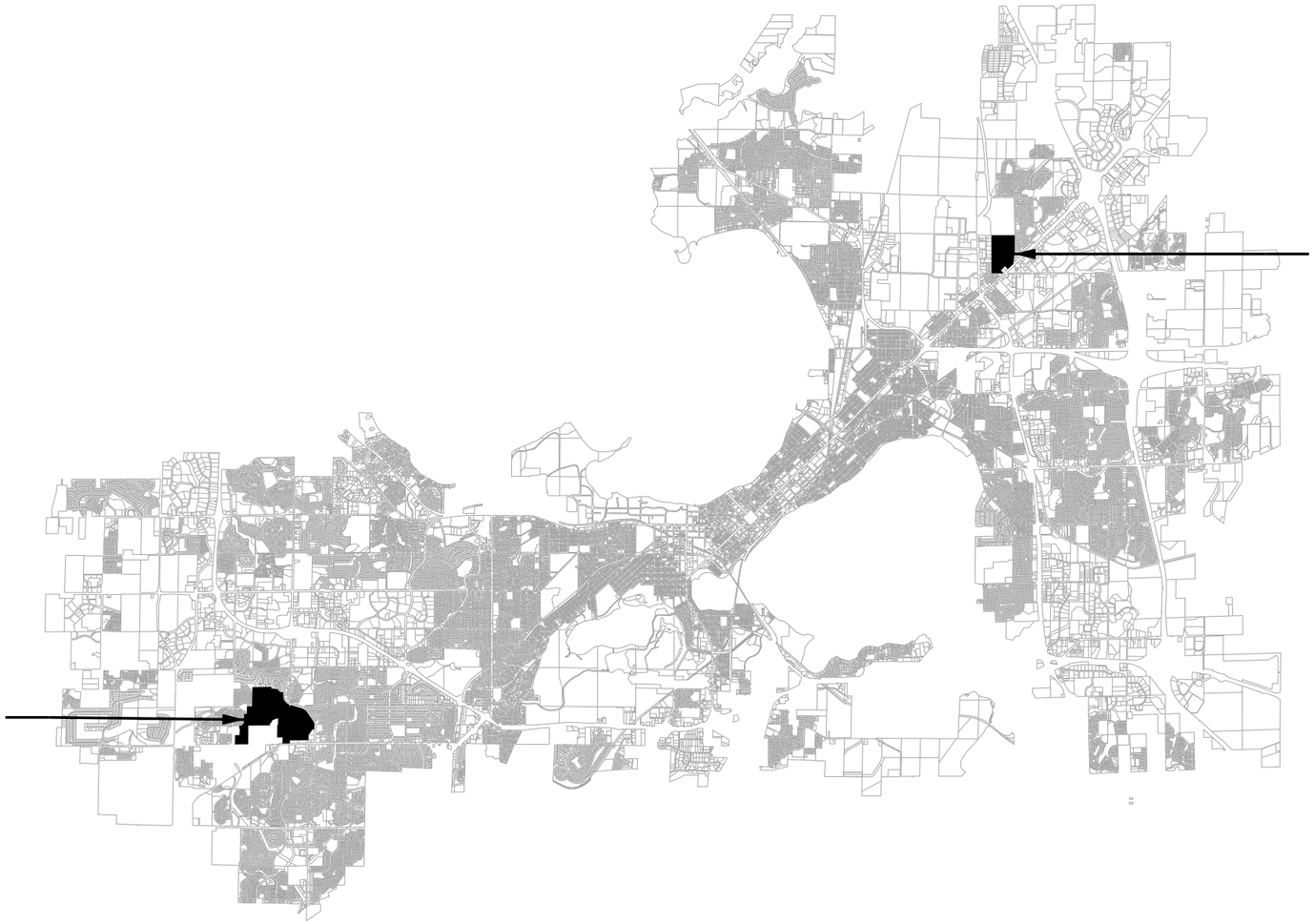
ELVER AND REINDAHL PARK SPLASH PADS
PARKS DIVISION
DEPARTMENT OF PUBLIC WORKS
MADISON, WI



City of Madison
Department of Public Works
PARKS DIVISION
City-County Building, Suite 104
210 Martin Luther King, Jr. Blvd.
PO Box 2987
Madison, WI 53701-2987

play MADISON PARKS

Graphical Scale
0 10,000 ft

N

PROJECT:
ELVER AND REINDAHL PARK SPLASH PADS

Although every effort has been made in preparing these plans and checking them for accuracy, the contractor and subcontractors must check all details and dimensions of their trade and be responsible for the same.

ITEM	DATE
ADVERTISED TO BID	*01-31-2014*

PUBLIC WORKS PROJECT #:
7259

SHEET TITLE:
COVER SHEET

SHEET NUMBER:

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CONSTRUCTION DOCUMENT SET

ELVER PARK SPLASHPAD

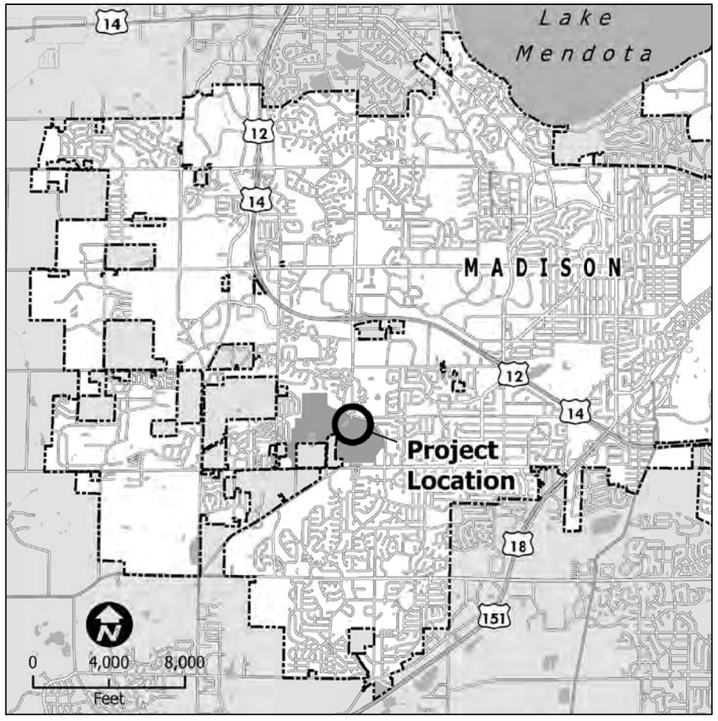
City of Madison, Wisconsin

January 30, 2014

City of Madison
Parks Division
210 Martin Luther King Jr Blvd, Rm. 406
Madison, WI 53703-3345

Sheet Index

Vicinity Map



NOTES:

1. COORDINATION OF CONSTRUCTION PHASING AND SUBCONTRACTORS SHALL BE THROUGH GENERAL CONTRACTOR.
2. BIDDING QUESTIONS SHOULD BE DIRECTED TO SARAH LERNER, CITY OF MADISON PARKS DEPARTMENT, 608-261-4281.
3. SPLASHPAD EQUIPMENT AND MECHANICALS PROVIDED BY OWNER (PBO).

DESIGN CONTACT

BLAKE THEISEN
SAA DESIGN GROUP, INC
101 EAST BADGER ROAD
MADISON, WI 53713
608.255.0800 btheisen@saa-madison.com

ENGINEER CONTACT

SARAH LERNER
PARKS DIVISION, CITY OF MADISON
CITY-COUNTY BUILDING, RM 104
210 MARTIN LUTHER KING, JR BLVD
MADISON, WI 53703
608.261.4281 slerner@cityofmadison.com

UTILITY CONTACTS

CHARTER COMMUNICATIONS
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2701 Daniels St
Madison, WI 53718
608.274.3822 ext. 6642
Brandon.Storm@chartercom.com

ALLIANT ENERGY
Denise Gevelinger
4902 N Biltmore Ln, Ste 1000
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PARKS ELECTRICIAN
Paul Janes
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City-County Building, Rm 104
210 Martin Luther King, Jr Blvd
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pjanes@cityofmadison.com

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Milwaukee Area (414) 259-1181
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ARO EBERLE ARCHITECTS

GMA Engineers
GUNNAR MALM & ASSOC., INC.
CONSULTING ENGINEERS
6402 Odana Rd.
Madison, WI. 53719
(608) 288-1108 FAX (608) 288-1109
E-MAIL: mail@GMAengineers.com

Revision	Date

Project Name
Elver Park
Splashpad

1250 McKenna Blvd
Madison, WI 53719

Drawn By:	KM
Checked By:	BT
File:	P-T
Issued For:	Bidding
Issue Date:	1/30/2014
Project No.	2532

DRAWING
TITLE SHEET

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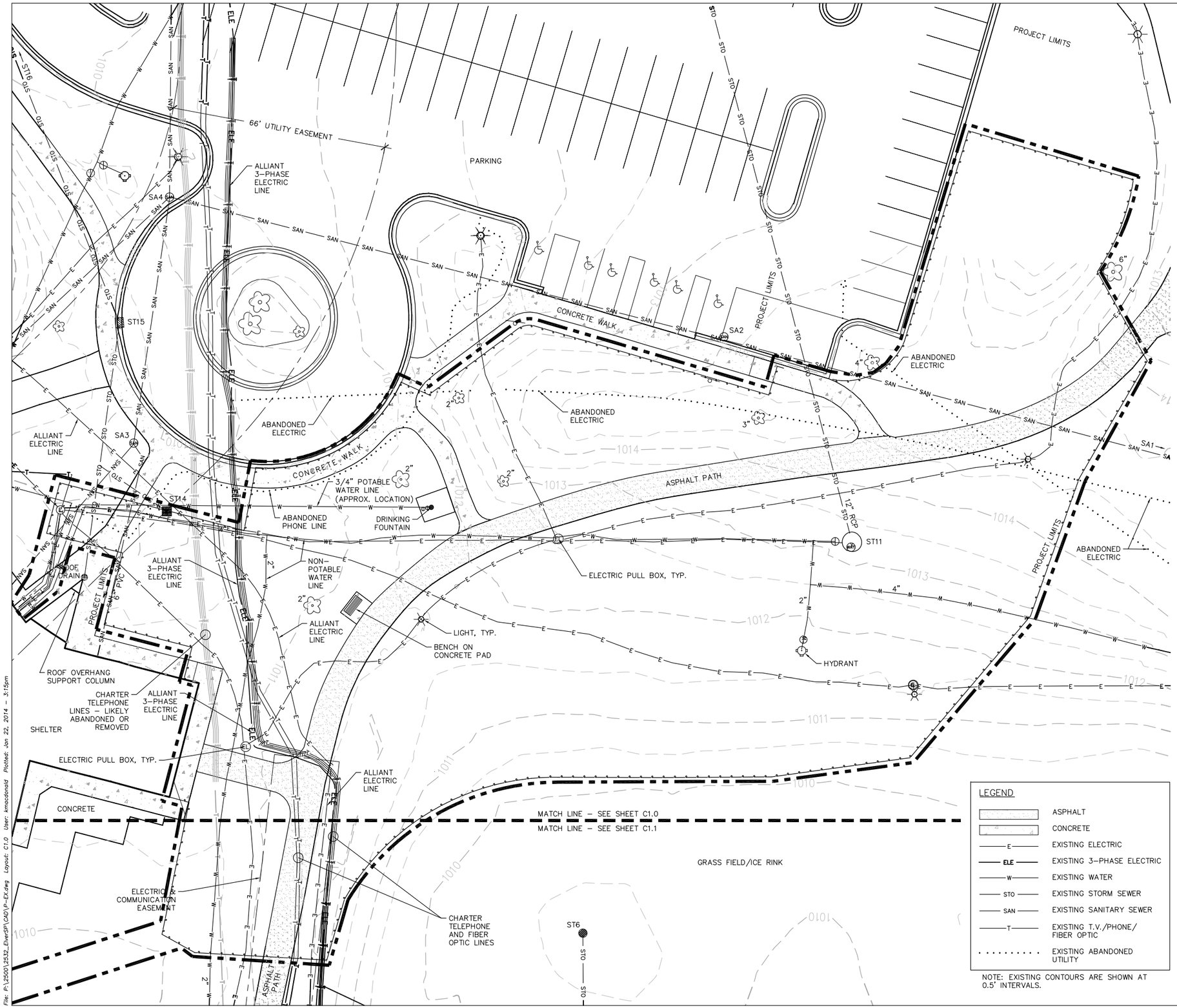
Sheet Number
C0.0



NOTES:

SURVEYED FOR: CITY OF MADISON, WI PARKS DIVISION PO BOX 2987 MADISON, WI 53701-2987 TEL (608)266-4711

SURVEYED BY: DAN RODMAN, RLS 2793 CITY OF MADISON PARKS DIVISION

DATE(S) OF FIELD WORK: 2009-10-19 (RINKS); 2010-02-25 (SOUTH OF WEST SHELTER); 2010-09-14 (POND); 2011-04-25 (NORTH OF WEST SHELTER); 2013-08-02 & 2013-08-07 (REST OF AREA / UPDATE PREVIOUS SURVEYS)

SITE ADDRESS(ES) / TAX PARCEL NUMBER(S): 1250 MCKENNA BLVD / 0708-363-1101-2

HORIZONTAL COORDINATES ARE DANE COUNTY COORDINATES, U.S. SURVEY FEET, NAD83(2007) DATUM, COMPUTED FROM A COMBINED ADJUSTMENT OF TOTAL STATION MEASUREMENTS AND RTK GPS MEASUREMENTS FROM THE EMIL STREET BASE STATION (MAON) AT 43°02'12.78277"N, 89°24'34.27099"W (EASTING 814396.30, NORTHING 469049.99 U.S. SURVEY FEET). THE WISCONSIN COORDINATE REFERENCE SYSTEMS (WISCRS) PARAMETERS WERE USED TO COMPUTE EASTING, NORTHING COORDINATES.
SEE HTTP://GIS.CITYOFMADISON.COM/MADISON_GPS/ AND WWW.SCO.WISC.EDU/COORDSYS/

ELEVATIONS ARE IN THE NAVD 88(1991) DATUM, DETERMINED FROM THE SAME ADJUSTMENT AS FOR THE HORIZONTAL COORDINATES, FROM THE EMIL STREET BASE STATION AT ELLIPSOID HEIGHT 815.92 FT (BOTTOM OF ANTENNA MOUNT), 2007 NAD 83 DATUM.
THE GEOID03 GEOID MODEL WAS MODIFIED BASED ON AN ANALYSIS OF 34 AREA NGS STATIONS (ORIGIN N=469050 E=814396 US FT, SHIFT -0.087 FT, TILTS E=+1.7 PPM & N=-0.9 PPM) TO COMPUTE PRE-2007 NAVD88 ELEVATIONS. SEE HTTP://GIS.CITYOFMADISON.COM/MADISON_GPS & HTTP://DANRODMAN.TRIPOD.COM

LOCATIONS OF PUBLIC UTILITIES ARE BASED ON DIGGER'S HOTLINE TICKET NUMBERED 20133107443; DRAWINGS OBTAINED FROM THE CITY OF MADISON ENGINEERING & PARKS DIVISIONS; VISIBLE ABOVE-GROUND STRUCTURES, AND PREVIOUS DIGGERS LOCATES. ADDITIONAL BURIED UTILITIES OR STRUCTURES MAY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE TO LOCATE UTILITIES, AND THIS MAP DOES NOT ATTEMPT TO SHOW CONDITION OR CAPACITY OF ANY UTILITY OR SERVICE FACILITY. CONTACT DIGGER'S HOTLINE AT (800) 242-8511 BEFORE EXCAVATING.

