such a location, are often inaccurate or inconclusive.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATION OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES AND OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

EXTREME CAUTION MUST BE EXERCISED BEFORE AN EXCAVATION TAKES PLACE ON OR NEAR THIS SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND/OR RELOCATION OF LINES.

OWNER: Jim LaValle
 Towle Acquisition Services, LLC
 225 South 6th Street, Suite 4100
 Minneapolis, MN 55402
 p: 612-751-1919
 e: lavallejim@comcast.net

DRAINAGE AREAS

OVERALL DRAINAGE AREA

Existing Drainage Areas

Drainage Area	Impervious (sf)	Pervious (sf)	Total (sf)	2-Year Runoff (cfs)	10-Year Runoff (cfs)	100-Year Runoff (cfs)	Existing Inlet Capacity (cfs)
EX-N	38,379	4,410	42,789	3.7	5.5	8.2	7.0
EX-S	81,970	18,490	100,461	8.4	12.7	19.1	6.0
TOTAL	120,349	22,900	143,250	12.1	18.1	27.2	

OVERALL DRAINAGE AREA

Proposed Drainage Areas

Drainage Area	Impervious (sf)	Pervious (sf)	Total (sf)	2-Year Runoff (cfs)	10-Year Runoff (cfs)	100-Year Runoff (cfs)	Existing Inlet Capacity (cfs)	Proposed Inlet Capacity (cfs)	Total Inlet Capacity (cfs)
PR-N	36,864	5,155	42,019	3.6	5.4	8.0	7.0	7.0	7.0
PR-S	83,272	17,959	101,231	8.5	12.8	19.2	6.0	8.2	14.2
TOTAL	120,136	23,113	143,250	12.1	18.1	27.2			

PROJECT SITE ONLY

Existing Drainage Areas

Drainage Area	Impervious (sf)	Pervious (sf)	Total (sf)	2-Year Runoff (cfs)	10-Year Runoff (cfs)	100-Year Runoff (cfs)	Existing Inlet Capacity (cfs)
EX-N	7,896	547	8,443	0.7	1.1	1.6	7.0
EX-S	7,496	1,149	8,645	0.7	1.1	1.7	6.0
TOTAL	15,392	1,696	17,088	1.5	2.2	3.3	

PROJECT SITE ONLY

Proposed Drainage Areas

Drainage Area	Impervious (sf)	Pervious (sf)	Total (sf)	2-Year Runoff (cfs)	10-Year Runoff (cfs)	100-Year Runoff (cfs)	Existing Inlet Capacity (cfs)	Proposed Inlet Capacity (cfs)	Total Inlet Capacity (cfs)
PR-N	5,794	1,147	6,941	0.6	0.9	1.3	7.0	7.0	7.0
PR-S	9,511	636	10,147	0.9	1.3	2.0	6.0	8.2	14.2
TOTAL	15,304	1,783	17,088	1.5	2.2	3.3			

SWPPP NOTES

- THE NATURE OF THIS PROJECT WILL CONSIST OF SURFACE FEATURE DEMOLITION, BUILDING CONSTRUCTION, PARKING LOT CONSTRUCTION, SANITARY SEWER, STORM SEWER AND WATER SERVICE CONSTRUCTION.
- AREA TO BE DISTURBED = 0.87 ACRES
- SOIL TYPES: SEE SOILS REPORT
- IF APPLICABLE, THE OWNER WHO SIGNS THE NPDES PERMIT APPLICATION IS A PERMITEE AND IS RESPONSIBLE FOR COMPLIANCE WITH ALL TERMS AND CONDITIONS OF THE PERMIT. THE OPERATOR (CONTRACTOR WHO SIGNS THE NPDES PERMIT APPLICATION) IS A PERMITEE FOR PARTS II.B, PART I.C AND PART IV. OF THE NPDES PERMIT AND IS JOINTLY RESPONSIBLE WITH THE OWNER FOR COMPLIANCE WITH THOSE PORTIONS OF THE PERMIT.
- TERMINATION OF COVERAGE: PERMITEE(S) WISHING TO TERMINATE COVERAGE MUST SUBMIT A NOTICE OF TERMINATION (N.O.T.) TO THE MPCA. ALL PERMITEES MUST SUBMIT AN N.O.T. WITHIN 30-DAYS AFTER ONE OR MORE OF THE FOLLOWING CONDITIONS HAVE BEEN MET:
 - FINAL STABILIZATION, PER NPDES PERMIT PART IV.G. AND DEFINITION IN APPENDIX B HAS BEEN ACHIEVED ON ALL PORTIONS OF THE SITE FOR WHICH THE PERMITEE IS RESPONSIBLE.
 - ANOTHER OWNER HAS ASSUMED CONTROL OVER ALL AREAS OF THE SITE THAT HAVE NOT BEEN FINALLY STABILIZED.
- OWNER MUST KEEP RECORDS OF ALL PERMITS REQUIRED FOR THE PROJECT, ALL INSPECTIONS AND MAINTENANCE, PERMANENT OPERATION AND MAINTENANCE AGREEMENTS, AND REQUIRED CALCULATIONS FOR TEMPORARY AND PERMANENT STORMWATER MANAGEMENT SYSTEMS. THESE RECORDS MUST BE MAINTAINED FOR THREE YEARS.
- SWPPP MUST BE AMENDED WHEN:
 - THERE IS A CHANGE IN DESIGN, OPERATION, MAINTENANCE WEATHER OR SEASONAL CONDITIONS THAT HAS SIGNIFICANT EFFECT ON DISCHARGE.
 - INSPECTIONS INDICATE THAT THE SWPPP IS NOT EFFECTIVE AND DISCHARGE IS EXCEEDING WATER QUALITY STANDARDS.
 - THE BMPs IN THE SWPPP ARE NOT CONTROLLING POLLUTANTS IN DISCHARGES OR IN NOT CONSISTENT WITH THE TERMS AND CONDITIONS OF THE PERMIT.

