



2009

Village of Menomonee Falls
W156 N8480 Pilgrim Road
Menomonee Falls, WI 53051-3140
Telephone: (262) 532-4200

STORMWATER MANAGEMENT FACILITIES OPERATION AND INSPECTION REPORT

Quarter Section _____ Name of Business/Subdivision Woodman's Food Market
Property Tax ID Number _____ Address of Property W124N8145 STH 145
Date _____ Menomonee Falls, WI 53051

| | |
|----------|---|
| Dry Pond | |
| Wet Pond | X |
| Other | |

Location of Pond Northeast corner of Woodman's Food Market site

Pond ID: Wet Detention Pond
"Pond 1" 125013

Year Pond Constructed 2009 Year of Last Certification 2009

| Compliance Verification | Design | Actual | Compliant Yes No | Comments (Condition of Structure) |
|--------------------------------|-----------------|---------|---------------------|---|
| Primary Outlet Pipe | | | | Outlet Pipe Material PVC |
| Opening Diameter (inches) | 18 | 18 | X | * DATA TAKEN FROM 2009 AS-BUILT SURVEY. |
| Upstream Invert | 794.98 | 794.79* | X | |
| Downstream Invert | 794.80 | 794.40* | X | |
| Length (feet) | 34.5 | 32.8* | X | |
| Slope (%) | 0.52 | 1.19* | X | |
| Secondary Outlet Pipe | (If Applicable) | | | Outlet Pipe Material RCP |
| Opening Diameter (inches) | 10 | 10 | X | TEMPORARY EROSION CONTROL ORIFICE END CAP IS STILL INSTALLED ON SECONDARY OUTLET PIPE. ENGINEER RECOMMENDS REMOVING ORIFICE END CAP AND RELAYING SECONDARY POND OUTLET PIPE IF OUTLET IS NOT NEAR ELEVATION 795.00. * DATA TAKEN FROM 2009 AS-BUILT SURVEY. |
| Upstream Invert | 795.00 | 795.20 | | |
| Downstream Invert | 794.98 | 794.99* | X | |
| Length (feet) | 7.0 | 8.1* | X | |
| Slope (%) | 0.0 | 2.5 | X | |
| Riser | (If Applicable) | | | Riser Material PRECAST CONCRETE |
| Opening Diameter (inches) | 48 | 48 | X | RISER HAS SLAB TOP AND BEEHIVE CASTING INSTALLED WHICH IS NOT PER PLAN. ENGINEER RECOMMENDS REMOVING SLAB TOP AND INSTALLING REBAR TRASH RACK PER PLAN. |
| Elevation | 798.00 | 798.10 | X | |
| Upper Discharge Control | (If Applicable) | | | |
| Opening Diameter (inches) | -- | | | |
| Elevation | -- | | | |

| Compliance Verification | Design | Actual | Compliant Yes No | | Comments | |
|--|----------------------|---------------|-----------------------------------|---|--|----------------|
| Lower Discharge Control | (If Applicable) | | | | | |
| Opening Diameter (inches) | 12 | NOT INSTALLED | | X | 12-INCH ORIFICE PLATE NOT INSTALLED INSIDE PRIMARY OUTLET STRUCTURE. ENGINEER RECOMMENDS INSTALLATION OF 12" ORIFICE IN OUTLET STRUCTURE PER PLAN. | |
| Elevation | 795.00 | NOT INSTALLED | | X | | |
| Other (Description) | | | | | | |
| Opening Type and Size (inches) | -- | | | | | |
| Elevation | -- | | | | | |
| Emergency Spillway | | | | | | |
| Elevation | 802.00 | 802.7 | X | | | |
| Length of spillway (feet) | 14 | 12 | X | | | |
| Embankment | Present Yes no | | Comments/Maintenance Requirements | | | |
| Unauthorized Plantings, trees, or woody vegetation | | X | | | | |
| Animal burrows or slope erosion | | X | | | | |
| Storm Sewer Outfalls | Type & Size | | Location | | Comments | |
| Outfall 1 R-100 | RCP 42-INCH | | NORTHWEST | | | |
| Outfall 2 R-200 | RCP 15-INCH | | WEST | | | |
| Outfall 3 R-300 | RCP 42-INCH | | SOUTHWEST | | | |
| Storage Properties | Design | Actual | Compliant Yes No | | Not Applicable | Equipment Used |
| Normal Water Elevation (Wet Ponds) | 795.00 | 795.75 | | X | | |
| Design High Water Elevation | 802.00 | 802.7 | X | | | |
| Area at Normal Water Elevation (Ac) (Wet Ponds) | 0.47 | 0.53 | X | | | |
| Area at Design High Water Elevation (Ac) | 1.22 | 1.26 | X | | | |
| Active Storage Available (Ac-Ft)* | 6.98 | 7.25 | X | | | |
| Lowest Elevation at Top of Embankment (If Applicable) | 804.00 | 803.27 | X | | | |
| Average Elevation at Top of Embankment (If Applicable) | 804.00 | 804.0 | X | | | |
| Maximum Bottom Elevation | 790.00 | 789.24 | X | | | |
| Average Pond Bottom Elevation | 790.00 | 789.3 | X | | | |
| Pond Bottom Area (Ac) | 0.09 | 0.05 | X | | | |
| Maximum Pond Depth | 5 | 6.46 | X | | | |
| Average Pond Depth | 4 | 6.4 | X | | | |
| Average Permanent Pool Depth (Wet Ponds) | 5 | 6.4 | X | | | |