EXCEPT AS SPECIFICALLY STATED OR SHOWN, THIS MAP DOES NOT SHOW EASEMENTS, BUILDING SETBACKS, ZONING AND LAND USE RESTRICTIONS, COVENANTS, OR ANY OTHER RESTRICTIONS OR BENEFITS THAT A CURRENT AND ACCURATE TITLE SEARCH MAY DISCLOSE.

LEGEND

- ASPHALT
- CONCRETE
- E — EXISTING ELECTRIC
- ELE — EXISTING 3-PHASE ELECTRIC
- W — EXISTING WATER
- STO — EXISTING STORM SEWER
- SAN — EXISTING SANITARY SEWER
- T — EXISTING T.V./PHONE/ FIBER OPTIC
- EXISTING ABANDONED UTILITY

NOTE: EXISTING CONTOURS ARE SHOWN AT 0.5' INTERVALS.

ELVER PARK TOPOGRAPHIC SURVEY - SHELTER & ICE RINK AREA
STORM (ST) & SANITARY (SA) STRUCTURE ELEVATIONS

ST6: AREA INLET
RIM=1009.31'
FLOOR=1006.40'
PIPE TO SOUTH (8" PVC) INV=1006.76'

ST8: AREA INLET
RIM=1009.26'
FLOOR=1006.06'
PIPE TO SOUTH (8" PVC) INV=1006.58'

ST11: RINK WATERING STRUCTURE (NORTH OF RINK)
RIM=1013.36'
FLOOR=UNKNOWN (TOP OF CLEAR STONE=1009.2')
PIPE TO NORTH (12" RCP) APPROX INV=1008.3'

ST14: AREA INLET NORTH OF NEW (WEST) SHELTER
RIM=1009.64'
FLOOR=1008.14'
PIPE TO NW (4" PVC) INV=1008.22'

ST15: CURB INLET
TOP OF CURB=1009.76'
PIPE FROM SOUTH (4" PVC) INV=1006.72'
PIPE TO NORTH (12" PVC) INV=1006.66'

SA1: SANITARY MANHOLE BY OLD=HEX=EAST SHELTER
RIM=1014.38'
PIPE FROM EAST (4" CI) INV=1007.37'
PIPE TO WEST (8" PVC) INV=1006.63'

SA2: SANITARY MANHOLE NORTH OF RINKS
RIM=1013.43'
PIPE FROM EAST TO WEST (8" PVC) INV=1004.52'

SA3: SANITARY MANHOLE NORTH OF NEW/WEST SHELTER
RIM=1010.18'
PIPES FROM SOUTH (6" PVC) & TO NORTH (8" PVC) INV=1003.14'

SA4: SANITARY MANHOLE NW OF PARKING CIRCLE
(MMSD ID# MH12-150)
RIM=1010.71'
PIPE FROM SOUTH (8IN) INV=1001.18'
PIPE FROM EAST NOT VISIBLE
PIPE FROM NORTH TO SW (36" RCP) INV=994.30'

SAA DESIGN GROUP
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Madison, WI 53713
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Fx. 608.255.7750
www.saa-madison.com

Revision	Date

Project Name

Elver Park Splashpad

1250 McKenna Blvd
Madison, WI 53719

Drawn By:	KM
Checked By:	BT
File:	P-EX
Issued For:	Bidding
Issue Date:	1/30/2014
Project No.	2532

DRAWING

EXISTING CONDITIONS

N

0 15 30

1"=15' 22X34 SHEET

Sheet Number

C1.0

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LEGEND

- ASPHALT
- CONCRETE
- E — EXISTING ELECTRIC
- ELE — EXISTING 3-PHASE ELECTRIC
- W — EXISTING WATER
- STO — EXISTING STORM SEWER
- SAN — EXISTING SANITARY SEWER
- T — EXISTING T.V./PHONE/ FIBER OPTIC
- . . . . . EXISTING ABANDONED UTILITY

NOTE: EXISTING CONTOURS ARE SHOWN AT 0.5' INTERVALS.

stormwater retention pond

POND

ABANDONED PHONE LINE

DRINKING FOUNTAIN

ELECTRIC PULL BOX, TYP.

NON-POTABLE WATER LINE

ALLIANT 3-PHASE ELECTRIC LINE

ALLIANT ELECTRIC LINE

LIGHT, TYP.

BENCH ON CONCRETE PAD

ROOF DRAIN

PROJECT LIMITS

ROOF OVERHANG SUPPORT COLUMN

CHARTER TELEPHONE LINES – LIKELY ABANDONED OR REMOVED

SHELTER

CONCRETE

MATCH LINE – SEE SHEET C1.0

MATCH LINE – SEE SHEET C1.1

66' UTILITY EASEMENT

ELECTRIC & COMMUNICATION EASEMENT

CHARTER TELEPHONE AND FIBER OPTIC LINES

ASPHALT PATH

ELECTRIC HAND HOLE, TYP.

WELL

GRASS FIELD/ICE RINK

ST1 ST2 ST3 ST4 ST5 ST6 ST9 ST10

ELVER PARK TOPOGRAPHIC SURVEY – SHELTER & ICE RINK AREA
STORM (ST) & SANITARY (SA) STRUCTURE ELEVATIONS

ST1: CONTROL STRUCTURE
MANHOLE RIMS N=1014.01' S=1014.00'
FLOOR=1004.55'
PIPE TO SOUTH (6" PVC) INV=1007.28'
PIPE TO EAST (8" PVC) APPROX INV=1004.9'
PIPE TO WEST (8" PVC) APPROX INV=1005.0'
STANDPIPE RIM (ON PIPE TO WEST) =1011.43'
CITY WATER LINE (FROM NORTH): TOP OF PIPE=1005.53'
WELL WATER LINE (FROM SW): TOP OF PIPE 1008.07'
POND WATER LINE (FROM WEST): TOP OF PIPE 1008.10'

ST2: AREA INLET
RIM=1010.28'
FLOOR=1007.23'
PIPE TO NORTH (6" PVC) INV=1007.84'

ST3: PIPE OUTLET
PIPE TO EAST (8" PVC) INV=1010.36'

ST4: AREA INLET
RIM=1010.26'
FLOOR=1007.38'
PIPE TO WEST (8" PVC) INV=1008.48'

ST5: AREA INLET
RIM=1009.32'
FLOOR=1005.12'
PIPE TO WEST (8" PVC) INV=1005.45'
PIPE FROM EAST (8" PVC) INV=1005.46'
PIPE FROM NORTH (8" PVC) INV=1006.13'

ST6: AREA INLET
RIM=1009.31'
FLOOR=1006.40'
PIPE TO SOUTH (8" PVC) INV=1006.76'

ST9: RINK DRAIN (SOUTH OF POND)
RIM=1005.51'
FLOOR=1001.73'
PIPE TO NORTH (8" PVC) INV=1001.94'
PIPE FROM EAST (8" PVC) INV=1002.00'

ST10: POND FILL STRUCTURE
(EAST OF POND – NEVER USED)
RIM=1006.48'
FLOOR=999.15'
PIPE TO SE (2" PVC) TOP=1002.61'
PIPE TO POND (6" PVC) INV=1000.80'

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SAA DESIGN GROUP

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Revision	Date

Project Name

Elver Park Splashpad

1250 McKenna Blvd
Madison, WI 53719

Drawn By:	KM
Checked By:	BT
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DRAWING

EXISTING CONDITIONS

N

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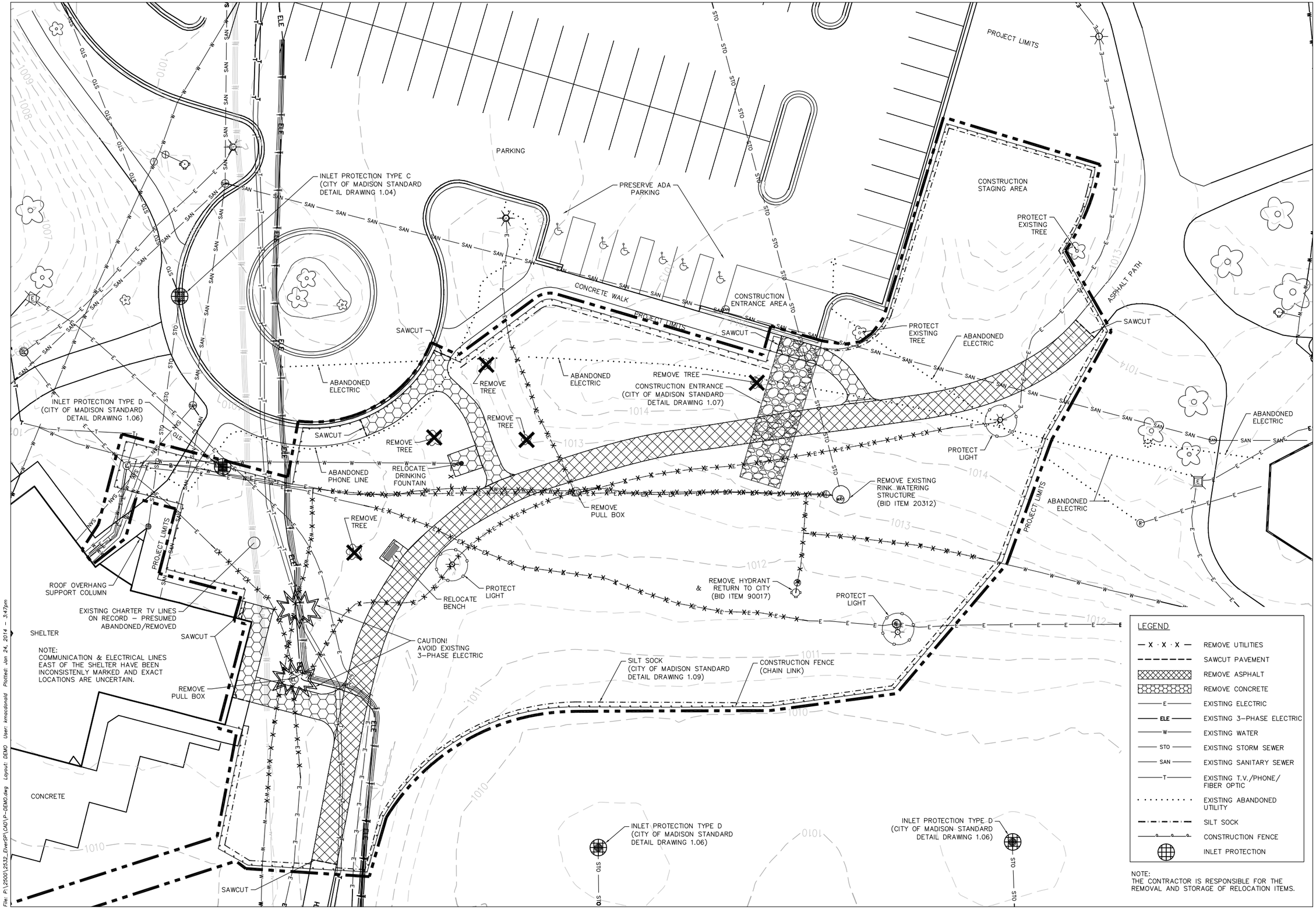
1"=15" 22X34 SHEET