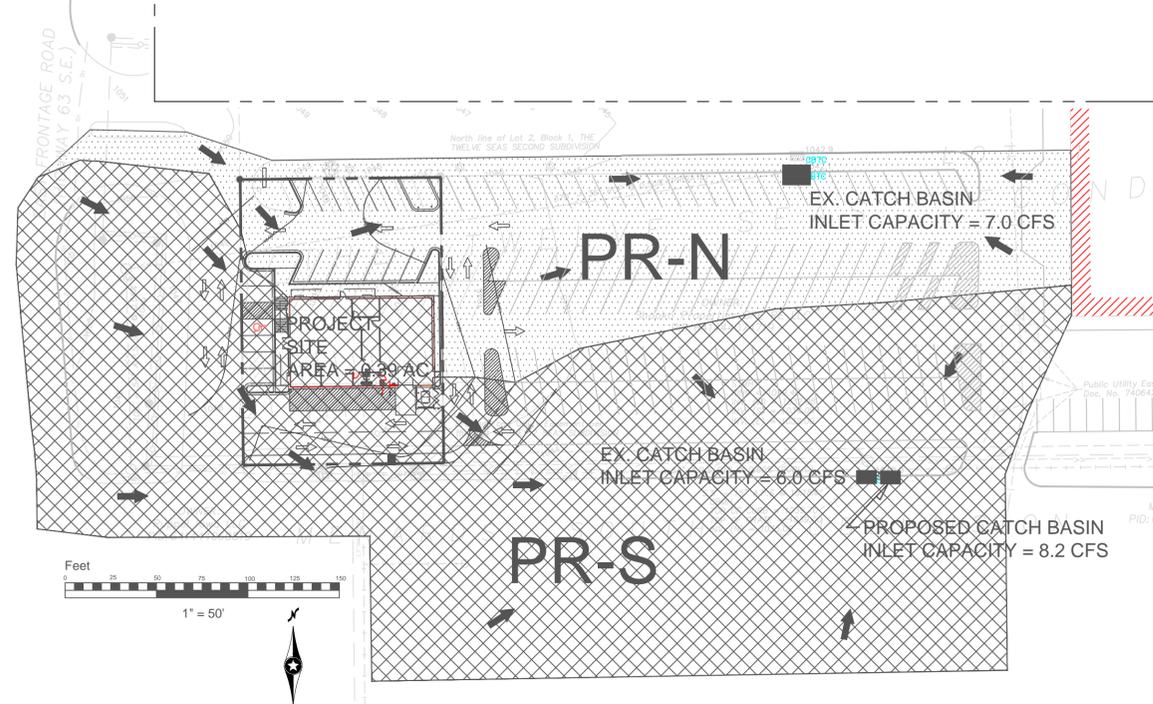
LEGEND & BMP SCHEDULE

SYMBOL	DESCRIPTION	QUANTITY
	ROCK CONSTRUCTION ENTRANCE	2
	SILT FENCE	1,970 LF
	INLET PROTECTION	3
	AREA OF SOIL DISTURBANCE	0.87 ACRES
	CONSTRUCTION LIMITS	1.17 ACRES
	FLOW ARROW	

EROSION CONTROL NOTES

- All disturbed unpaved areas are to receive a minimum of 4-inches of topsoil and 2-inches of compost (for a total of 6-inches) and sod or seed (as indicated). These areas shall be watered by the contractor until the sod or seed is growing in a healthy manner. See landscape plans for more requirements.
- The Contractor shall take all precautions necessary to avoid property damage to adjacent properties during the construction phase of the project. The contractor will be held responsible for any damages to adjacent properties occurring during the construction phase of the project.
- The contractor will be responsible for maintaining traffic control devices such as barricades, warning signs, directional signs, flagmen and lights to control the movement of traffic where necessary. These devices and their placement shall be approved by the regulatory agency prior to placement.
- In accordance with generally accepted construction practices, the contractor will be solely and completely responsible for conditions on the job site, including safety of all persons and property during the performance of the work. This requirement will apply continuously and not be limited to normal working hours.
- The duty of the owner (or owner's representative) to conduct construction review of the contractor's performance is not intended to include review of the adequacy of the contractor's safety measures in, or near the construction site.
- Before beginning construction, the contractor shall install a temporary rock entrance pad at all points of vehicle exit from the site. Said rock entrance pads shall be maintained by the contractor for the duration of the project.
- Erosion and sedimentation control measures shall be established around the entire site perimeter and in accordance with best management practices and the project details.
- Erosion control measures shall be immediately established upon completion of clearing and grubbing.
 - The intended sequence of major construction activities is as follows:
 - Install silt fence around the perimeter of the site, and the rock construction entrance(s).
 - Install silt fence and inlet protection around, and within, all structures.
 - Clear and grub.
 - Surface feature removals.
 - Rough grading of the site.
 - Stabilize denuded areas and stockpiles.
 - Fine grading of the site.
 - Install topsoil, compost and seed.
 - Remove accumulated sediment from structures.
 - When all construction activities are complete and the site is stabilized, remove silt fence and reseed any areas disturbed by the removal within 30-days of final stabilization.
 - The location of the areas not to be disturbed must be identified with flags, stakes, signs, silt fence, etc. before construction begins.
 - All storm drains and inlets must be protected until all sources of potential discharge are stabilized.
 - Solid waste must be disposed of properly and comply with the governing agency's disposal requirements.
- External washing of construction vehicles must be limited to a defined area of the site. The area must be in a contained location with a liner. Washout to be removed and properly disposed of following all applicable regulations. Under no circumstances shall equipment be allowed to wash off fresh concrete in the street or in any area where the washout material will enter a wetland or drainage way. Concrete washout water shall not be discharged into water/storm systems.
- No engine degreasing is allowed on site.
- Silt fence required maintenance shall be as follows:
 - *When sediment reaches 1/3 the height of the silt fence fabric. The sediment must be removed within 24-hours.
 - *Repair or replace dysfunctional silt fence within 24-hours.
- The contractor shall be required to obtain all permits from authorities and regulatory agencies having jurisdiction over this site, as required, prior to beginning work.
- After construction begins, soil surface stabilization shall be applied within 7-days to all disturbed areas that may not be at final grade, but will remain undisturbed for periods longer than an additional 21 calendar days.
- Within 7-days after final grade is reached on any portion of the site, permanent or temporary soil surface stabilization shall be applied to disturbed areas and soil stockpiles.
- All disturbed ground left inactive for 7 days or more must be stabilized by seeding, sodding or mulching.

Type of Slope	Days to Stabilize
Steeper than 3:1	7 days
10:1 to 3:1	7 days
Flatter than 10:1	7 days
- When stabilization measures are stopped due to snow cover or arid conditions, stabilization measures shall be initiated as soon as possible. Soil stabilization measures shall include, but are not limited to surface roughening, temporary or permanent vegetation, mulching, sodding, landscaping and erosion control blankets.
- Stabilization measures to be used shall be appropriate for the time of year, site conditions and estimated duration of use.
- Existing turf outside of the construction limits shall not be disturbed. Any turf shall be re-established.
- All streets and parking lots adjacent to the site shall be cleaned and/or swept at the end of each working day.
- When stabilization measures are stopped due to snow cover, stabilization measures shall be re-initiated as soon as possible. Stabilization measures shall include, but are not limited to: temporary or permanent vegetation, mulching, sodding, landscaping and erosion control blankets.
- Temporary and permanent erosion and sediment control practices shall be maintained and repaired by the Contractor during the construction phase as needed to assure continued performance of their intended function.
- Erosion control measures shall be maintained and remain in place until permanent revegetation is established.
- Contractor to locate a concrete washout area on the project site prior to beginning work.



PROJECT NO.: 13001
 DRAWN BY: K. Beazley
 CHECKED BY: E. Beazley
 DATE: 05/05/2013
 REVISION

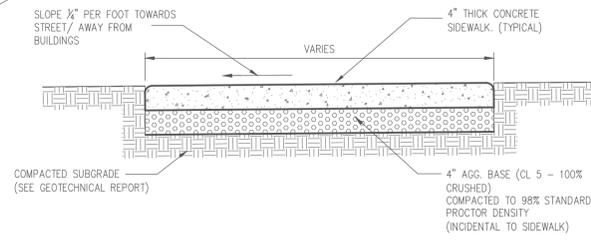
BEAZLEY CONSULTING

SHERWIN WILLIAMS ROCHESTER, MINNESOTA

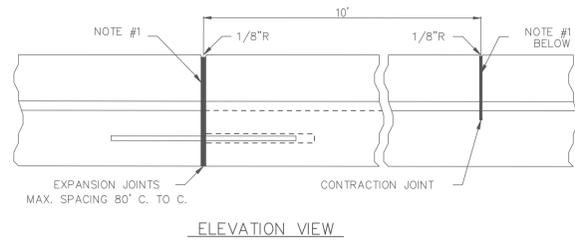
03.21.13 City Review & Approval Subm.
 04.02.13 City Review & Approval Subm.
 05.05.13 Construction Docs. City Subm.