*To Determine Active Storage $V = H/3(A1 + A2 + (A1 \times A2)^{1/2})$

Wet Ponds Use H = Height of Section, $A1$ = area at normal water elevation, $A2$ = area at top section

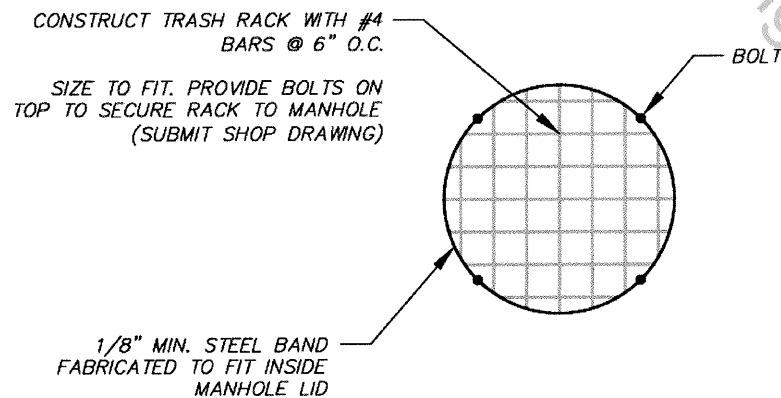
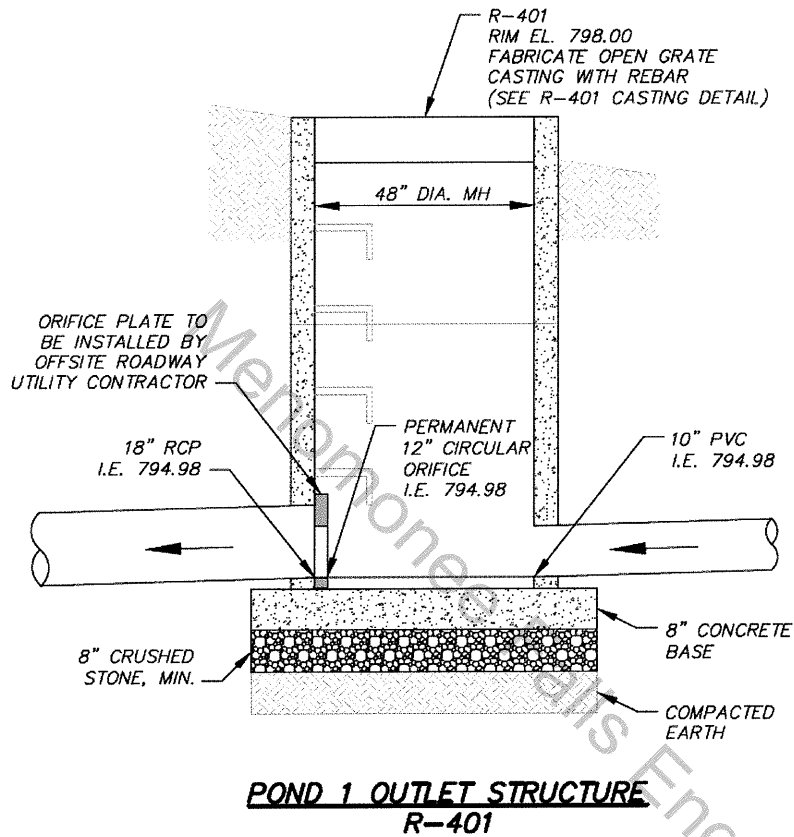
Dry Ponds Use H = Height of Section, $A1$ = pond bottom area, $A2$ = area at top section