Sheet Number

C1.1



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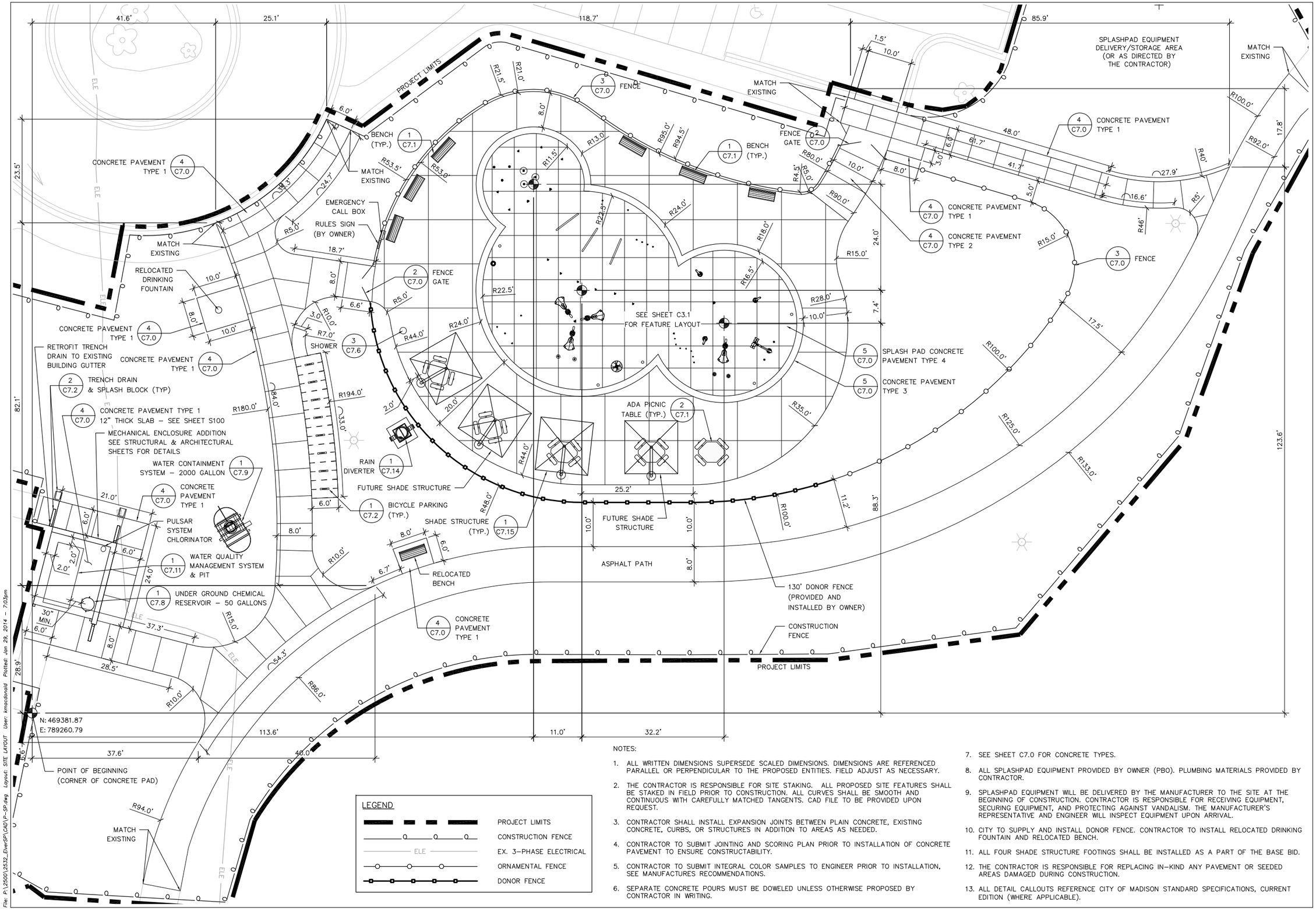
DRAWING

DEMOLITION & EROSION CONTROL PLAN

Sheet Number

C2.0



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2. THE CONTRACTOR IS RESPONSIBLE FOR SITE STAKING. ALL PROPOSED SITE FEATURES SHALL BE STAKED IN FIELD PRIOR TO CONSTRUCTION. ALL CURVES SHALL BE SMOOTH AND CONTINUOUS WITH CAREFULLY MATCHED TANGENTS. CAD FILE TO BE PROVIDED UPON REQUEST.
3. CONTRACTOR SHALL INSTALL EXPANSION JOINTS BETWEEN PLAIN CONCRETE, EXISTING CONCRETE, CURBS, OR STRUCTURES IN ADDITION TO AREAS AS NEEDED.
4. CONTRACTOR TO SUBMIT JOINTING AND SCORING PLAN PRIOR TO INSTALLATION OF CONCRETE PAVEMENT TO ENSURE CONSTRUCTABILITY.
5. CONTRACTOR TO SUBMIT INTEGRAL COLOR SAMPLES TO ENGINEER PRIOR TO INSTALLATION, SEE MANUFACTURES RECOMMENDATIONS.
6. SEPARATE CONCRETE POURS MUST BE DOWELED UNLESS OTHERWISE PROPOSED BY CONTRACTOR IN WRITING.
7. SEE SHEET C7.0 FOR CONCRETE TYPES.
8. ALL SPLASHPAD EQUIPMENT PROVIDED BY OWNER (PBO). PLUMBING MATERIALS PROVIDED BY CONTRACTOR.
9. SPLASHPAD EQUIPMENT WILL BE DELIVERED BY THE MANUFACTURER TO THE SITE AT THE BEGINNING OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR RECEIVING EQUIPMENT, SECURING EQUIPMENT, AND PROTECTING AGAINST VANDALISM. THE MANUFACTURER'S REPRESENTATIVE AND ENGINEER WILL INSPECT EQUIPMENT UPON ARRIVAL.
10. CITY TO SUPPLY AND INSTALL DONOR FENCE. CONTRACTOR TO INSTALL RELOCATED DRINKING FOUNTAIN AND RELOCATED BENCH.
11. ALL FOUR SHADE STRUCTURE FOOTINGS SHALL BE INSTALLED AS A PART OF THE BASE BID.
12. THE CONTRACTOR IS RESPONSIBLE FOR REPLACING IN–KIND ANY PAVEMENT OR SEEDED AREAS DAMAGED DURING CONSTRUCTION.
13. ALL DETAIL CALLOUTS REFERENCE CITY OF MADISON STANDARD SPECIFICATIONS, CURRENT EDITION (WHERE APPLICABLE).

SAA DESIGN GROUP

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SITE LAYOUT PLAN

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1"=10' 22X34 SHEET

Sheet Number

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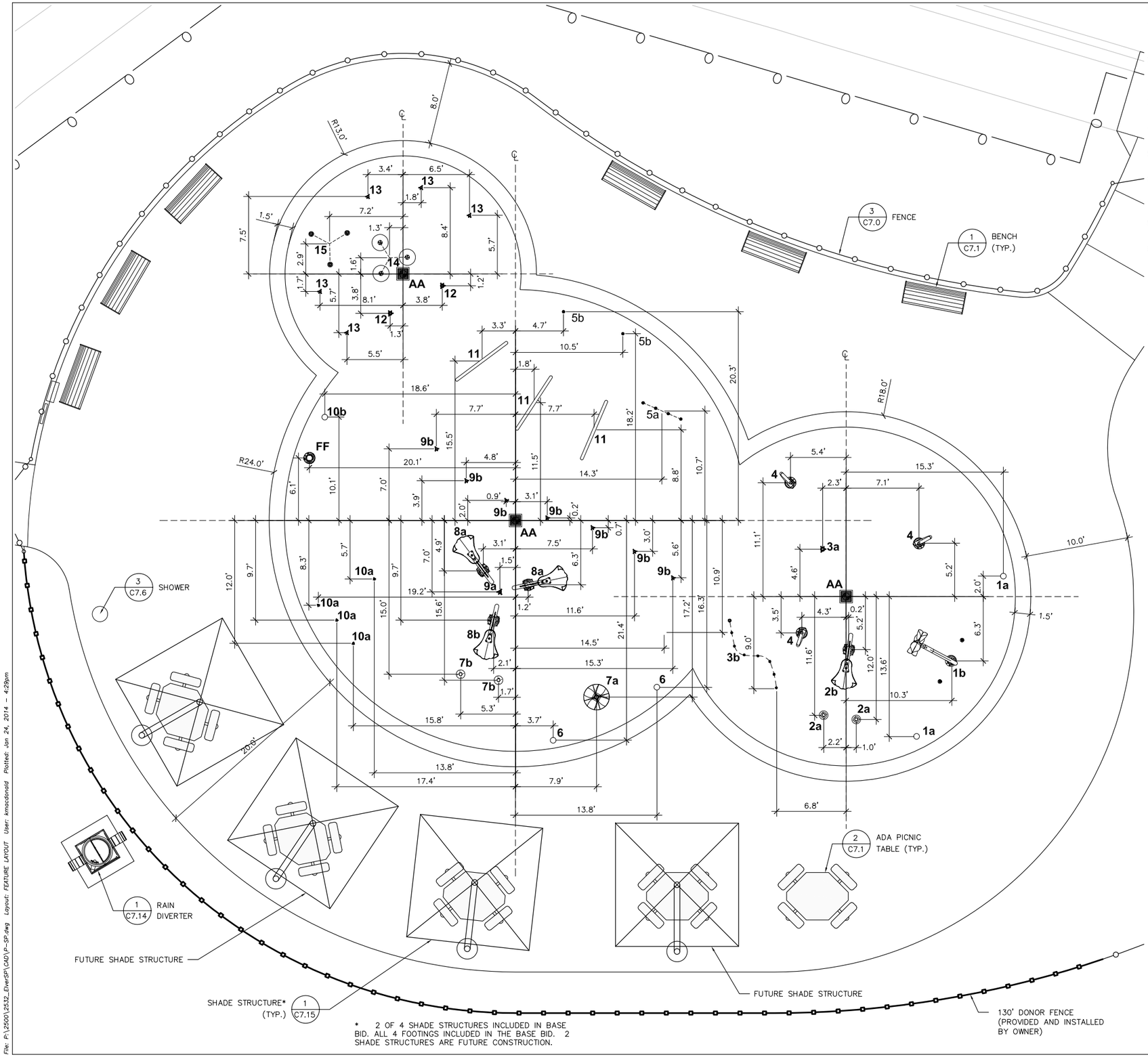

* 2 OF 4 SHADE STRUCTURES INCLUDED IN BASE BID. ALL 4 FOOTINGS INCLUDED IN THE BASE BID. 2 SHADE STRUCTURES ARE FUTURE CONSTRUCTION.

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LEGEND

LINE	PRODUCT	QTY	LINE SIZE	GPM	DETAIL
1	1a ROOSTER TAIL	2	2"	25	1/C7.3
	1b AQUALIEN POWER SPINNER	1		18	3/C7.7
2	2a SAFESWAP NO2	2	2"	25	2/C7.5
	2b AQUALIEN NO2	1		18	2/C7.7
3	3a SIDE WINDER	1	1 1/2"	15	4/C7.3
	3b TEAM SPRAY NO1	1		18	5/C7.4
4	LOOP NO1	3	1 1/2"	15	5/C7.5
5	5a WATER TUNNEL NO2	1	1 1/2"	10	4/C7.4
	5b DIRECTIONAL WATER JET	2		5	2/C7.4
6	ROOSTER TAIL	2	1 1/2"	25	1/C7.3
7	7a AQUALIEN FLOWER NO2	1	1 1/2"	2	1/C7.6
	7b SAFESWAP NO2	2		15	2/C7.5
8	8a AQUALIEN NO1	2	2"	35	1/C7.7
	8b AQUALIEN NO2	1		18	2/C7.7
9	9a FOUNTAIN SPRAY	1	1 1/2"	5	1/C7.4
	9b JET STREAM	7		18	3/C7.3
10	10a SPLIT STREAM	4	2"	30	5/C7.3
	10b ROOSTER TAIL	1		13	1/C7.3
11	SPRAY LOOP	3	2"	23	4/C7.7
12	MAGIC MIST NO2	2	1 1/2"	10	2/C7.3
13	JET STREAM	5	1 1/2"	13	3/C7.3
14	AQUALIEN RAINFOREST NO7	1	1 1/2"	8	2/C7.6
15	WATER JELLY NO3	1	1 1/2"	33	3/C7.4

LEGEND 2

AA	DECK DRAIN	3	8"	6/C7.3
FF	BOLLARD ACTIVATOR	1	–	4/C7.5

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DRAWING

FEATURE LAYOUT PLAN

N

0 5 10

1"=5' 22X34 SHEET

Sheet Number

C3.1

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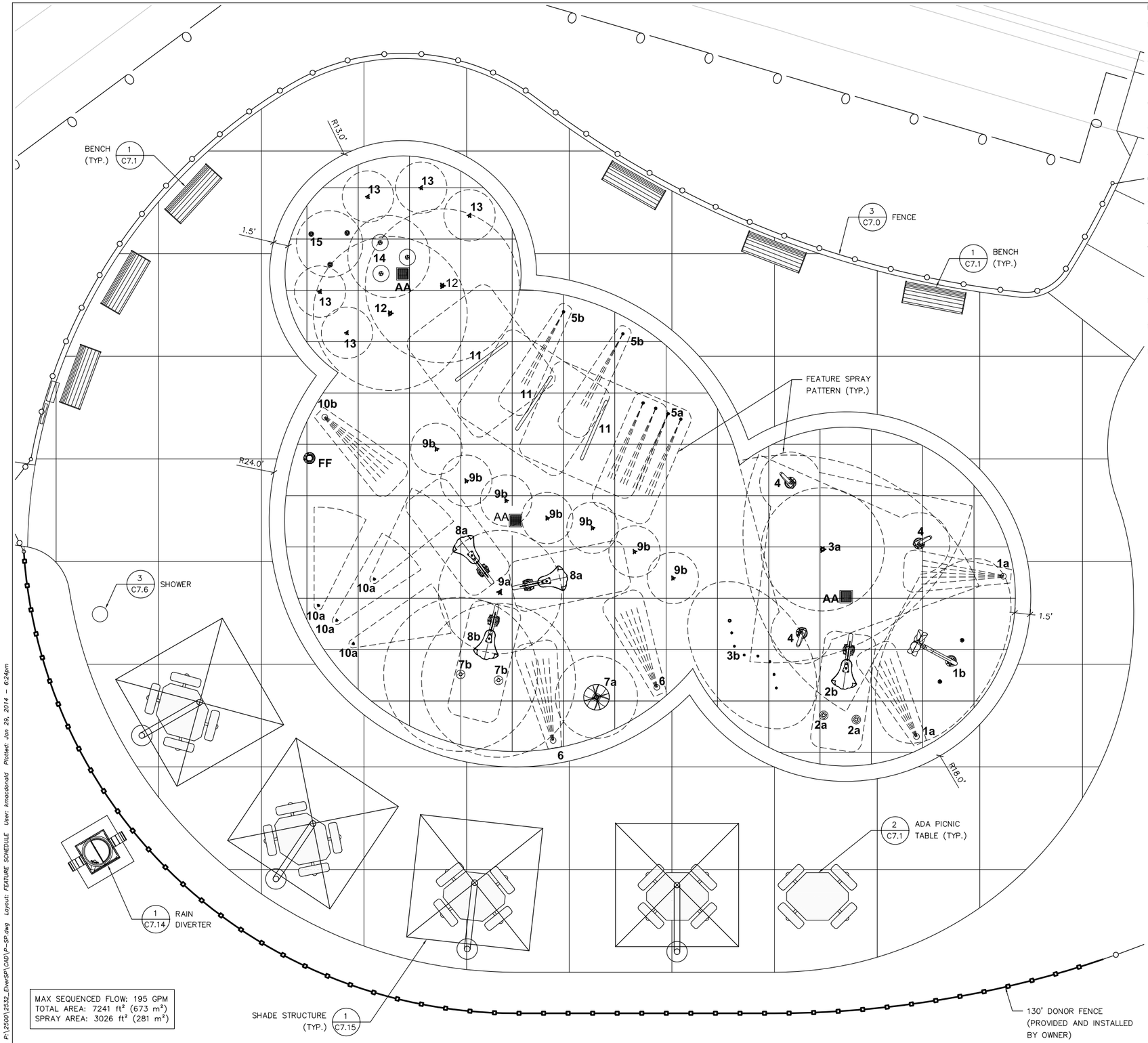