EROSION CONTROL

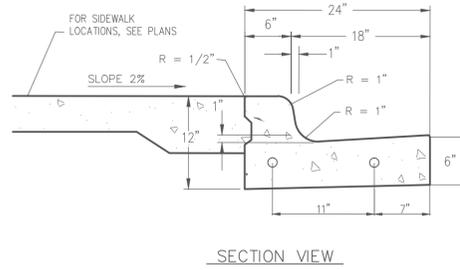
C5-1



- 1). CONSTRUCTION JOINTS SPACED 5' MIN. AND 8' MAX.
- 2). SIDEWALK WIDTH 5' OR LESS - JOINT SPACING=5' SIDEWALK WIDTH 5' OR MORE - JOINT SPACING 6'-8'
- 3). CONTROL JOINTS SHALL BE SAWED OR TOOLED TO 1/4 CONCRETE DEPTH(MIN.)
- 4). EXPANSION JOINTS EVERY 150 L.F.(MAX) AS PER EXPANSION JOINT DETAIL WITH BACKER ROD AND SEALANT
- 5). PRE-FORMED EXPANSION JOINT FILLER SHALL BE INSTALLED FOR THE FULL THICKNESS OF THE SIDEWALK AND SHALL BE USED AT ALL JOINTS BETWEEN NEW SIDEWALK AND EXISTING SIDEWALK.

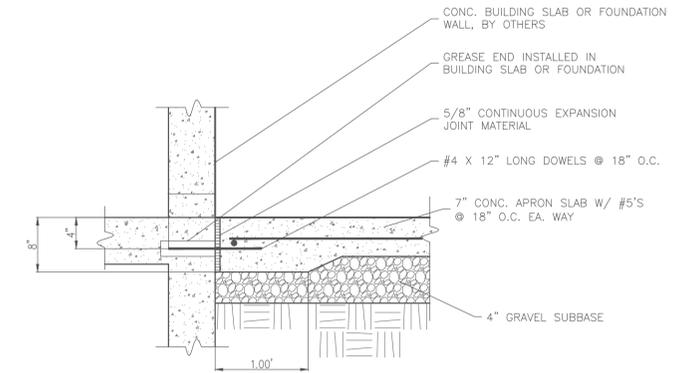


TYPICAL 4" CONCRETE SIDEWALK
NOT TO SCALE

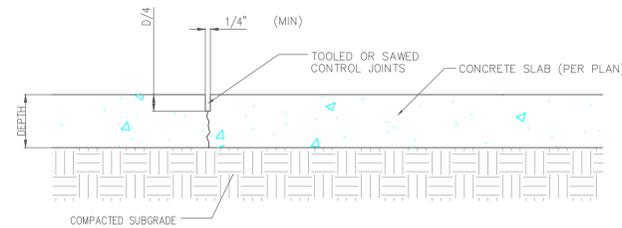


1. 3/4" EXPANSION JOINT WITH 3/4"x24" SMOOTH DOWELS & 16" PAPER TUBES. DOWELS SHALL BE GREASED THE FULL LENGTH. ALL PAPER TUBES SHALL BE PLUGGED OR CRIMPED ON ONE END. ALL JOINTS SHALL BE SEALED.
2. DOWELS SHALL BE SUPPORTED BY AN APPROVED SUPPORT MADE OF #7 AWG WIRE.
3. CONTRACTION JOINT SCORED 1/3 THE DEPTH OF THE CONCRETE. ALL JOINTS SHALL BE SEALED.

TYPICAL CURB AND GUTTER
NOT TO SCALE



CONCRETE DETAIL AT BUILDING
NOT TO SCALE



CONTROL JOINT DETAIL
NOT TO SCALE

PROJECT NO.: 13001
DRAWN BY: K. Beazley
CHECKED BY: E. Beazley
DATE: 05/05/2013

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a Licensed Professional Engineer under the laws of the State of Minnesota.
ERIC W. BEAZLEY Date 05/05/13 43912 Registration No.

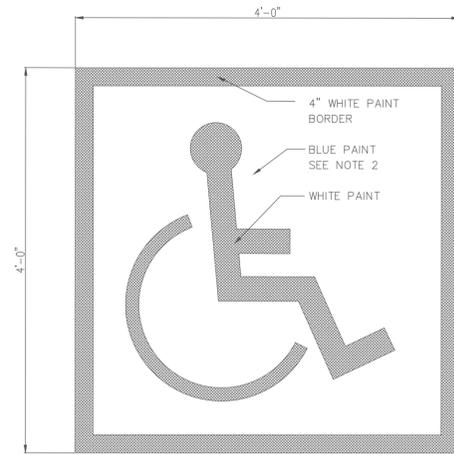
BEAZLEY
CONSULTING

SHERWIN WILLIAMS
ROCHESTER, MINNESOTA

03.21.13 City Review & Approval Subm.
04.02.13 City Review & Approval Subm.
05.05.13 Construction Docs. City Subm.

DETAILS

C6-1

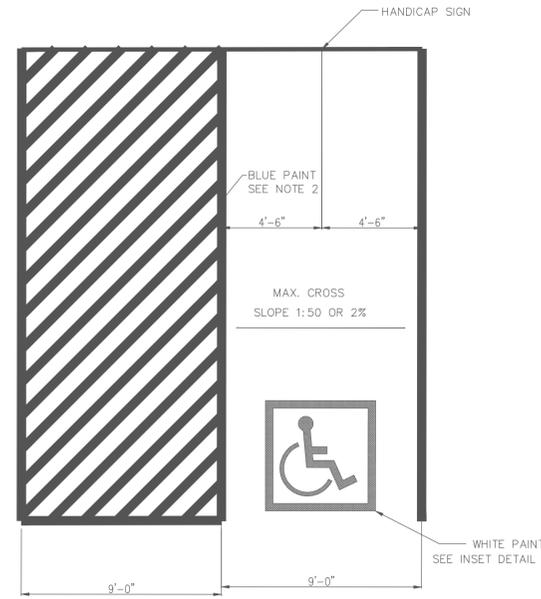


HANDICAP SYMBOL

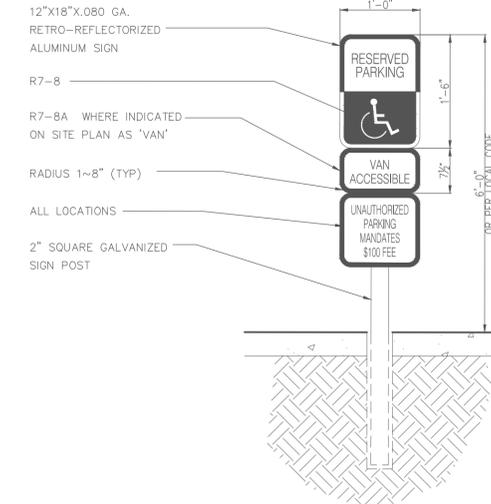
NOTES:

1. SYMBOL TO BE CENTERED ON WIDTH OF PARKING STALL. SYMBOL IS REQUIRED TO CONTRAST WITH BACKGROUND.
2. USE WHITE ON BLUE (COLOR #105090 IN FEDERAL STANDARD 5952) DOUBLE COAT.
3. ALL DIMENSIONS OF SYMBOL SHALL CONFORM WITH FEDERAL STANDARDS.
4. ONE IN EVERY EIGHT ACCESSIBLE SPACES, BUT NOT LESS THAN ONE, SHALL BE SERVED BY AN ACCESS AISLE 96" (8') WIDE MINIMUM AND SHALL BE DESIGNATED "VAN ACCESSIBLE"

TYPICAL ACCESSIBLE STALL
NOT TO SCALE

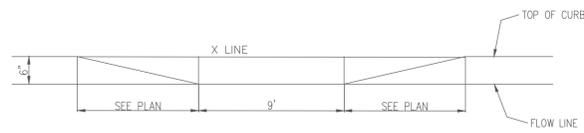


ACCESSIBLE STALL
NOT TO SCALE

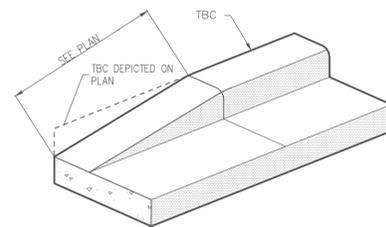


- NOTES:**
1. PROVIDE (1) SIGN PER HANDICAP SPACE. SEE SITE PLAN FOR EXACT LOCATION.
 2. EXPANSION JOINT MATERIAL NOT REQUIRED WITH FLEXIBLE PAVEMENT.