POND 1



Engineering

POND 1 – OUTFALL STRUCTURE DESIGN



POND 1 OUTFALL STRUCTURE (MANHOLE R-401 OUTSIDE)



POND 1 OUTFALL STRUCTURE (MANHOLE R-401 INSIDE)





2009

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STORMWATER MANAGEMENT FACILITIES OPERATION AND INSPECTION REPORT

Quarter Section _____ Name of Business/Subdivision Woodman's Food Market
Property Tax ID Number _____ Address of Property W124N8145 STH 145
Date _____ Menomonee Falls, WI 53051

| | |
|----------|---|
| Dry Pond | |
| Wet Pond | X |
| Other | |

Location of Pond Southeast corner of Woodman's Food Market site

Pond ID: Wet Detention Pond
"Pond 2" 12501

Year Pond Constructed 2009 Year of Last Certification 2009

| Compliance Verification | Design | Actual | Compliant Yes No | Comments (Condition of Structure) |
|--------------------------------|-----------------|---------|---------------------|--|
| Primary Outlet Pipe | | | | Outlet Pipe Material RCP |
| Opening Diameter (inches) | 12 | 12* | X | * DATA TAKEN FROM 2009 AS-BUILT SURVEY. |
| Upstream Invert | 781.84 | 781.89* | X | |
| Downstream Invert | 781.14 | 781.14* | X | |
| Length (feet) | 23.2 | 22.7* | X | |
| Slope (%) | 3.02 | 3.30* | X | |
| Secondary Outlet Pipe | (If Applicable) | | | Outlet Pipe Material PVC |
| Opening Diameter (inches) | 6 | 2.5 / 6 | X | TEMPORARY EROSION CONTROL OUTLET STRUCTURE (6" PVC PIPE 2.5" ORIFICE AND 6" PVC RISER) STILL INSTALLED AS SECONDARY OUTFALL. ENGINEER RECOMMENDS REMOVAL OF PVC RISER AND 2.5" ORIFICE FOR COMPLIANCE. |
| Upstream Invert | 783.00 | 782.92* | X | |
| Downstream Invert | 782.34 | 782.23* | X | |
| Length (feet) | 27.0 | 27.2* | X | |
| Slope (%) | 2.44 | 2.54* | X | |
| Riser | (If Applicable) | | | * DATA TAKEN FROM 2009 AS-BUILT SURVEY. |
| Riser Material | | | | |
| Opening Diameter (inches) | -- | -- | | |
| Elevation | -- | -- | | |
| Upper Discharge Control | (If Applicable) | | | |
| Opening Diameter (inches) | -- | | | |
| Elevation | -- | | | |