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7. SEE SHEET C7.0 FOR CONCRETE TYPES.
8. ALL SPLASHPAD EQUIPMENT PROVIDED BY OWNER (PBO). PLUMBING MATERIALS PROVIDED BY CONTRACTOR.
9. SPLASHPAD EQUIPMENT WILL BE DELIVERED BY THE MANUFACTURER TO THE SITE AT THE BEGINNING OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR RECEIVING EQUIPMENT, SECURING EQUIPMENT, AND PROTECTING AGAINST VANDALISM. THE MANUFACTURER'S REPRESENTATIVE AND ENGINEER WILL INSPECT EQUIPMENT UPON ARRIVAL.
10. CITY TO SUPPLY AND INSTALL DONOR FENCE. CONTRACTOR TO INSTALL RELOCATED DRINKING FOUNTAIN AND RELOCATED BENCH.
11. ALL FOUR SHADE STRUCTURE FOOTINGS SHALL BE INSTALLED AS A PART OF THE BASE BID.
12. ALL DETAIL CALLOUTS REFERENCE CITY OF MADISON STANDARD SPECIFICATIONS, CURRENT EDITION (WHERE APPLICABLE).

LEGEND

LINE		PRODUCT	QTY	LINE SIZE	GPM	DETAIL
1	1a	ROOSTER TAIL	2	2"	25	1/C7.3
	1b	AQUALIEN POWER SPINNER	1		18	3/C7.7
2	2a	SAFESWAP NO2	2	2"	25	2/C7.5
	2b	AQUALIEN NO2	1		18	2/C7.7
3	3a	SIDE WINDER	1	1 1/2"	15	4/C7.3
	3b	TEAM SPRAY NO1	1		18	5/C7.4
4		LOOP NO1	3	1 1/2"	15	5/C7.5
5	5a	WATER TUNNEL NO2	1	1 1/2"	10	4/C7.4
	5b	DIRECTIONAL WATER JET	2		5	2/C7.4
6		ROOSTER TAIL	2	1 1/2"	25	1/C7.3
7	7a	AQUALIEN FLOWER NO2	1	1 1/2"	2	1/C7.6
	7b	SAFESWAP NO2	2		15	2/C7.5
8	8a	AQUALIEN NO1	2	2"	35	1/C7.7
	8b	AQUALIEN NO2	1		18	2/C7.7
9	9a	FOUNTAIN SPRAY	1	1 1/2"	5	1/C7.4
	9b	JET STREAM	7		18	3/C7.3
10	10a	SPLIT STREAM	4	2"	30	5/C7.3
	10b	ROOSTER TAIL	1		13	1/C7.3
11		SPRAY LOOP	3	2"	23	4/C7.7
12		MAGIC MIST NO2	2	1 1/2"	10	2/C7.3
13		JET STREAM	5	1 1/2"	13	3/C7.3
14		AQUALIEN RAINFOREST NO7	1	1 1/2"	8	2/C7.6
15		WATER JELLY NO3	1	1 1/2"	33	3/C7.4

LEGEND 2

AA	DECK DRAIN	3	8"	6/C7.3
FF	BOLLARD ACTIVATOR	1	–	4/C7.5

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Revision	Date

Project Name

Elver Park Splashpad

1250 McKenna Blvd
Madison, WI 53719

Drawn By:	KM
Checked By:	BT
File:	P-SP
Issued For:	Bidding
Issue Date:	1/30/2014
Project No.	2532

DRAWING

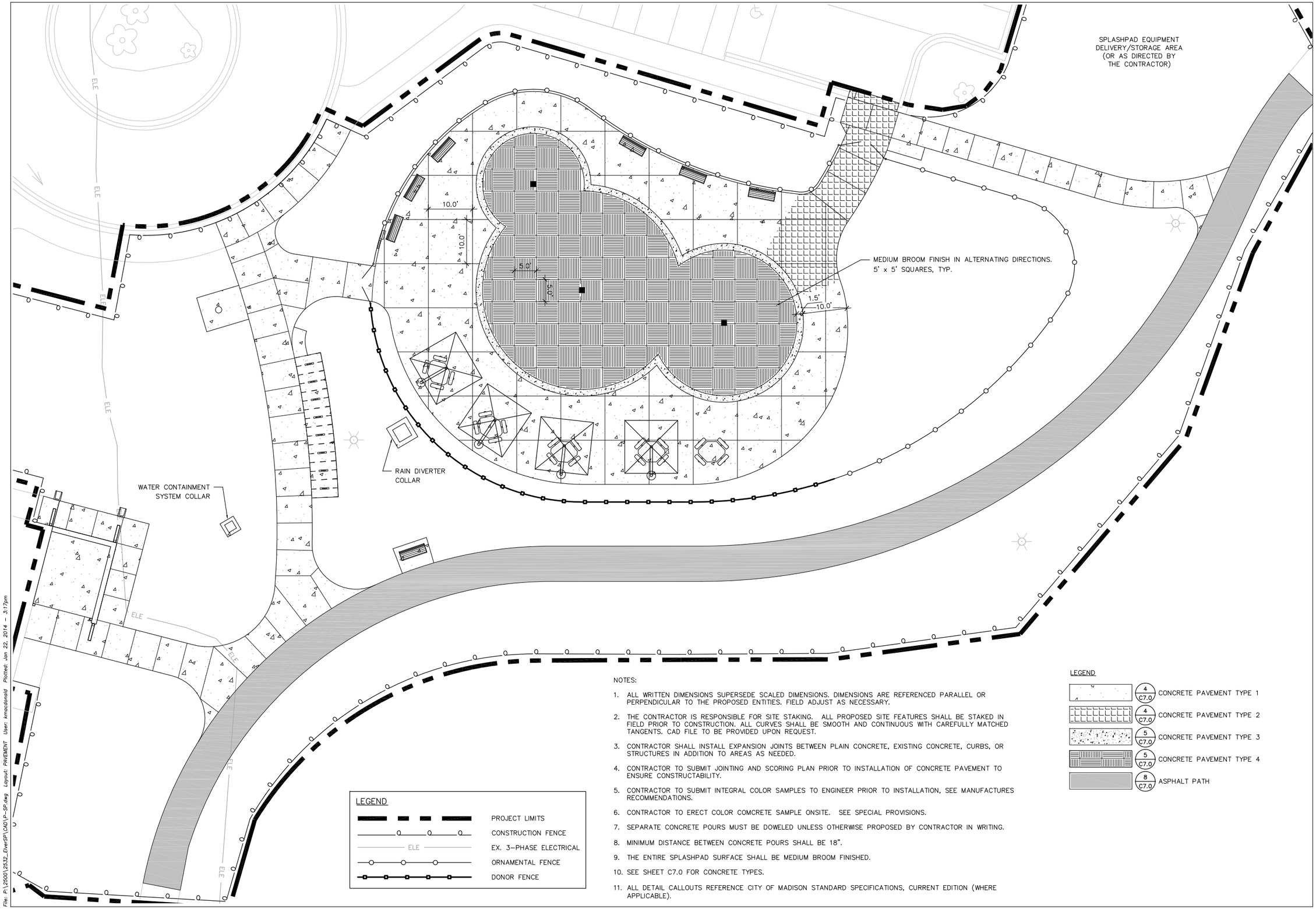
FEATURE SCHEDULE

N

0 5 10
1"=5" 22X34 SHEET

Sheet Number

C3.2



LEGEND

- PROJECT LIMITS
- CONSTRUCTION FENCE
- EX. 3-PHASE ELECTRICAL (ELE)
- ORNAMENTAL FENCE
- DONOR FENCE

NOTES:

1. ALL WRITTEN DIMENSIONS SUPERSEDE SCALED DIMENSIONS. DIMENSIONS ARE REFERENCED PARALLEL OR PERPENDICULAR TO THE PROPOSED ENTITIES. FIELD ADJUST AS NECESSARY.
2. THE CONTRACTOR IS RESPONSIBLE FOR SITE STAKING. ALL PROPOSED SITE FEATURES SHALL BE STAKED IN FIELD PRIOR TO CONSTRUCTION. ALL CURVES SHALL BE SMOOTH AND CONTINUOUS WITH CAREFULLY MATCHED TANGENTS. CAD FILE TO BE PROVIDED UPON REQUEST.
3. CONTRACTOR SHALL INSTALL EXPANSION JOINTS BETWEEN PLAIN CONCRETE, EXISTING CONCRETE, CURBS, OR STRUCTURES IN ADDITION TO AREAS AS NEEDED.
4. CONTRACTOR TO SUBMIT JOINTING AND SCORING PLAN PRIOR TO INSTALLATION OF CONCRETE PAVEMENT TO ENSURE CONSTRUCTABILITY.
5. CONTRACTOR TO SUBMIT INTEGRAL COLOR SAMPLES TO ENGINEER PRIOR TO INSTALLATION, SEE MANUFACTURES RECOMMENDATIONS.
6. CONTRACTOR TO ERECT COLOR COMCRETE SAMPLE ONSITE. SEE SPECIAL PROVISIONS.
7. SEPARATE CONCRETE POURS MUST BE DOWELED UNLESS OTHERWISE PROPOSED BY CONTRACTOR IN WRITING.
8. MINIMUM DISTANCE BETWEEN CONCRETE POURS SHALL BE 18".
9. THE ENTIRE SPLASHPAD SURFACE SHALL BE MEDIUM BROOM FINISHED.
10. SEE SHEET C7.0 FOR CONCRETE TYPES.
11. ALL DETAIL CALLOUTS REFERENCE CITY OF MADISON STANDARD SPECIFICATIONS, CURRENT EDITION (WHERE APPLICABLE).

LEGEND

- 4 / C7.0 CONCRETE PAVEMENT TYPE 1
- 4 / C7.0 CONCRETE PAVEMENT TYPE 2
- 5 / C7.0 CONCRETE PAVEMENT TYPE 3
- 5 / C7.0 CONCRETE PAVEMENT TYPE 4
- 8 / C7.0 ASPHALT PATH

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Splashpad

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DRAWING

PAVEMENT & SCORING PLAN

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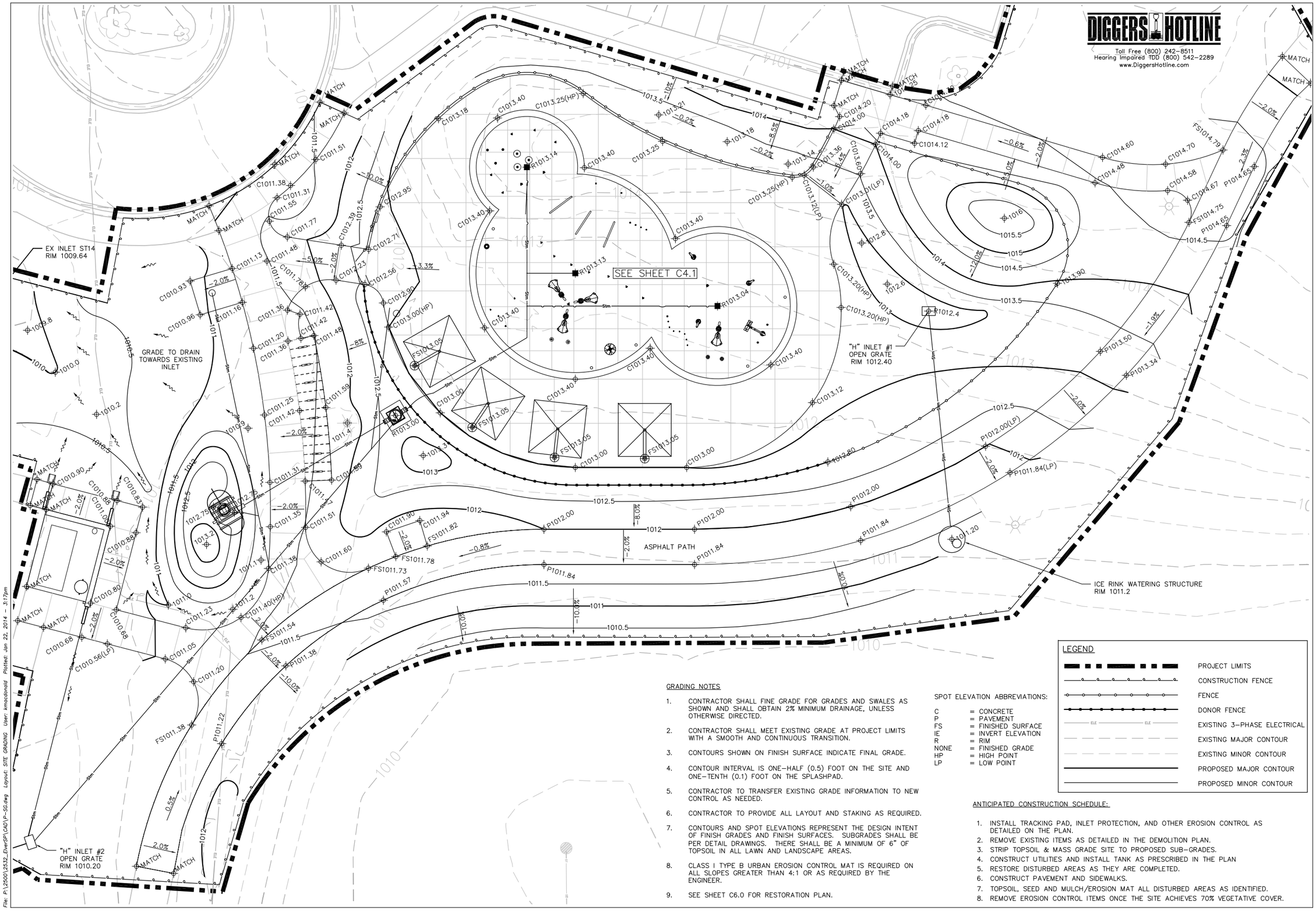
1"=10' 22X34 SHEET