HANDICAP PARKING SIGN
NOT TO SCALE

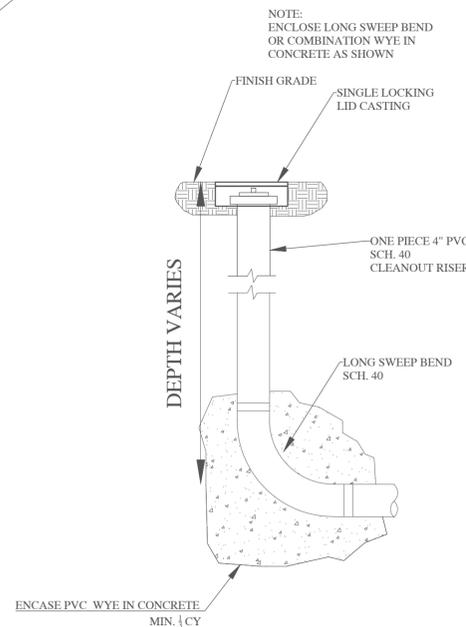


RAMP FRONT

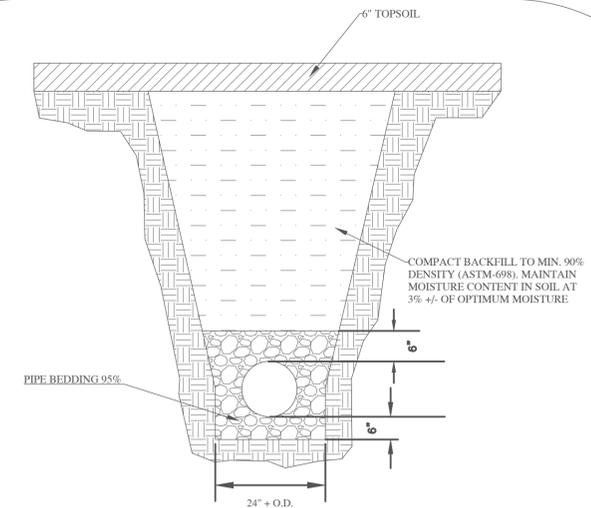


PERSPECTIVE

NOSE DOWN CURB RAMP
NOT TO SCALE

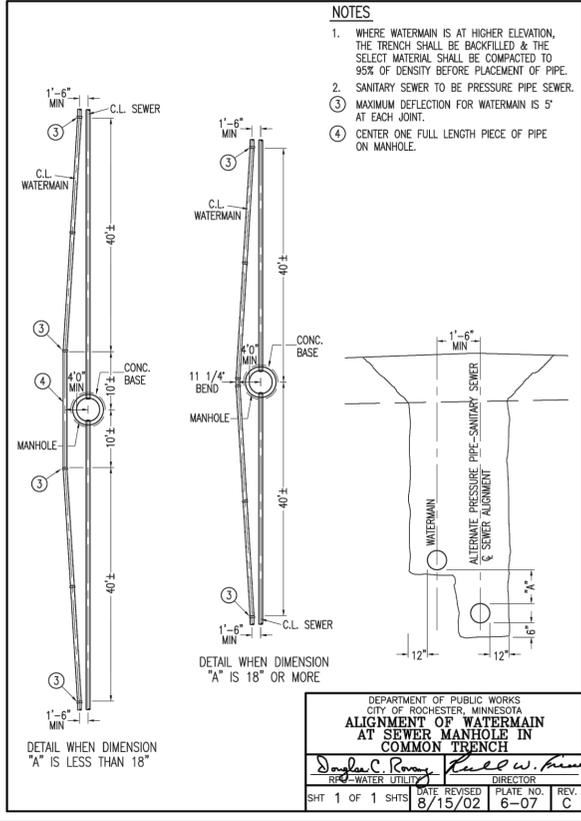


END-OF-LINE CLEANOUT
NOT TO SCALE



BEDDING & BACKFILL FOR SANITARY SEWER, STORM SEWER & WATERMAIN IN LANDSCAPE AREAS

NOT TO SCALE



- NOTES**
- WHERE WATERMAIN IS AT HIGHER ELEVATION, THE TRENCH SHALL BE BACKFILLED & THE SELECT MATERIAL SHALL BE COMPACTED TO 95% OF DENSITY BEFORE PLACEMENT OF PIPE.
 - SANITARY SEWER TO BE PRESSURE PIPE SEWER.
 - MAXIMUM DEFLECTION FOR WATERMAIN IS 5' AT EACH JOINT.
 - CENTER ONE FULL LENGTH PIECE OF PIPE ON MANHOLE.

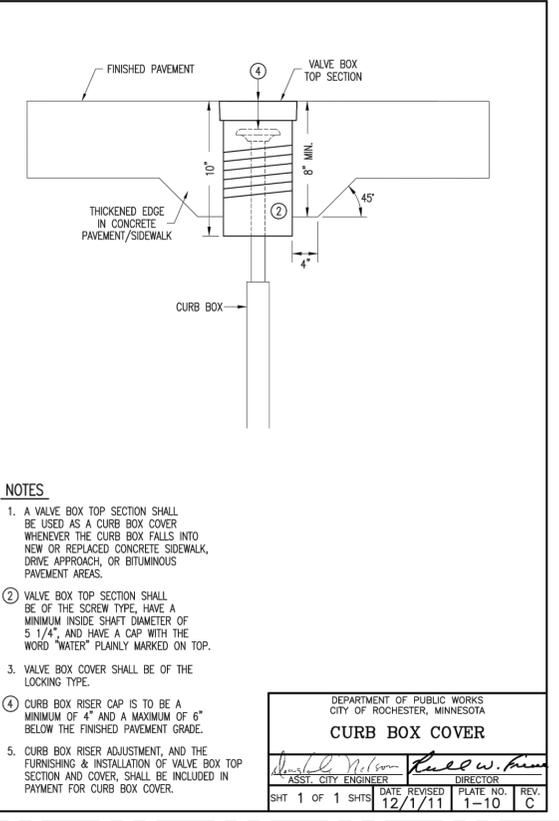
DEPARTMENT OF PUBLIC WORKS
CITY OF ROCHESTER, MINNESOTA
**ALIGNMENT OF WATERMAIN
AT SEWER MANHOLE IN
COMMON TRENCH**
Douglas C. Romig, Asst. City Engineer, Russell W. Finn, Director
SHT 1 OF 1 SHTS DATE REVISED 8/15/02 PLATE NO. 6-07 REV. C