| Compliance Verification | Design | Actual | Compliant Yes No | | Comments | |
|--|-------------------|--------|-----------------------------------|--|----------------|----------------|
| Lower Discharge Control | (If Applicable) | | | | | |
| Opening Diameter (inches) | -- | -- | | | | |
| Elevation | -- | -- | | | | |
| Other (Description) | | | | | | |
| Opening Type and Size (inches) | -- | -- | | | | |
| Elevation | -- | -- | | | | |
| Emergency Spillway | | | | | | |
| Elevation | 789.00 | 788.95 | X | | | |
| Length of spillway (feet) | 14 | 18 | X | | | |
| Embankment | Present Yes no | | Comments/Maintenance Requirements | | | |
| Unauthorized Plantings, trees, or woody vegetation | | X | | | | |
| Animal burrows or slope erosion | | X | | | | |
| Storm Sewer Outfalls | Type & Size | | Location | | Comments | |
| Outfall 1 R-550 | RCP 30-INCH | | NORTHWEST | | | |
| Outfall 2 R-500 | RCP 18-INCH | | SOUTHWEST | | | |
| Outfall 3 | | | | | | |
| Storage Properties | Design | Actual | Compliant Yes No | | Not Applicable | Equipment Used |
| Normal Water Elevation (Wet Ponds) | 783.00 | 783.12 | X | | | |
| Design High Water Elevation | 788.00 | 788.95 | X | | | |
| Area at Normal Water Elevation (Ac) (Wet Ponds) | 0.71 | 0.73 | X | | | |
| Area at Design High Water Elevation (Ac) | 1.17 | 1.23 | X | | | |
| Active Storage Available (Ac-Ft)* | 5.42 | 6.53 | X | | | |
| Lowest Elevation at Top of Embankment (If Applicable) | 790.00 | 789.74 | X | | | |
| Average Elevation at Top of Embankment (If Applicable) | 790.00 | 790.00 | X | | | |
| Maximum Bottom Elevation | 778.00 | 777.13 | X | | | |
| Average Pond Bottom Elevation | 778.00 | 777.3 | X | | | |
| Pond Bottom Area (Ac) | 0.29 | 0.26 | X | | | |
| Maximum Pond Depth | 5 | 5.99 | X | | | |
| Average Pond Depth | 5 | 5.82 | X | | | |
| Average Permanent Pool Depth (Wet Ponds) | 5 | 5.82 | X | | | |

*To Determine Active Storage $V = H/3(A1 + A2 + (A1 \times A2)^{1/2})$

Wet Ponds Use H = Height of Section, A1= area at normal water elevation, A2=area at top section

Dry Ponds Use H= Height of Section, A1= pond bottom area, A2=area at top section

| | |
|---|---|
| 1-1000 W. BLUEMOUND RD. 200 KFIELD, WI 53005 | <div style="border: 1px solid black; height: 150px; margin-bottom: 10px;"></div> <p style="text-align: center; font-style: italic;">Place Photograph of Pond or Attachment</p> <p style="text-align: center;">SEE ATTACHED PHOTOS</p> |
| to the Document for the first report submission | |
| WITH NATIONAL, INC. | Inspector Name : AARON SCHNEIDER |
| 1-1000 | Inspection Date: 8/12/2014 |

| | | | |
|------------------|----------------------------------|------------------|------------------------|
| Inspection Firm: | <u>R.A. SMITH NATIONAL, INC.</u> | Inspector Name : | <u>AARON SCHNEIDER</u> |
| Phone Number: | <u>262-781-1000</u> | Inspection Date: | <u>8/12/2014</u> |
| Address: | <u>16745 W. BLUEMOUND RD.</u> | | |
| | <u>SUITE 200</u> | | |
| | <u>BROOKFIELD, WI 53005</u> | | |