Sheet Number

C3.3

File: P:\2500\2532_ElverSP\CAD\P-SP.dwg Layout: PAVEMENT User: kmacdonald Plotted: Jan 22, 2014 - 3:17pm



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DRAWING

SITE GRADING PLAN

N

0 10 20
1"=10' 22X34 SHEET

Sheet Number

C4.0

GRADING NOTES

1. CONTRACTOR SHALL FINE GRADE FOR GRADES AND SWALES AS SHOWN AND SHALL OBTAIN 2% MINIMUM DRAINAGE, UNLESS OTHERWISE DIRECTED.
2. CONTRACTOR SHALL MEET EXISTING GRADE AT PROJECT LIMITS WITH A SMOOTH AND CONTINUOUS TRANSITION.
3. CONTOURS SHOWN ON FINISH SURFACE INDICATE FINAL GRADE.
4. CONTOUR INTERVAL IS ONE-HALF (0.5) FOOT ON THE SITE AND ONE-TENTH (0.1) FOOT ON THE SPLASHPAD.
5. CONTRACTOR TO TRANSFER EXISTING GRADE INFORMATION TO NEW CONTROL AS NEEDED.
6. CONTRACTOR TO PROVIDE ALL LAYOUT AND STAKING AS REQUIRED.
7. CONTOURS AND SPOT ELEVATIONS REPRESENT THE DESIGN INTENT OF FINISH GRADES AND FINISH SURFACES. SUBGRADES SHALL BE PER DETAIL DRAWINGS. THERE SHALL BE A MINIMUM OF 6" OF TOPSOIL IN ALL LAWN AND LANDSCAPE AREAS.
8. CLASS I TYPE B URBAN EROSION CONTROL MAT IS REQUIRED ON ALL SLOPES GREATER THAN 4:1 OR AS REQUIRED BY THE ENGINEER.
9. SEE SHEET C6.0 FOR RESTORATION PLAN.

SPOT ELEVATION ABBREVIATIONS:

C	= CONCRETE
P	= PAVEMENT
FS	= FINISHED SURFACE
IE	= INVERT ELEVATION
R	= RIM
NONE	= FINISHED GRADE
HP	= HIGH POINT
LP	= LOW POINT

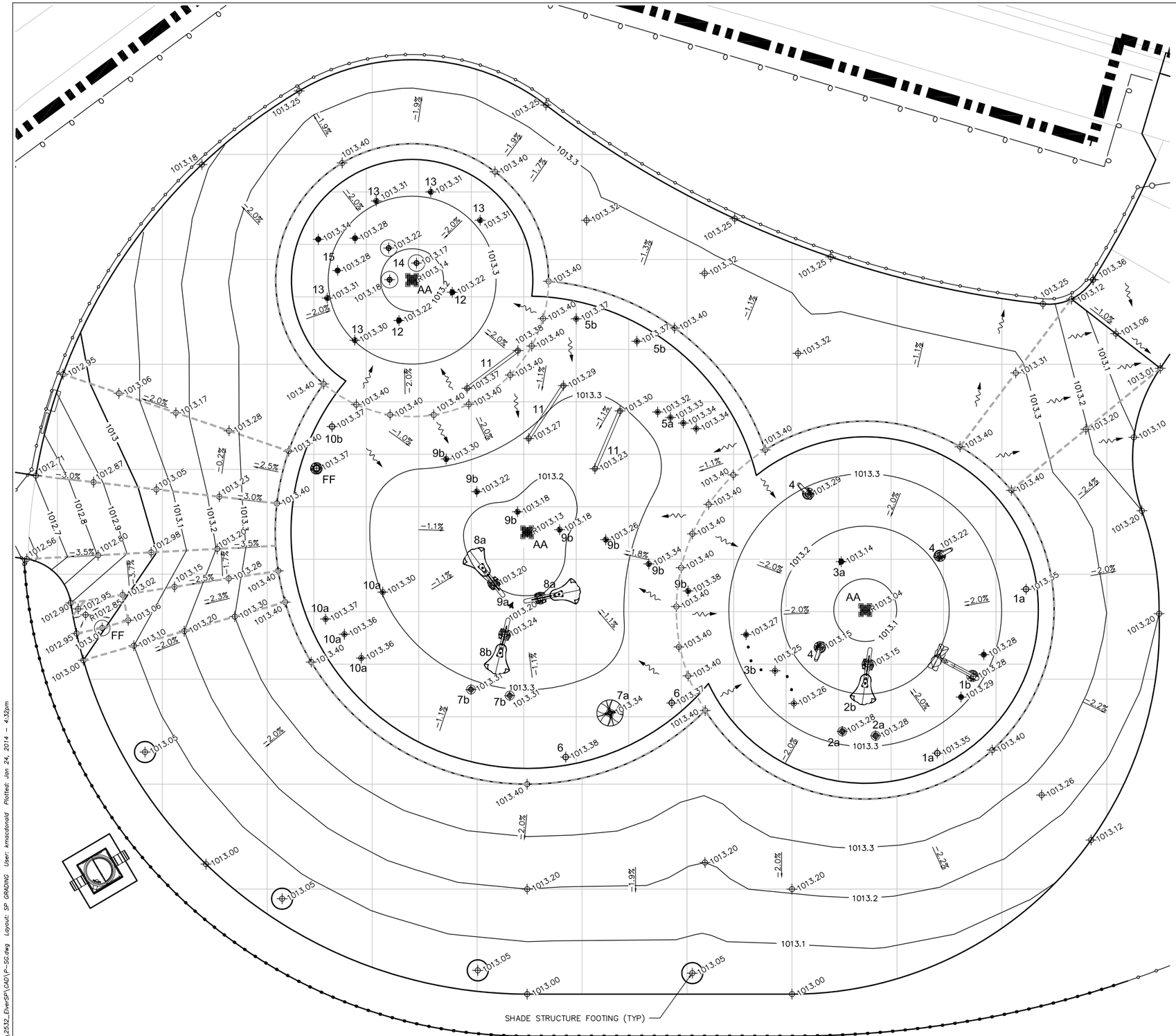
LEGEND

- PROJECT LIMITS
- CONSTRUCTION FENCE
- FENCE
- DONOR FENCE
- ELE — ELE — EXISTING 3-PHASE ELECTRICAL
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR

ANTICIPATED CONSTRUCTION SCHEDULE:

1. INSTALL TRACKING PAD, INLET PROTECTION, AND OTHER EROSION CONTROL AS DETAILED ON THE PLAN.
2. REMOVE EXISTING ITEMS AS DETAILED IN THE DEMOLITION PLAN.
3. STRIP TOPSOIL & MASS GRADE SITE TO PROPOSED SUB-GRADES.
4. CONSTRUCT UTILITIES AND INSTALL TANK AS PRESCRIBED IN THE PLAN
5. RESTORE DISTURBED AREAS AS THEY ARE COMPLETED.
6. CONSTRUCT PAVEMENT AND SIDEWALKS.
7. TOPSOIL, SEED AND MULCH/EROSION MAT ALL DISTURBED AREAS AS IDENTIFIED.
8. REMOVE EROSION CONTROL ITEMS ONCE THE SITE ACHIEVES 70% VEGETATIVE COVER.

File: P:\2500\2532_ElverSP\CAD\P-SG.dwg Layout: SITE GRADING User: kmacdonald Plotted: Jan 22, 2014 - 3:17pm



NOTES:

1. MAINTAIN POSITIVE DRAINAGE IN ALL LOCATIONS. MINIMUM 1% SLOPE IN ALL LOCATIONS UNLESS OTHERWISE DIRECTED.
2. PROPOSED GRADES ARE SHOWN FOR DESIGN INTENT. IF SIGNIFICANT DISCREPANCIES ARE FOUND IN THE FIELD, CONTRACTOR TO CONTACT THE ENGINEER FOR DIRECTION BEFORE PROCEEDING. IF MINOR DISCREPANCIES ARE FOUND, ADJUST TO MAINTAIN POSITIVE DRAINAGE.
3. CONTRACTOR TO ADJUST FEATURE ELEVATIONS AS NEEDED IN FIELD.
4. NOTE THAT THE CONTOUR INTERVAL ON THIS SHEET IS 0.1 FEET.
5. ALL SPOT ELEVATIONS ARE SHOWN FOR FINISHED SURFACE.

LEGEND

- PROJECT LIMITS
- CONSTRUCTION FENCE
- FENCE
- DONOR FENCE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- GRADE BREAK LINE

LEGEND

LINE	PRODUCT	QTY	LINE SIZE	GPM	DETAIL
1	1a ROOSTER TAIL	2	2"	25	1/C7.3
	1b AQUALIEN POWER SPINNER	1		18	3/C7.7
2	2a SAFESWAP NO2	2	2"	25	2/C7.5
	2b AQUALIEN NO2	1		18	2/C7.7
3	3a SIDE WINDER	1	1 1/2"	15	4/C7.3
	3b TEAM SPRAY NO1	1		18	5/C7.4
4	LOOP NO1	3	1 1/2"	15	5/C7.5
5	5a WATER TUNNEL NO2	1	1 1/2"	10	4/C7.4
	5b DIRECTIONAL WATER JET	2		5	2/C7.4
6	ROOSTER TAIL	2	1 1/2"	25	1/C7.3
7	7a AQUALIEN FLOWER NO2	1	1 1/2"	2	1/C7.6
	7b SAFESWAP NO2	2		15	2/C7.5
8	8a AQUALIEN NO1	2	2"	35	1/C7.7
	8b AQUALIEN NO2	1		18	2/C7.7
9	9a FOUNTAIN SPRAY	1	1 1/2"	5	1/C7.4
	9b JET STREAM	7		18	3/C7.3
10	10a SPLIT STREAM	4	2"	30	5/C7.3
	10b ROOSTER TAIL	1		13	1/C7.3
11	SPRAY LOOP	3	2"	23	4/C7.7
12	MAGIC MIST NO2	2	1 1/2"	10	2/C7.3
13	JET STREAM	5	1 1/2"	13	3/C7.3
14	AQUALIEN RAINFOREST NO7	1	1 1/2"	8	2/C7.6
15	WATER JELLY NO3	1	1 1/2"	33	3/C7.4

LEGEND 2

AA	DECK DRAIN	3	8"	6/C7.3
FF	BOLLARD ACTIVATOR	1	–	4/C7.5

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Revision	Date

Project Name

Elver Park Splashpad

1250 McKenna Blvd
Madison, WI 53719

Drawn By:	KM
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DRAWING

SPLASHPAD GRADING PLAN

N

0 5 10

1"=5' 22X34 SHEET

Sheet Number

C4.1

File: P:\2500\2532_ElverSP\CAD\P-SG.dwg Layout: SP GRADING User: kmacdonald Plotted: Jan 24, 2014 – 4:32pm

ABANDONED TELEPHONE LINE

JUNCTION BOX CONNECT TO EXISTING ELECTRIC TO NORTH

PROVIDE ELECTRICAL SERVICE TO EMERGENCY CALL BOX PER MANUFACTURER'S SPECIFICATIONS

RELOCATED WATER FOUNTAIN PROVIDE CONNECTIONS TO MATCH EXISTING. CONTRACTOR TO INSTALL.

CONNECT TO EXISTING WATER SERVICE 6' – 1" WATER SERVICE W/CURB STOP & BLOW VALVE

CURB STOP

BLOW OUT VALVE

CONNECT TO EX.