CASTINGS - STRUCTURE TYPE 1			REMARKS
TYPE	DESCRIPTION	NEENAH REF. NO.	REMARKS
B	3" CURB INLET FRAME, GRATE & BOX	R-3087	USE WHERE DRIVEWAY PRECLUDES USE OF TYPE B IN BAY CURB
C	3" DRIVEWAY INLET FRAME & GRATE	00703410	PARALLEL (BI-CYCLE SAFE)
V	3" CURB INLET FRAME, GRATE & BOX	R-3087	USE WHEN STREET GRADE EXCEEDS 2%

CASTINGS - OTHER STRUCTURES			REMARKS
TYPE	DESCRIPTION	NEENAH REF. NO.	REMARKS
1	9" FRAME & COVER GASKETED	R-1916-E	USED IN FLOOD PRONE AREAS & IN CONCRETE PAVING
2	7" FRAME & COVER GASKETED	R-1733	WITH TWO C.I. & CONCEALED PICK HOLES
2A	9" FRAME & COVER GASKETED	R-1733-B	WITH TWO C.I. & CONCEALED PICK HOLES
3	7" FRAME & COVER NON ROCKING	R-1740-B	USED FOR P.V. MANHOLES
4	9" FRAME & GRATE NON ROCKING	R-2533	FLAT GRATE
6	DITCH GRATE, STOOL, TYPE TALL	R-431-A	HEAVY DUTY
7	DITCH GRATE, STOOL, TYPE SHORT	R-432	HEAVY DUTY
8	POND SKIMMER GRATE		HOT DIPPED GALVANIZED NOT SUBJECT TO HEAVY LOADING

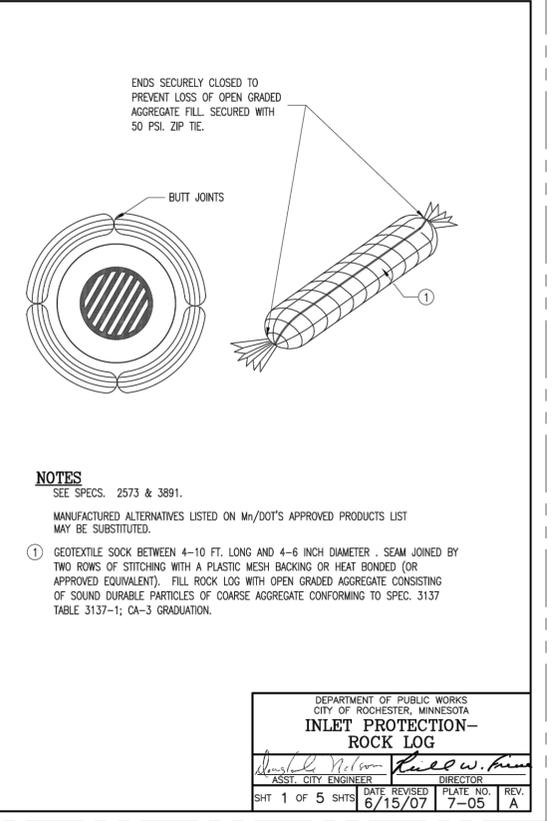
- NOTES**
- CASTINGS SHALL BE ACCORDING TO MNDOT SPEC. 302.1.1-2 SUPPLIED BY FOUNDRIES THAT ARE APPROVED ON THE MNDOT APPROVED PRODUCTS LIST
 - ALL CASTINGS SHALL COMPLY WITH U.S. CODE OF FEDERAL REGULATIONS 23CFR636.110, THE "BUY AMERICAN STEEL & IRON" REGULATION
 - ALL STORM SEWER CASTINGS MAY INCLUDE IMPRINT FISH STAMP AND "DUMP NO WASTE"

DEPARTMENT OF PUBLIC WORKS
CITY OF ROCHESTER, MINNESOTA
CASTING REFERENCE NUMBERS
Douglas C. Romig, Asst. City Engineer, Russell W. Finn, Director
SHT 1 OF 1 SHTS DATE REVISED 12/1/11 PLATE NO. 1-11 REV. H



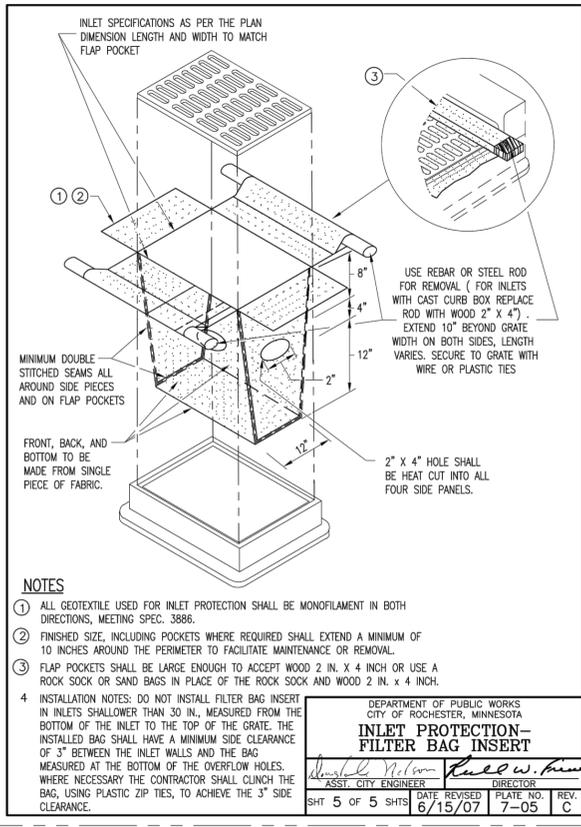
- NOTES**
- A VALVE BOX TOP SECTION SHALL BE USED AS A CURB BOX COVER WHENEVER THE CURB BOX FALLS INTO NEW OR REPLACED CONCRETE SIDEWALK, DRIVE APPROACH, OR BITUMINOUS PAVEMENT AREAS.
 - VALVE BOX TOP SECTION SHALL BE OF THE SCREW TYPE, HAVE A MINIMUM INSIDE SHAFT DIAMETER OF 5 1/4", AND HAVE A CAP WITH THE WORD "WATER" PLAINLY MARKED ON TOP.
 - VALVE BOX COVER SHALL BE OF THE LOCKING TYPE.
 - CURB BOX RISER CAP IS TO BE A MINIMUM OF 4" AND A MAXIMUM OF 6" BELOW THE FINISHED PAVEMENT GRADE.
 - CURB BOX RISER ADJUSTMENT, AND THE FURNISHING & INSTALLATION OF VALVE BOX TOP SECTION AND COVER, SHALL BE INCLUDED IN PAYMENT FOR CURB BOX COVER.