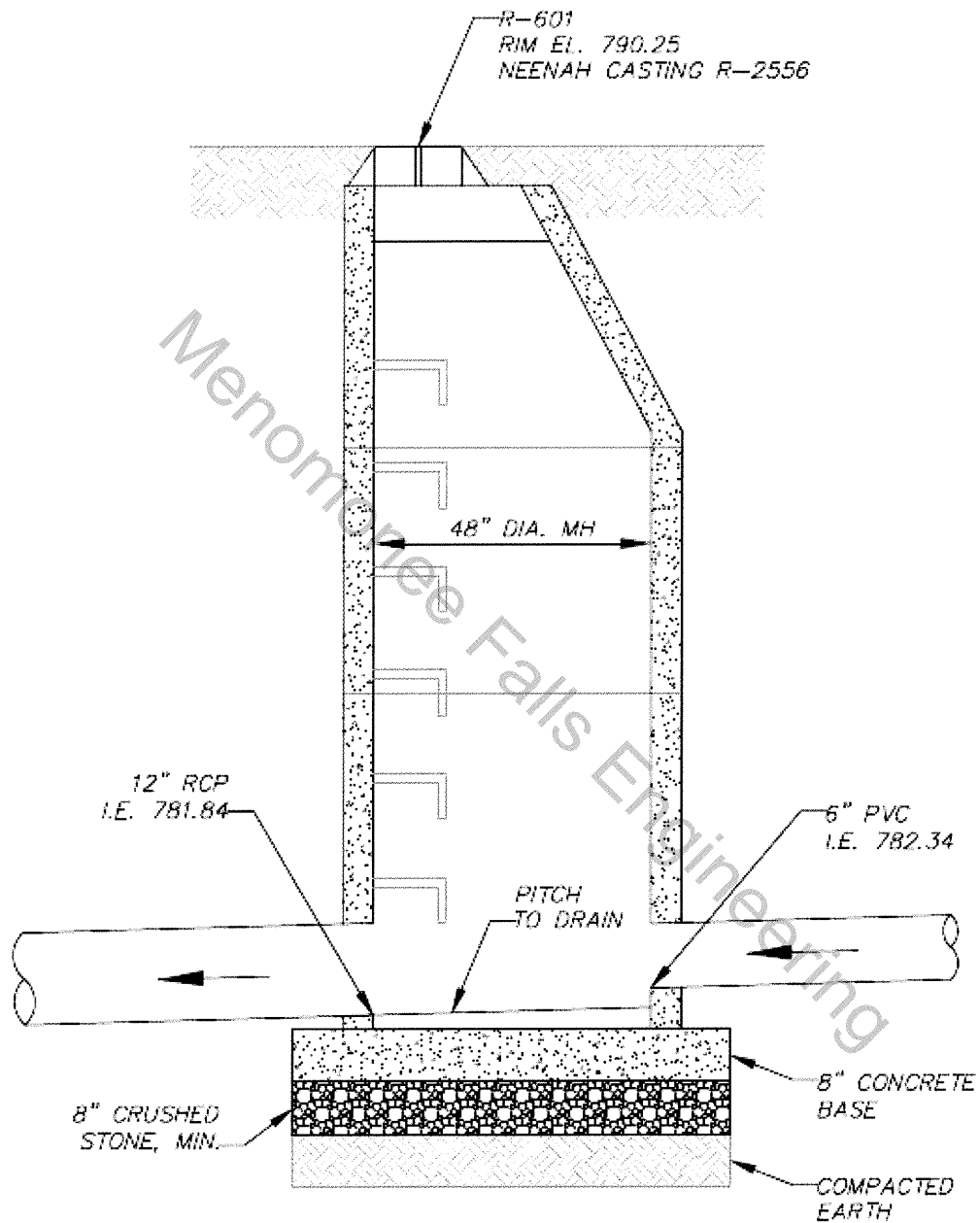
10-3-2012

POND 2



ering

POND 2 – OUTFALL STRUCTURE DESIGN



POND 2 OUTFALL STRUCTURE
R-601

POND 2 OUTLET PIPE (R600)



POND 2 OUTFALL STRUCTURE (MANHOLE R-601 INSIDE)





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Quarter Section _____ Name of Business/Subdivision Woodman's Food Market
Property Tax ID Number _____ Address of Property W124N8145 STH 145
Date _____ Menomonee Falls, WI 53051

| | |
|----------|---|
| Dry Pond | |
| Wet Pond | X |
| Other | |

Location of Pond Southwest corner of Woodman's Food Market site
Pond ID: Wet Detention Pond
"Pond 3" 125 012