CURB STOP

SEE SHEET C5.2

CONNECT TO EX 6" PVC SAN SWR W/6" WYE APPROX. IE 1003.5

CONNECT TO EXISTING 4" WATER MAIN, REMOVE TEE, ADD 45° BEND

CONNECT TO EX ELECTRIC

CONNECT TO EX ELECTRIC

60° BEND

TRENCH DRAIN, 4" PVC PIPE, SPLASH BLOCK

62' – 6" PVC SANITARY SEWER @ 1.0% MIN. SLOPE

ALT BID ITEM 2: TRENCH DRAIN, 4" PVC PIPE, SPLASH BLOCK

DOME PACK PIT DRAIN AND FILTER BACKWASH – PROVIDE 2" AIR GAP DRAIN RIM APPROX. 1008.5

ALT BID ITEM 2: TRENCH DRAIN 4" S 1010.28 UPSIZE 4" PVC PIPE TO 8" PVC PIPE SOUTH OF SIDEWALK MAINTAIN 1' MIN. BURY

CONNECT TO EX ELECTRIC

CONNECT TO EXISTING 2" WATER MAIN W/60° BEND

ALT BID ITEM 2: 45' – 8" PVC STM SWR @ 7.0%

"H" INLET #2 R-1878-B7G CASTING W/OPEN GRATE RIM 1010.20 8" N 1006.73 8" NE 1006.73 8" SW 1006.63

MATCH LINE – SEE SHEET C5.0/C5.2

MATCH LINE – SEE SHEET C5.1

52' – 8" PVC STM SWR @ 1% MIN. SLOPE

INSULATE WATER CROSSING (TYP ALL XINGS)

63' – 1" WATER SERVICE W/CURB STOP

JUNCTION BOX

ULO

40' – 1" WATER SERVICE

8"x8"x4" WYE IE 1008.55

CAUTION! UTILITY CROSSINGS

ADJUST EX. VALVE TO NEW CONCRETE ELEVATION

EXTEND EXISTING DRINKING FOUNTAIN WATER SERVICE PAST EX. VALVE EX. VALVE TO REMAIN

15' – 1" WATER SERVICE EXTENSION

6" DIAMETER SHOWER DRAIN W/STAINLESS STEEL GRATE RIM 1012.85 4" S 1010.0

3 C7.6 SHOWER

BLOW OUT VALVE – IN GRASS

CONNECT TO EX LIGHT

32' – 8" PVC @ 1.9%

RAIN DIVERTER RIM 1013.0 10" NE 1010.0 10" SW 1010.0 4" S 1009.58

SHADE STRUCTURE FOOTING (TYP)

7' – 8" PVC @ 2.9%

8" PVC WYE IE 1009.38

35' – 8" PVC @ 2.9%

NEW ELECTRIC LINES

ASPHALT PATH

88' – 4" P.E. WATER MAIN

22.5° BEND

117' – 4" P.E. WATER MAIN

4"x4" TEE W/2" REDUCER

12' – 8" PVC STM SWR @ 1.5%

8" PVC WYE IE 1008.37

77' – 2" P.E. WATER MAIN

UTILITY LINE OPENING (ULO)

INSULATE WATER CROSSING (TYP ALL XINGS)

82' – 8" PVC @ 2.0%

INSULATE WATER CROSSING (TYP ALL XINGS)

NEW ELECTRIC

ABANDONED ELECTRIC

SEE SHEET C5.2 FOR SPLASHPAD UTILITY DETAILS

SPLASHPAD EQUIPMENT DELIVERY/STORAGE AREA (OR AS DIRECTED BY THE CONTRACTOR)

CONNECT TO EXISTING ELECTRIC

"H" INLET #1 R-1878-B7G CASTING W/OPEN GRATE RIM 1012.40 12" N 1009.5 8" S 1009.6

CONNECT TO EXISTING 4" WATER MAIN W/60° BEND

50' – 8" PVC STORM SEWER @ 0.50%

CONNECT TO EXISTING ELECTRICAL

CONNECT ELECTRICAL SERVICE

UTILITY HYDRANT BURY LINE 1011.5 4 C7.2

10' – 2" HYDRANT SERVICE W/CURB STOP

CURB STOP

52' – 4" P.E. WATER MAIN

8' – 4" P.E. WATER MAIN

11' – 2" WATER SERVICE W/CURB STOP

4"x2" TEE

45° BEND

10' – 4" P.E. WATER MAIN

3 C7.2 ICE RINK WATERING STRUCTURE RIM 1011.2 8" N 1009.85

NOTES:

1. ALL UTILITIES TO BE INSTALLED PER THE MADISON SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION.
2. WITHIN THE RIGHT-OF-WAY OR UNDERNEATH PAVEMENTS OR BUILDINGS, GRANULAR TRENCH BACKFILL MUST BE USED TO FILL THE TRENCH. ALL OTHER AREAS MAY UTILIZE EXCAVATED TRENCH SPOIL FOR BACKFILL PROVIDING THAT THE MATERIAL IS FREE OF ORGANIC MATERIAL AND STONES LARGER THAN 6" IN DIAMETER.
3. A MEANS TO LOCATE BURIED UNDERGROUND EXTERIOR NON METALLIC SEWERS/MAINS AND WATER SERVICES/MAINS MUST BE PROVIDED WITH TRACER WIRE OR OTHER METHODS IN ORDER TO BE LOCATED IN ACCORD WITH LOCAL AND STATE CODES. (INCIDENTAL TO BID ITEMS 50404, 50405, 50352).
4. PROVIDE FITTINGS AS REQUIRED AT ALL UTILITY CONNECTIONS.
5. PROVIDE JUNCTION BOXES AND PULL BOXES AS REQUIRED FOR ELECTRICAL CONNECTIONS.
6. ELECTRONIC MARKER BALLS SHALL BE INSTALLED AT ALL BENDS. THEY ARE AVAILABLE FROM THE CITY OF MADISON ON EMIL STREET.
7. REPLACE EXISTING SITE ELECTRICAL SERVICES IN-KIND.
8. PROVIDE RIGID PLASTIC CONDUIT UNDER ANY PAVED SURFACES FOR NEW ELECTRICAL CONNECTIONS.
9. PROVIDE 2"X4'X8' FOAM BOARD INSULATION WHERE SITE STORM SEWER CROSSES EXISTING OR PROPOSED WATER SERVICES.
10. CHARTER AND ALLIANT HAVE APPROVED ALL UTILITY CROSSINGS AS SHOWN.
11. SEE SHEET C5.3 FOR SPLASHPAD UTILITY PLAN DETAILS.

LEGEND

- PROJECT LIMITS
- CONSTRUCTION FENCE
- ORNAMENTAL FENCE
- DONOR FENCE
- EXISTING WATER LINE
- PROPOSED WATER LINE
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- EXISTING ELECTRICAL LINE
- EXISTING 3-PHASE ELECTRICAL LINE
- PROPOSED ELECTRICAL LINE
- EXISTING TV/COMMUNICATION LINE
- EXISTING FIBER OPTIC LINE
- ABANDONED UTILITY LINE

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Revision	Date

Project Name

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1250 McKenna Blvd
Madison, WI 53719

Drawn By:	KM
Checked By:	BT
File:	P-U
Issued For:	Bidding
Issue Date:	1/30/2014
Project No.	2532

DRAWING

SITE UTILITY PLAN

N

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1"=10' 22X34 SHEET

Sheet Number

C5.0

File: P:\2500\2532_ElverSP\CAD\P-U.dwg Layout: C5-0 User: kmacdonald Plotted: Jan 29, 2014 - 7:24pm

RETENTION POND

EXISTING STM MH ST10

62' – 6" PVC SANITARY SEWER @ 1.0% MIN. SLOPE

DOME PACK PIT DRAIN AND FILTER BACKWASH – PROVIDE 2" AIR GAP DRAIN RIM APPROX. 1008.5

TRENCH DRAIN
4" S 1010.28
UPSIZE 4" PVC PIPE TO 8" PVC PIPE SOUTH OF SIDEWALK
MAINTAIN 1' MIN. BURY

SHELTER

CONCRETE

CONCRETE

CONNECT TO EX ELECTRIC

CONNECT TO EXISTING 2" WATER MAIN W/60° BEND

82' – 8" PVC @ 2.0%

45' – 8" PVC STM SWR @ 7.0%

"H" INLET #2
R-1878-B7G CASTING
W/OPEN GRATE
RIM 1010.20
8" N 1006.73
8" NE 1006.73
8" SW 1006.63

MATCH LINE – SEE SHEET C5.0/C5.2

MATCH LINE – SEE SHEET C5.1

DO NOT DAMAGE EXISTING TREE OR TREE ROOT SYSTEM

INSULATE WATER CROSSING (TYP ALL XINGS)

274' – 8" PVC @ 1.0%

EXISTING 2" WATER LINE

EX. ELECTRICAL HAND HOLE

EX. LIGHT, TYP.

"H" INLET #3
R-1878-B7G CASTING
W/OPEN GRATE
RIM 1008.50
8" NE 1003.9
8" W+E 1003.3

ST9

8" PVC

ST1

LEGEND

- PROJECT LIMITS
- CONSTRUCTION FENCE
- ORNAMENTAL FENCE
- DONOR FENCE
- EXISTING WATER LINE
- PROPOSED WATER LINE
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- EXISTING ELECTRICAL LINE
- EXISTING 3-PHASE ELECTRICAL LINE
- PROPOSED ELECTRICAL LINE
- EXISTING TV/COMMUNICATION LINE
- EXISTING FIBER OPTIC LINE
- ABANDONED UTILITY LINE

NOTES:

1. ALL UTILITIES TO BE INSTALLED PER THE MADISON SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION.
2. WITHIN THE RIGHT-OF-WAY OR UNDERNEATH PAVEMENTS OR BUILDINGS, GRANULAR TRENCH BACKFILL MUST BE USED TO FILL THE TRENCH. ALL OTHER AREAS MAY UTILIZE EXCAVATED TRENCH SPOIL FOR BACKFILL PROVIDING THAT THE MATERIAL IS FREE OF ORGANIC MATERIAL AND STONES LARGER THAN 6" IN DIAMETER.
3. A MEANS TO LOCATE BURIED UNDERGROUND EXTERIOR NON METALLIC SEWERS/MAINS AND WATER SERVICES/MAINS MUST BE PROVIDED WITH TRACER WIRE OR OTHER METHODS IN ORDER TO BE LOCATED IN ACCORD WITH LOCAL AND STATE CODES. (INCIDENTAL TO BID ITEMS 50404, 50405, 50352).
4. PROVIDE FITTINGS AS REQUIRED AT ALL UTILITY CONNECTIONS.
5. PROVIDE JUNCTION BOXES AND PULL BOXES AS REQUIRED FOR ELECTRICAL CONNECTIONS.
6. ELECTRONIC MARKER BALLS SHALL BE INSTALLED AT ALL BENDS. THEY ARE AVAILABLE FROM THE CITY OF MADISON ON EMIL STREET.
7. REPLACE EXISTING SITE ELECTRICAL SERVICES IN-KIND.
8. PROVIDE RIGID PLASTIC CONDUIT UNDER ANY PAVED SURFACES FOR NEW ELECTRICAL CONNECTIONS.
9. PROVIDE 2"X4'X8' FOAM BOARD INSULATION WHERE SITE STORM SEWER CROSSES EXISTING OR PROPOSED WATER SERVICES.
10. CHARTER AND ALLIANT HAVE APPROVED ALL UTILITY CROSSINGS AS SHOWN.
11. SEE SHEET C5.3 FOR SPLASHPAD UTILITY PLAN DETAILS.

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DRAWING

SITE UTILITY PLAN

N

0 10 20

1"=10' 22X34 SHEET

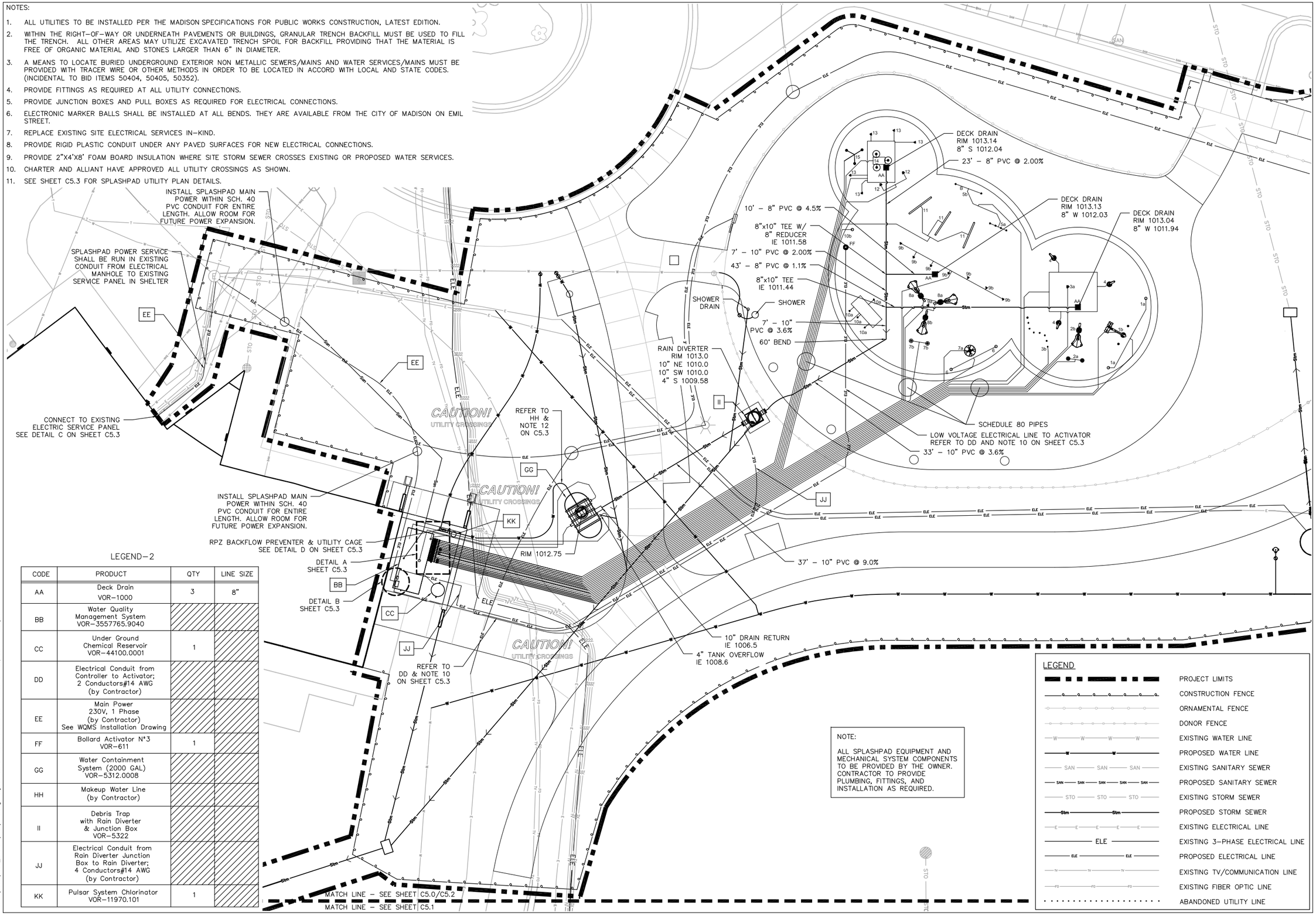
Sheet Number

C5.1

File: P:\2500\2532_ElverSP\CAD\P-U.dwg Layout: C5-1 User: kmacdonald Plotted: Jan 29, 2014 – 6:23pm