DEPARTMENT OF PUBLIC WORKS
CITY OF ROCHESTER, MINNESOTA
CURB BOX COVER
Douglas C. Romig, Asst. City Engineer, Russell W. Finn, Director
SHT 1 OF 1 SHTS DATE REVISED 12/1/11 PLATE NO. 1-10 REV. C



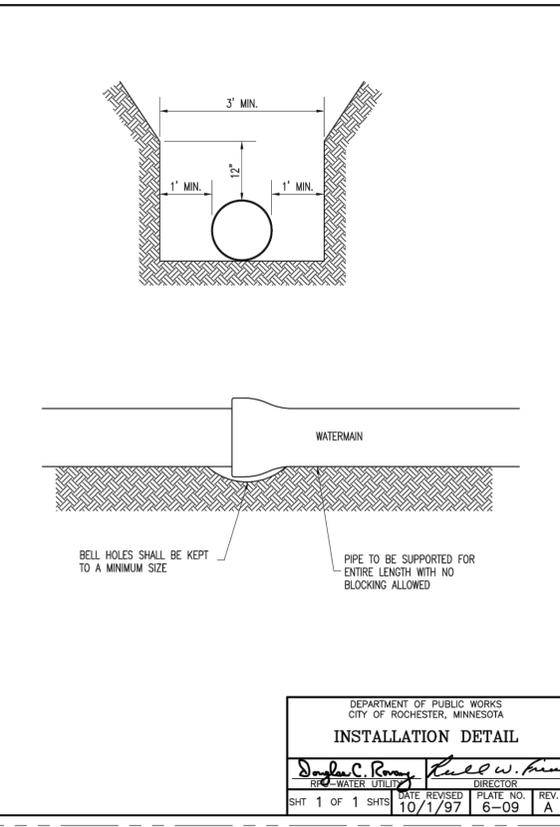
- NOTES**
- SEE SPECS. 2573 & 3891.
- MANUFACTURED ALTERNATIVES LISTED ON Mn/DOT'S APPROVED PRODUCTS LIST MAY BE SUBSTITUTED.
- GEOTEXTILE SOCK BETWEEN 4-10 FT. LONG AND 4-6 INCH DIAMETER. SEAM JOINED BY TWO ROWS OF STITCHING WITH A PLASTIC MESH BACKING OR HEAT BONDED (OR APPROVED EQUIVALENT). FILL ROCK LOG WITH OPEN GRADED AGGREGATE CONSISTING OF SOUND DURABLE PARTICLES OF COARSE AGGREGATE CONFORMING TO SPEC. 3137 TABLE 3137-1; CA-3 GRADUATION.

DEPARTMENT OF PUBLIC WORKS
CITY OF ROCHESTER, MINNESOTA
**INLET PROTECTION-
ROCK LOG**
Douglas C. Romig, Asst. City Engineer, Russell W. Finn, Director
SHT 1 OF 5 SHTS DATE REVISED 6/15/07 PLATE NO. 7-05 REV. A

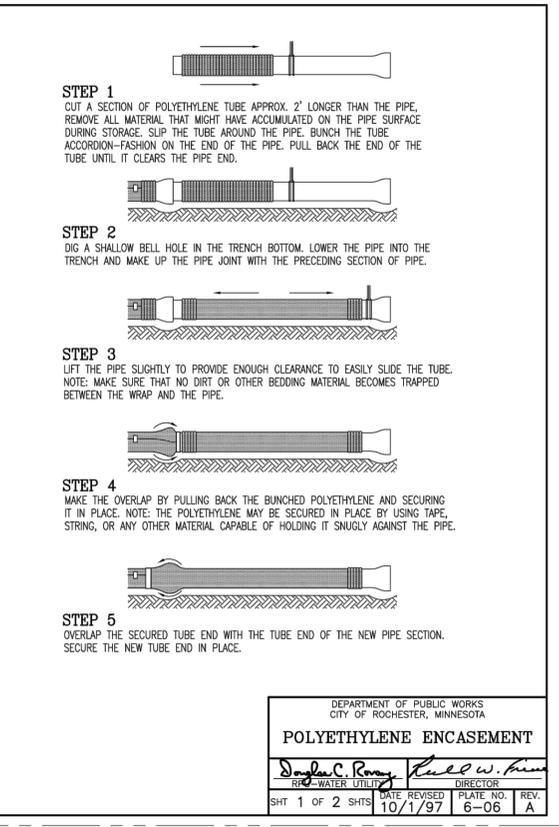


- NOTES**
- ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886.
 - FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
 - FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 IN. X 4 INCH OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE ROCK SOCK AND WOOD 2 IN. X 4 INCH.
 - INSTALLATION NOTES: DO NOT INSTALL FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 IN., MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3" BETWEEN THE INLET WALLS AND THE BAG MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES. WHERE NECESSARY THE CONTRACTOR SHALL CLUNCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" SIDE CLEARANCE.

DEPARTMENT OF PUBLIC WORKS
CITY OF ROCHESTER, MINNESOTA
**INLET PROTECTION-
FILTER BAG INSERT**
Douglas C. Romig, Asst. City Engineer, Russell W. Finn, Director
SHT 5 OF 5 SHTS DATE REVISED 6/15/07 PLATE NO. 7-05 REV. C

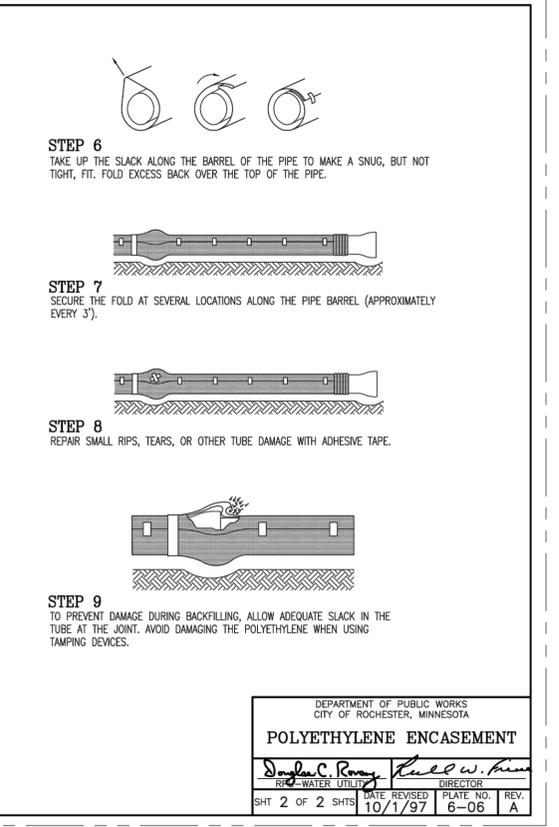


DEPARTMENT OF PUBLIC WORKS
CITY OF ROCHESTER, MINNESOTA
INSTALLATION DETAIL
Douglas C. Romig, Asst. City Engineer, Russell W. Finn, Director
SHT 1 OF 1 SHTS DATE REVISED 10/1/97 PLATE NO. 6-09 REV. A



- STEP 1**
CUT A SECTION OF POLYETHYLENE TUBE APPROX. 2' LONGER THAN THE PIPE. REMOVE ALL MATERIAL THAT MIGHT HAVE ACCUMULATED ON THE PIPE SURFACE DURING STORAGE. SLIP THE TUBE AROUND THE PIPE. BUNCH THE TUBE ACCORDION-FASHION ON THE END OF THE PIPE. PULL BACK THE END OF THE TUBE UNTIL IT CLEARS THE PIPE END.
- STEP 2**
DIG A SHALLOW BELL HOLE IN THE TRENCH BOTTOM. LOWER THE PIPE INTO THE TRENCH AND MAKE UP THE PIPE JOINT WITH THE PRECEDING SECTION OF PIPE.
- STEP 3**
LIFT THE PIPE SLIGHTLY TO PROVIDE ENOUGH CLEARANCE TO EASILY SLIDE THE TUBE. NOTE: MAKE SURE THAT NO DIRT OR OTHER BEDDING MATERIAL BECOMES TRAPPED BETWEEN THE WRAP AND THE PIPE.
- STEP 4**
MAKE THE OVERLAP BY PULLING BACK THE BUNCHED POLYETHYLENE AND SECURING IT IN PLACE. NOTE: THE POLYETHYLENE MAY BE SECURED IN PLACE BY USING TAPE, STRING, OR ANY OTHER MATERIAL CAPABLE OF HOLDING IT SNUGLY AGAINST THE PIPE.
- STEP 5**
OVERLAP THE SECURED TUBE END WITH THE TUBE END OF THE NEW PIPE SECTION. SECURE THE NEW TUBE END IN PLACE.