Year Pond Constructed 2009 Year of Last Certification 2009

| Compliance Verification | Design | Actual | Compliant Yes No | Comments (Condition of Structure) |
|--------------------------------|-----------------|---------|---------------------|--|
| Primary Outlet Pipe | | | | Outlet Pipe Material RCP |
| Opening Diameter (inches) | 12 | 12* | X | * DATA TAKEN FROM 2009 AS-BUILT SURVEY. |
| Upstream Invert | 798.00 | 798.05* | X | |
| Downstream Invert | 797.64 | 797.60* | X | |
| Length (feet) | 34.4 | 34.4* | X | |
| Slope (%) | 1.05 | 1.31* | X | |
| Secondary Outlet Pipe | (If Applicable) | | | Outlet Pipe Material PVC |
| Opening Diameter (inches) | 12 | 12 | X | TEMPORARY EROSION CONTROL OUTLET STRUCTURE (12" PVC PIPE 2" ORIFICE AND 12" PVC RISER) STILL INSTALLED AS SECONDARY OUTFALL. ENGINEER RECOMMENDS REMOVAL OF PVC RISER AND 2" ORIFICE AND VERIFICATION OF SECONDARY PIPE OUTLET INVERT TO BE NEAR ELEV 798.00 FOR COMPLIANCE. |
| Upstream Invert | 798.00 | 798.11* | | |
| Downstream Invert | 798.00 | 798.05* | X | |
| Length (feet) | 40.0 | 39.9* | X | |
| Slope (%) | 0.0 | 0.15* | X | |
| Riser | (If Applicable) | | | Riser Material |
| Opening Diameter (inches) | -- | -- | | |
| Elevation | -- | -- | | |
| Upper Discharge Control | (If Applicable) | | | |
| Opening Diameter (inches) | -- | -- | | |
| Elevation | -- | -- | | |

| Compliance Verification | Design | Actual | Compliant Yes No | | Comments | |
|--|-------------------|---------------|-----------------------------------|---|---|----------------|
| Lower Discharge Control | (If Applicable) | | | | | |
| Opening Diameter (inches) | 4 | NOT INSTALLED | | X | ENGINEER RECOMMENDS INSTALLATION OF PERMANENT 4" ORIFICE PER PLAN FOR COMPLIANCE. | |
| Elevation | 798.00 | NOT INSTALLED | | X | | |
| Other (Description) | | | | | | |
| Opening Type and Size (inches) | -- | -- | | | | |
| Elevation | -- | -- | | | | |
| Emergency Spillway | | | | | | |
| Elevation | 802.00 | 801.80 | X | | | |
| Length of spillway (feet) | 14 | 17.5 | X | | | |
| Embankment | Present Yes no | | Comments/Maintenance Requirements | | | |
| Unauthorized Plantings, trees, or woody vegetation | | X | | | | |
| Animal burrows or slope erosion | | X | | | | |
| Storm Sewer Outfalls | Type & Size | | Location | | Comments | |
| Outfall 1 R-700 | RCP 15-INCH | | NORTHEAST | | | |
| Outfall 2 R-800 | RCP 12-INCH | | NORTHWEST | | | |
| Outfall 3 | | | | | | |
| Storage Properties | Design | Actual | Compliant Yes No | | Not Applicable | Equipment Used |
| Normal Water Elevation (Wet Ponds) | 798.00 | 799.57* | | X | | |
| Design High Water Elevation | 801.00 | 801.80 | X | | | |
| Area at Normal Water Elevation (Ac) (Wet Ponds) | 0.14 | 0.15 | X | | | |
| Area at Design High Water Elevation (Ac) | 0.30 | 0.34 | X | | | |
| Active Storage Available (Ac-Ft)* | 1.10 | 1.46 | X | | | |
| Lowest Elevation at Top of Embankment (If Applicable) | 803.00 | 802.86 | X | | | |
| Average Elevation at Top of Embankment (If Applicable) | 803.00 | 802.95 | X | | | |
| Maximum Bottom Elevation | 793.00 | 792.24 | X | | | |
| Average Pond Bottom Elevation | 793.00 | 793.00 | X | | | |
| Pond Bottom Area (Ac) | 0.02 | 0.01 | X | | | |
| Maximum Pond Depth | 5 | 7.33 | X | | | |
| Average Pond Depth | 5 | 5 | X | | | |
| Average Permanent Pool Depth (Wet Ponds) | 5 | 5 | X | | | |

*To Determine Active Storage $V = H/3(A1 + A2 + (A1 \times A2)^{1/2})$

Wet Ponds Use H = Height of Section, $A1$ = area at normal water elevation, $A2$ = area at top section

Dry Ponds Use H = Height of Section, $A1$ = pond bottom area, $A2$ = area at top section

POND 3



POND 3 OUTLET PIPE (R900)



POND 3 OUTFALL STRUCTURE (MANHOLE R-901 INSIDE)