NOTES:

1. ALL UTILITIES TO BE INSTALLED PER THE MADISON SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION.
2. WITHIN THE RIGHT–OF–WAY OR UNDERNEATH PAVEMENTS OR BUILDINGS, GRANULAR TRENCH BACKFILL MUST BE USED TO FILL THE TRENCH. ALL OTHER AREAS MAY UTILIZE EXCAVATED TRENCH SPOIL FOR BACKFILL PROVIDING THAT THE MATERIAL IS FREE OF ORGANIC MATERIAL AND STONES LARGER THAN 6" IN DIAMETER.
3. A MEANS TO LOCATE BURIED UNDERGROUND EXTERIOR NON METALLIC SEWERS/MAINS AND WATER SERVICES/MAINS MUST BE PROVIDED WITH TRACER WIRE OR OTHER METHODS IN ORDER TO BE LOCATED IN ACCORD WITH LOCAL AND STATE CODES. (INCIDENTAL TO BID ITEMS 50404, 50405, 50352).
4. PROVIDE FITTINGS AS REQUIRED AT ALL UTILITY CONNECTIONS.
5. PROVIDE JUNCTION BOXES AND PULL BOXES AS REQUIRED FOR ELECTRICAL CONNECTIONS.
6. ELECTRONIC MARKER BALLS SHALL BE INSTALLED AT ALL BENDS. THEY ARE AVAILABLE FROM THE CITY OF MADISON ON EMIL STREET.
7. REPLACE EXISTING SITE ELECTRICAL SERVICES IN–KIND.
8. PROVIDE RIGID PLASTIC CONDUIT UNDER ANY PAVED SURFACES FOR NEW ELECTRICAL CONNECTIONS.
9. PROVIDE 2"X4'X8' FOAM BOARD INSULATION WHERE SITE STORM SEWER CROSSES EXISTING OR PROPOSED WATER SERVICES.
10. CHARTER AND ALLIANT HAVE APPROVED ALL UTILITY CROSSINGS AS SHOWN.
11. SEE SHEET C5.3 FOR SPLASHPAD UTILITY PLAN DETAILS.



LEGEND–2

CODE	PRODUCT	QTY	LINE SIZE
AA	Deck Drain VOR–1000	3	8"
BB	Water Quality Management System VOR–3557765.9040		
CC	Under Ground Chemical Reservoir VOR–44100.0001	1	
DD	Electrical Conduit from Controller to Activator; 2 Conductors#14 AWG (by Contractor)		
EE	Main Power 230V, 1 Phase (by Contractor) See WQMS Installation Drawing		
FF	Bollard Activator N°3 VOR–611	1	
GG	Water Containment System (2000 GAL) VOR–5312.0008		
HH	Makeup Water Line (by Contractor)		
II	Debris Trap with Rain Diverter & Junction Box VOR–5322		
JJ	Electrical Conduit from Rain Diverter Junction Box to Rain Diverter; 4 Conductors#14 AWG (by Contractor)		
KK	Pulsar System Chlorinator VOR–11970.101	1	

NOTE:

ALL SPLASHPAD EQUIPMENT AND MECHANICAL SYSTEM COMPONENTS TO BE PROVIDED BY THE OWNER. CONTRACTOR TO PROVIDE PLUMBING, FITTINGS, AND INSTALLATION AS REQUIRED.

LEGEND

- PROJECT LIMITS
- CONSTRUCTION FENCE
- ORNAMENTAL FENCE
- DONOR FENCE
- EXISTING WATER LINE
- PROPOSED WATER LINE
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- EXISTING ELECTRICAL LINE
- EXISTING 3–PHASE ELECTRICAL LINE
- PROPOSED ELECTRICAL LINE
- EXISTING TV/COMMUNICATION LINE
- EXISTING FIBER OPTIC LINE
- ABANDONED UTILITY LINE

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Revision	Date

Project Name

Elver Park Splashpad

1250 McKenna Blvd
Madison, WI 53719

Drawn By:	KM
Checked By:	BT
File:	P-U
Issued For:	Bidding
Issue Date:	1/30/2014
Project No.	2532

DRAWING

SPLASHPAD UTILITY PLAN

N

0 10 20

1"=10' 22X34 SHEET

Sheet Number

C5.2

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LEGEND

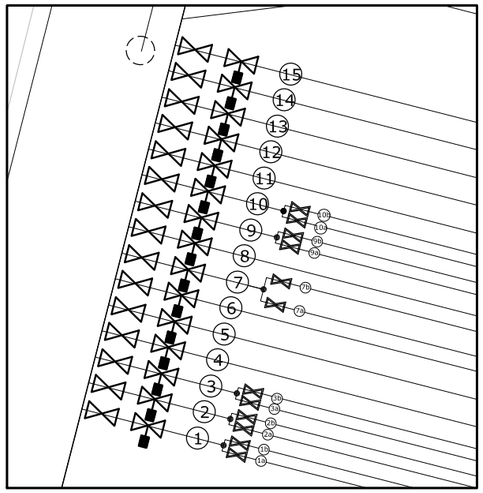
LINE		PRODUCT	QTY	LINE SIZE	GPM	DETAIL
1	1a	ROOSTER TAIL	2	2"	25	1/C7.3
	1b	AQUALIEN POWER SPINNER	1		18	3/C7.7
2	2a	SAFESWAP NO2	2	2"	25	2/C7.5
	2b	AQUALIEN NO2	1		18	2/C7.7
3	3a	SIDE WINDER	1	1 1/2"	15	4/C7.3
	3b	TEAM SPRAY NO1	1		18	5/C7.4
4		LOOP NO1	3	1 1/2"	15	5/C7.5
5	5a	WATER TUNNEL NO2	1	1 1/2"	10	4/C7.4
	5b	DIRECTIONAL WATER JET	2		5	2/C7.4
6		ROOSTER TAIL	2	1 1/2"	25	1/C7.3
7	7a	AQUALIEN FLOWER NO2	1	1 1/2"	2	1/C7.6
	7b	SAFESWAP NO2	2		15	2/C7.5
8	8a	AQUALIEN NO1	2	2"	35	1/C7.7
	8b	AQUALIEN NO2	1		18	2/C7.7
9	9a	FOUNTAIN SPRAY	1	1 1/2"	5	1/C7.4
	9b	JET STREAM	7		18	3/C7.3
10	10a	SPLIT STREAM	4	2"	30	5/C7.3
	10b	ROOSTER TAIL	1		13	1/C7.3
11		SPRAY LOOP	3	2"	23	4/C7.7
12		MAGIC MIST NO2	2	1 1/2"	10	2/C7.3
13		JET STREAM	5	1 1/2"	13	3/C7.3
14		AQUALIEN RAINFOREST NO7	1	1 1/2"	8	2/C7.6
15		WATER JELLY NO3	1	1 1/2"	33	3/C7.4

LEGEND–2

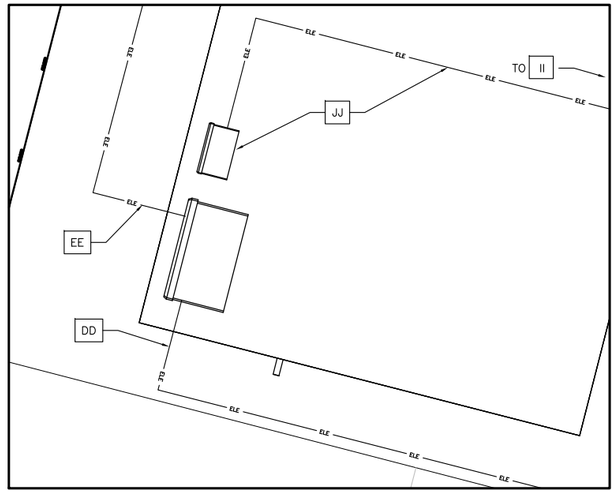
CODE	PRODUCT	QTY	LINE SIZE
AA	Deck Drain VOR–1000	3	8"
BB	Water Quality Management System VOR–3557765.9040		
CC	Under Ground Chemical Reservoir VOR–44100.0001	1	
DD	Electrical Conduit from Controller to Activator; 2 Conductors#14 AWG (by Contractor)		
EE	Main Power 230V, 1 Phase (by Contractor) See WQMS Installation Drawing		
FF	Bollard Activator N°3 VOR–611	1	
GG	Water Containment System (2000 GAL) VOR–5312.0008		
	6" Feature Pump Suction Manifold VOR–33903.0838		
	3" Return Manifold VOR–33903.0839		
HH	Makeup Water Line (by Contractor)		
II	Debris Trap with Rain Diverter & Junction Box VOR–5322		
JJ	Electrical Conduit from Rain Diverter Junction Box to Rain Diverter; 4 Conductors#14 AWG (by Contractor)		
KK	Pulsar System Chlorinator VOR–11970.101	1	
	Ball Valve	15	
	Solenoid Valve	15	
	Ball Valve (by Contractor)	12	

NOTES:

1. FOR PLAY PRODUCT & WATER QUALITY MANAGEMENT SYSTEM INSTALLATION DETAILS REFER TO INSTALL DRAWINGS. SKID MOUNTED EQUIPMENT AND STUB UP LOCATIONS TO BE FINALIZED PRIOR TO CONSTRUCTION.
2. SPLASHPAD ACTIVITY DECK & DRAIN LINES SHALL HAVE A 1–2% SLOPE TO OPTIMIZE DRAINAGE.
3. ALL PIPING TO FEATURES SHALL HAVE A 1–2% SLOPE FOR WINTERIZATION.
4. ALL LINE SIZING FROM LEGEND 1 ASSUMES A MAXIMUM DISTANCE OF 225 FEET BETWEEN THE WATER DISTRIBUTION MANIFOLD AND THE FURTHEST PLAY PRODUCT. DISTANCES ABOVE 225 FEET MAY REQUIRE AN INCREASE IN LINE SIZING.
5. ALL PIPING BETWEEN THEPLAY PRODUCTS AND WATER CONTAINMENT SYSTEM ARE TO BE SCHEDULE 80 PVC. DECK DRAIN LINES SHALL BE SCHEDULE 40 PVC.
6. LINES FROM DECK DRAINS SHALL BE 8" AND SHALL COMBINE INTO A 10" LINE. LINE ROUTING TO BE DETERMINED ON SITE BY CONTRACTOR.
7. FINAL LOCATION OF DECK DRAINS AND LINE ROUTING ARE TO BE DETERMINED BY CONTRACTOR.
8. WHEN CONNECTING MULTIPLE PLAY PRODUCTS TO ONE FEEDER LINE, THE JUNCTION POINT (SPLIT OR T) SHALL BE PLACED IN THE MID POINT BETWEEN EACH PLAY PRODUCT. FAILURE TO DO SO MAY RESULT IN UNEQUAL SPRAY EFFECTS BETWEEN PLAY PRODUCTS.
9. WIRING FROM THE CONTROLLER TO EACH ACTIVATOR SHALL BE #14 AWG. A TOTAL OF TWO (2) CONDUCTORS PER ACTIVATOR.
10. ALL CONNECTIONS TO THE CONTROLLER SHALL BE PERFORMED USING AN APPROVED NEMA 4X CONNECTOR.
11. REQUIRED BACKFLOW DEVICE OR WATER METER ON THE CITY WATER MAIN SHALL BE PROVIDED BY CONTRACTOR AS SHOWN.
12. ANY CHANGES TO THE PIPING AND ELECTRICAL SCHEMATIC MAY INCUR ADDITIONAL PROGRAMMING CHARGES.
13. DISTANCE BETWEEN THE WQMS (PUMPS, MANIFOLD, ETC) AND THE WATER CONTAINMENT SYSTEM SHALL NOT EXCEED 40 FEET.
14. MAXIMUM SEQUENCED FLOW RATE OF THE FEATURES IS 195 GPM.



DETAIL A: MANIFOLD PIPING



DETAIL B: ELECTRICAL CONNECTIONS

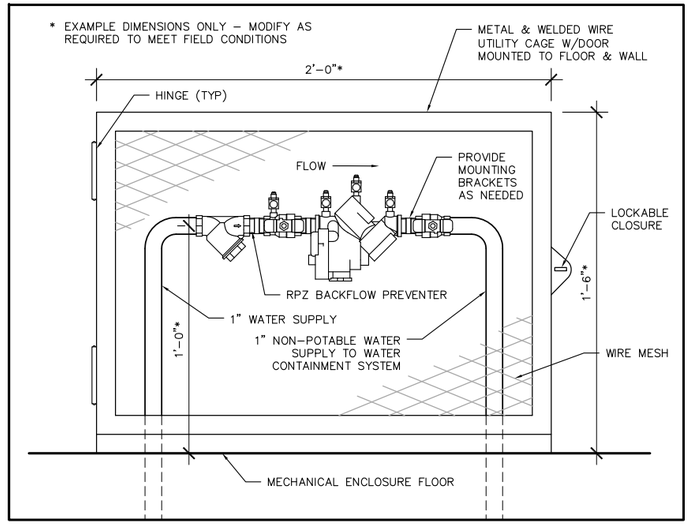
DETAIL C: ELECTRICAL PANEL

DETAIL C NOTES:

1. EXISTING SERVICE PANEL IS A CUTLER–HAMMER PRL/a. SERVICE IS 120/240V, 400 AMP SINGLE PHASE.
2. COORDINATE NEW SERVICE CIRCUITS WITH CITY OF MADISON PARKS ELECTRICIAN PAUL JANES AT 608–209–3578 AND CITY OF MADISON BUILDING INSPECTION.
3. PROVIDE NEW BREAKERS TO MATCH EXISTING.