DEPARTMENT OF PUBLIC WORKS
CITY OF ROCHESTER, MINNESOTA
POLYETHYLENE ENCASEMENT
Douglas C. Romig, Asst. City Engineer, Russell W. Finn, Director
SHT 1 OF 2 SHTS DATE REVISED 10/1/97 PLATE NO. 6-06 REV. A



- STEP 6**
TAKE UP THE SLACK ALONG THE BARREL OF THE PIPE TO MAKE A SNUG, BUT NOT TIGHT, FIT. FOLD EXCESS BACK OVER THE TOP OF THE PIPE.
- STEP 7**
SECURE THE FOLD AT SEVERAL LOCATIONS ALONG THE PIPE BARREL (APPROXIMATELY EVERY 3').
- STEP 8**
REPAIR SMALL RIPS, TEARS, OR OTHER TUBE DAMAGE WITH ADHESIVE TAPE.
- STEP 9**
TO PREVENT DAMAGE DURING BACKFILLING, ALLOW ADEQUATE SLACK IN THE TUBE AT THE JOINT. AVOID DAMAGING THE POLYETHYLENE WHEN USING TAMPING DEVICES.

DEPARTMENT OF PUBLIC WORKS
CITY OF ROCHESTER, MINNESOTA
POLYETHYLENE ENCASEMENT
Douglas C. Romig, Asst. City Engineer, Russell W. Finn, Director
SHT 2 OF 2 SHTS DATE REVISED 10/1/97 PLATE NO. 6-06 REV. A

CONNECTIONS TO EXISTING WATERMAIN
INSTALLATION OF TIE-RODS FOR CONNECTION OF NEW MECHANICAL JOINT FITTINGS TO EXISTING WATERMAINS

CONNECTIONS FOR NEW WATERMAIN
PIPE JOINT RESTRAINER SHALL BE USED ON ALL SLIP-ON JOINTS: SEE CHART BELOW FOR MINIMUM DISTANCE TO RESTRAINED FITTING

MECHANICAL JOINT GLAND
EXISTING WATERMAIN
NEW MECHANICAL JOINT FITTING
TIE RODS REQUIRED IF UNRESTRAINED JOINT FALLS WITHIN DISTANCE L

SOCKET CLAMP FOR PIPE FITTINGS

NUMBER OF 3/4" RODS REQUIRED

PIPE SIZE INCHES	12" AND LESS	14" AND 16"	18" AND 20"	24"
NUMBER OF RODS	2	4	6	8

MINIMUM DISTANCE TO CLOSEST UNRESTRAINED JOINT (L IN FEET)

TYPE OF FITTING	PIPE SIZE						
	6"	8"	10"	12"	14"	16"	20"
11 1/4" BEND	18.0	18.0	18.0	18.0	18.0	18.0	18.0
22 1/2" BEND	18.0	18.0	18.0	18.0	18.0	18.0	18.0
45° BEND	18.0	18.0	18.0	18.0	19.0	21.4	23.8
90° BEND	19.6	19.6	24.0	28.2	32.4	36.6	40.8
TEE	18.0	18.0	18.0	18.0	20.0	25.0	36.0
PLUG	18.0	18.0	18.0	18.0	20.0	25.0	36.0

NOTES
1. RODS TO BE GALVANIZED.

DEPARTMENT OF PUBLIC WORKS
CITY OF ROCHESTER, MINNESOTA

RESTRAINED JOINT DETAIL

Donald Nelson ASST. CITY ENGINEER
Rudolf W. Kruel DIRECTOR

SHT 1 OF 1 SHTS DATE REVISED 12/1/11 PLATE NO. 6-05 REV. D

STANDARD MACHINE SLICED

PREASSEMBLED

HEAVY DUTY (HAND INSTALLED)

SILT FENCE DETAILS

DESIGN GUIDELINES: TO PROTECT AREAS FROM SHEET FLOW, MAXIMUM CONTRIBUTING AREA: 1 ACRE

DEPARTMENT OF PUBLIC WORKS
CITY OF ROCHESTER, MINNESOTA

SILT FENCE DETAILS - J-HOOK INSTALLATION

Donald Nelson ASST. CITY ENGINEER
Rudolf W. Kruel DIRECTOR

SHT 1 OF 2 SHTS DATE REVISED 6/15/07 PLATE NO. 7-01 REV. B

REFERENCE: MN/DOT SPEC. 3886

PLAN VIEW

SIDE VIEW

DEPARTMENT OF PUBLIC WORKS
CITY OF ROCHESTER, MINNESOTA

SILT FENCE DETAILS - J-HOOK INSTALLATION

Donald Nelson ASST. CITY ENGINEER
Rudolf W. Kruel DIRECTOR

SHT 2 OF 2 SHTS DATE REVISED 6/15/07 PLATE NO. 7-01 REV. A

END ELEVATION

SIDE ELEVATION

STANDARD 4IN. RISER

DEPARTMENT OF PUBLIC WORKS
CITY OF ROCHESTER, MINNESOTA

Donald Nelson ASST. CITY ENGINEER
Rudolf W. Kruel DIRECTOR

SHT 1 OF 1 SHTS DATE REVISED 3/22/06 PLATE NO. 4-02 REV. A

CASTINGS - STRUCTURE TYPE 1

TYPE	DESCRIPTION	A	B	C	D	E	F	G	Y	Z
B	3" CURB INLET FRAME, GRATE & BOX	43	31	115/16	4	6	115/16	5.34	35.14	17.34
C	3" DRIVEWAY INLET FRAME & GRATE	43	31	1.78	4	6			35.34	22.34
V	3" CURB INLET FRAME, GRATE & BOX	43	31	1.15/16	4	6	115/16	5.34	35.14	17.34

CASTINGS - STRUCTURE TYPE 1

TYPE	MIN. OPENING	GRATE SLOTS	REMARKS
B	1.88 SQ. FT.	DIAGONAL	USE WHERE DRIVEWAY PRECLUDES USE OF TYPE B IN B. CURB
C	2.5 SQ. FT.	PARALLEL (BI-CYCLE SAFE)	USE WHEN STREET GRADE EXCEEDS 2%
V	1.88 SQ. FT.	PERPENDICULAR VANE	USE WHEN STREET GRADE EXCEEDS 2%

NOTES
1. CASTINGS SHALL BE ACCORDING TO MNDOT SPEC 3321.1-2 SUPPLIED BY FOUNDRIES THAT ARE APPROVED ON THE MNDOT APPROVED QUALIFIED PRODUCTS LIST
2. ALL CASTINGS SHALL COMPLY WITH AASHTO M-306 FEDERAL REGULATIONS 23CFR635.410, THE "BUY AMERICAN STEEL & IRON" REGULATION
3. ALL CASTINGS SHALL COMPLY WITH U.S. CODE OF FEDERAL REGULATIONS 23CFR635.410, THE "BUY AMERICAN STEEL & IRON" REGULATION
4. ALL STORM SEWER CASTINGS MAY INCLUDE IMPRINT FISH STAMP AND "DUMP NO WASTE"

DEPARTMENT OF PUBLIC WORKS
CITY OF ROCHESTER, MINNESOTA

STANDARD CASTINGS ASSEMBLIES

Donald Nelson ASST. CITY ENGINEER
Rudolf W. Kruel DIRECTOR

SHT 1 OF 2 SHTS DATE REVISED 12/1/11 PLATE NO. 1-12 REV. A

CASTINGS - OTHER STRUCTURES

TYPE	DESCRIPTION	L	M	N	O	P	Q
1	8" FRAME & COVER GASKETED	25	11/2	23	36	9	
2	7" FRAME & COVER GASKETED	25	3/4	7/8	24	35	7/16
2A	8" FRAME & COVER GASKETED	25	3/4	7/8	24	35	7/16
3	7" FRAME & COVER NON-ROCKING	32		11/2	30	45	1/2
4	8" FRAME & COVER NON-ROCKING	22		11/2	20	33	8
5	DITCH GRATE-STOOL, TYPE-FULL	23		17/16	33	33	6
6	DITCH GRATE-STOOL, TYPE-SHORT	23		11/2	33	33	6
8	POND SKIMMER GRATE						1/2

CASTINGS - OTHER STRUCTURES

TYPE	MIN. OPENING	REMARKS
1	BOLTED I.D. USED IN FLOOD PRONE AREAS & IN CONCRETE PAVING	
2	WITH TWO (2) CONCEALED PICK HOLES	
2A	WITH TWO (2) CONCEALED PICK HOLES	
3	USED FOR P.R.V. MANHOLES	
4	1.1 SQ. FT. PAVEMENT DRAIN	
6	2.5 SQ. FT. HEAVY DUTY	
7	1.73 SQ. FT. LIGHT DUTY	
8	7.81 SQ. FT. HOT DIPPED GALVANIZED, NOT SUBJECT TO H2O LOADING	

NOTES
1. CASTINGS SHALL BE ACCORDING TO MNDOT SPEC 3321.1-2 SUPPLIED BY FOUNDRIES THAT ARE APPROVED ON THE MNDOT APPROVED QUALIFIED PRODUCTS LIST
2. ALL CASTINGS SHALL COMPLY WITH AASHTO M-306 FEDERAL REGULATIONS 23CFR635.410, THE "BUY AMERICAN STEEL & IRON" REGULATION
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4. ALL STORM SEWER CASTINGS MAY INCLUDE IMPRINT FISH STAMP AND "DUMP NO WASTE"

DEPARTMENT OF PUBLIC WORKS
CITY OF ROCHESTER, MINNESOTA

STANDARD CASTING ASSEMBLIES

Donald Nelson ASST. CITY ENGINEER
Rudolf W. Kruel DIRECTOR

SHT 2 OF 2 SHTS DATE REVISED 12/1/11 PLATE NO. 1-12 REV. A

PLAN

SECTION A-A

CONCRETE STRUCTURE ADJUSTING RINGS

DEPARTMENT OF PUBLIC WORKS
CITY OF ROCHESTER, MINNESOTA

Donald Nelson ASST. CITY ENGINEER
Rudolf W. Kruel DIRECTOR

SHT 1 OF 3 SHTS DATE REVISED 12/1/11 PLATE NO. 1-13 REV. C

PLAN

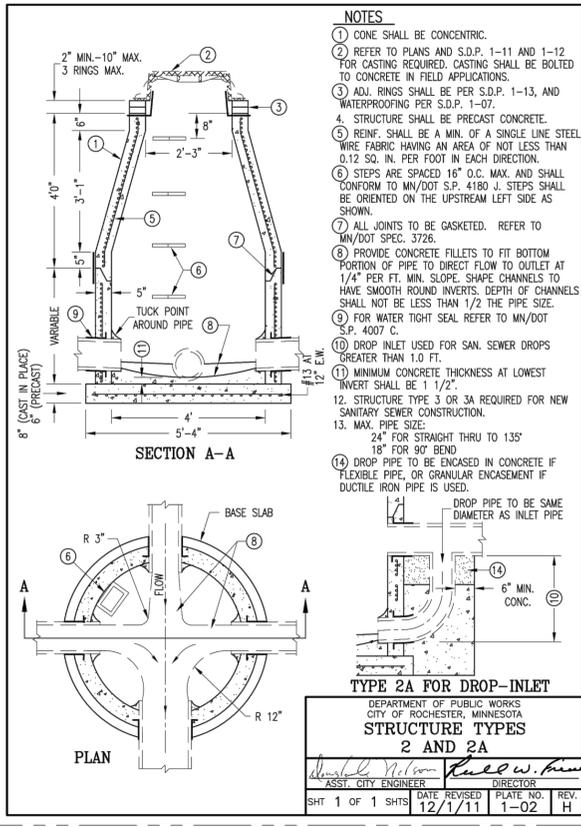
SECTION A-A

POLYETHYLENE STRUCTURE ADJUSTING RINGS

DEPARTMENT OF PUBLIC WORKS
CITY OF ROCHESTER, MINNESOTA

Donald Nelson ASST. CITY ENGINEER
Rudolf W. Kruel DIRECTOR

SHT 2 OF 3 SHTS DATE REVISED 12/1/11 PLATE NO. 1-13 REV. A



NOTES

1. CONE SHALL BE CONCENTRIC.
2. REFER TO PLANS AND S.D.P. 1-11 AND 1-12 FOR CASTING REQUIRED. CASTING SHALL BE BOLTED TO CONCRETE IN FIELD APPLICATIONS.
3. ADJ. RINGS SHALL BE PER S.D.P. 1-13, AND WATERPROOFING PER S.D.P. 1-07.
4. STRUCTURE SHALL BE PRECAST CONCRETE.
5. REINF. SHALL BE A MIN. OF A SINGLE LINE STEEL WIRE FABRIC HAVING AN AREA OF NOT LESS THAN 0.12 SQ. IN. PER FOOT IN EACH DIRECTION.
6. STEPS ARE SPACED 16" O.C. MAX. AND SHALL CONFORM TO MN/DOT S.P. 4180 J. STEPS SHALL BE ORIENTED ON THE UPSTREAM LEFT SIDE AS SHOWN.
7. ALL JOINTS TO BE GASKETED. REFER TO MN/DOT SPEC. 3726.
8. PROVIDE CONCRETE FILLETS TO FIT BOTTOM PORTION OF PIPE TO DIRECT FLOW TO OUTLET AT 1/4" PER FT. MIN. SLOPE. SHAPE CHANNELS TO HAVE SMOOTH ROUND INVERTS. DEPTH OF CHANNELS SHALL NOT BE LESS THAN 1/2 THE PIPE SIZE.
9. FOR WATER TIGHT SEAL REFER TO MN/DOT S.P. 4007 C.
10. DROP INLET USED FOR SAN. SEWER DROPS GREATER THAN 1.0 FT.
11. MINIMUM CONCRETE THICKNESS AT LOWEST INVERT SHALL BE 1 1/2".
12. STRUCTURE TYPE 3 OR 3A REQUIRED FOR NEW SANITARY SEWER CONSTRUCTION.
13. MAX. PIPE SIZE: 24" FOR STRAIGHT THRU TO 135" 18" FOR 90° BEND
14. DROP PIPE TO BE ENCASED IN CONCRETE IF FLEXIBLE PIPE, OR GRANULAR ENCASMENT IF DUCTILE IRON PIPE IS USED.

TYPE 2A FOR DROP-INLET

DEPARTMENT OF PUBLIC WORKS
CITY OF ROCHESTER, MINNESOTA
STRUCTURE TYPES 2 AND 2A

Douglas C. Remy ASST. CITY ENGINEER
Rudolf W. Bruem DIRECTOR

SHT 1 OF 1 SHTS DATE REVISED 12/1/11 PLATE NO. 1-02 REV. H