DETAIL D NOTES:

1. RPZ BACKFLOW PREVENTER AND UTILITY CAGE TO BE CONSTRUCTED ON THE NORTH INTERIOR WALL OF THE MECHANICAL ENCLOSURE.
2. CONTRACTOR TO PROVIDE ALL NECESSARY FITTINGS AND MOUNTING HARDWARE.
3. CONTRACTOR TO PROVIDE ALL REQUIRED PRESSURE TESTING OR OTHER TESTING AS REQUIRED BY THE CITY OF MADISON OR CODE REGULATIONS.



DETAIL D: RPZ BACKFLOW PREVENTER & UTILITY CAGE

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Revision	Date

Project Name

Elver Park Splashpad

1250 McKenna Blvd
Madison, WI 53719

Drawn By:	KM
Checked By:	BT
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DRAWING

UTILITY PLAN MECHANICALS

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Sheet Number

C5.3

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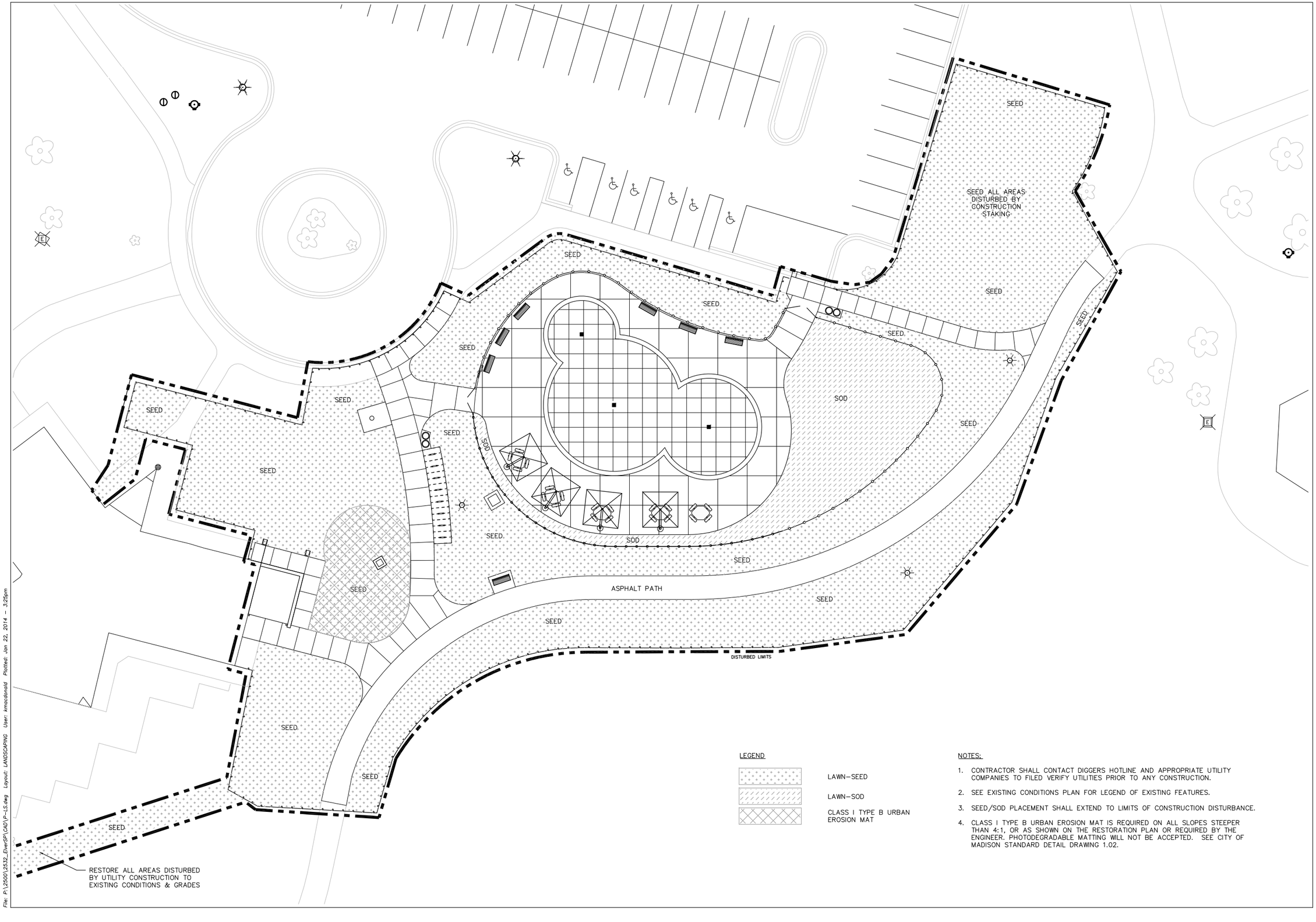

LEGEND

- LAWN–SEED
- LAWN–SOD
- CLASS I TYPE B URBAN EROSION MAT

NOTES:

1. CONTRACTOR SHALL CONTACT DIGGERS HOTLINE AND APPROPRIATE UTILITY COMPANIES TO FILED VERIFY UTILITIES PRIOR TO ANY CONSTRUCTION.
2. SEE EXISTING CONDITIONS PLAN FOR LEGEND OF EXISTING FEATURES.
3. SEED/SOD PLACEMENT SHALL EXTEND TO LIMITS OF CONSTRUCTION DISTURBANCE.
4. CLASS I TYPE B URBAN EROSION MAT IS REQUIRED ON ALL SLOPES STEEPER THAN 4:1, OR AS SHOWN ON THE RESTORATION PLAN OR REQUIRED BY THE ENGINEER. PHOTODEGRADABLE MATTING WILL NOT BE ACCEPTED. SEE CITY OF MADISON STANDARD DETAIL DRAWING 1.02.

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Project Name

Elver Park
Splashpad

1250 McKenna Blvd
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DRAWING

RESTORATION PLAN

N

0 15 30

1"=15' 22X34 SHEET

Sheet Number

C6.0

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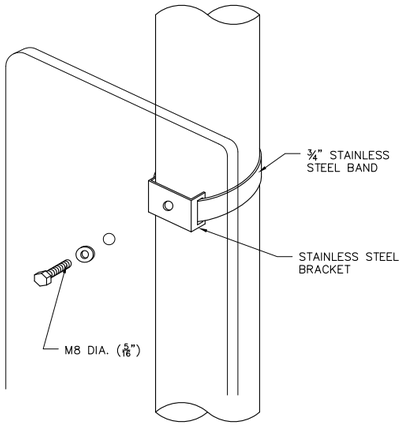
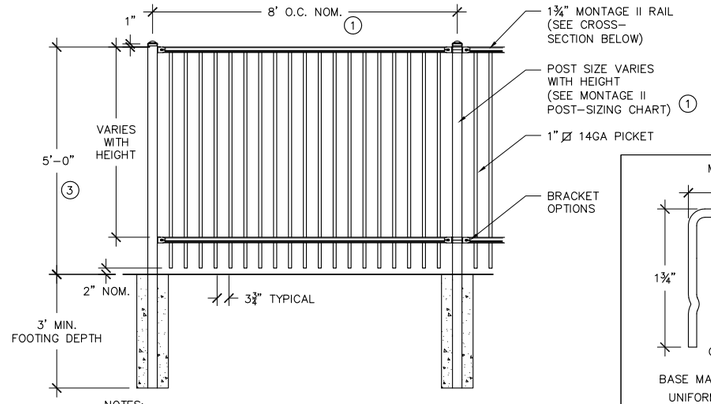
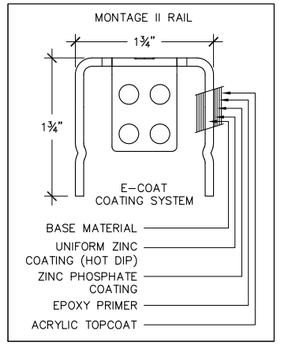
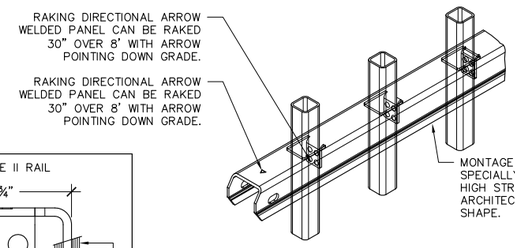
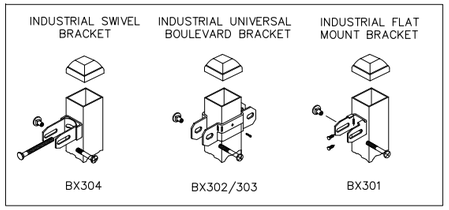




NOTES:
1.) POST SIZE DEPENDS ON FENCE HEIGHT AND WIND LOADS. SEE MONTAGE II SPECIFICATIONS FOR POST SIZING CHART AND DIMENSIONS.
2.) AVAILABLE IN FLUSH BOTTOM.
3.) VALUES SHOWN ARE NOMINAL AND NOT TO BE USED FOR INSTALLATION PURPOSES. SEE PRODUCT SPECIFICATION FOR INSTALLATION REQUIREMENTS.







3 / C7.0 FENCE

SCALE NTS

1 / C7.0 RULES SIGN & EMERGENCY PHONE INSTALLATION

SCALE NTS

NOTES:

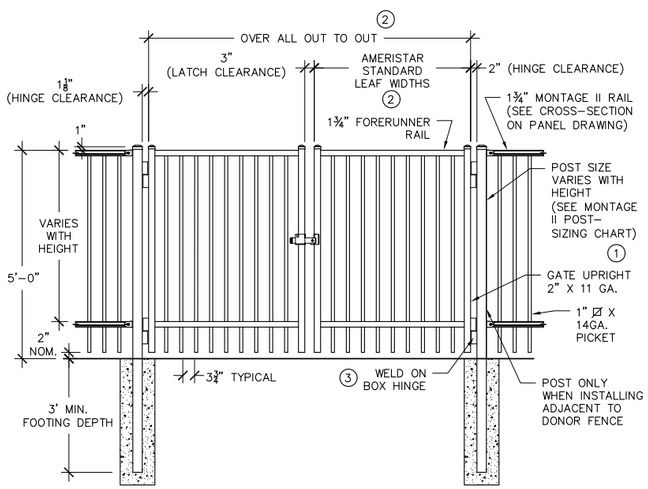
1.) POST SIZE DEPENDS ON FENCE HEIGHT, WEIGHT AND WIND LOADS. SEE MONTAGE II SPECIFICATIONS FOR POST SIZING CHART.

2.) SEE AMERISTAR GATE TABLE FOR STANDARD OUT TO OUTS. CUSTOM GATE OPENINGS AVAILABLE FOR SPECIAL OUT TO OUT/LEAF WIDTHS.

3.) ADDITIONAL STYLES OF GATE HARDWARE ARE AVAILABLE ON REQUEST THIS COULD CHANGE THE LATCH & HINGE CLEARANCE.

4.) VALUES SHOWN ARE NOMINAL AND NOT TO BE USED FOR INSTALLATION PURPOSES. SEE PRODUCT SPECIFICATION FOR INSTALLATION REQUIREMENTS.

5.) ALL GATES SHALL BE EQUIPPED WITH A SELF-CLOSING, LOCKABLE CLOSURE MECHANISM AT A HEIGHT OF AT LEAST 54 INCHES FROM THE BOTTOM OF THE GATE.



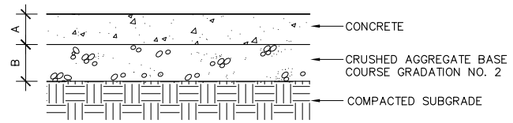
DOUBLE GATE ARRANGEMENT

2 / C7.0 FENCE GATE

SCALE NTS

	PAVEMENT TYPE:	CONCRETE THICKNESS (A)	BASE THICKNESS (B)	LOCATION
TYPE 1	CONCRETE PAVEMENT – STANDARD COLOR	5"	6"	
TYPE 2	CONCRETE PAVEMENT – STANDARD COLOR	6"	8"	ACCESS WALK/ DRIVE

NOTES:
1. MEDIUM BROOM FINISH, UNLESS OTHERWISE STATED.
2. PROVIDE EXPANSION JOINTS 30' ALL WAYS, MINIMUM.
3. ALL CONTROL JOINTS ON THE SPLASHPAD TO BE SAW CUT AND FINISHED COMPLETELY TO EDGES OF SLAB WITH A HAND SAW. NO 'OVER-CUTS' OR 'SHORT' CUTS WILL BE ALLOWED.

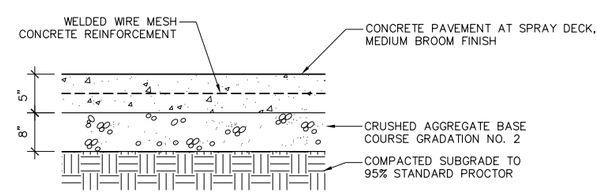


4 / C7.0 CONCRETE PAVEMENT TYPES 1 & 2

SCALE NTS

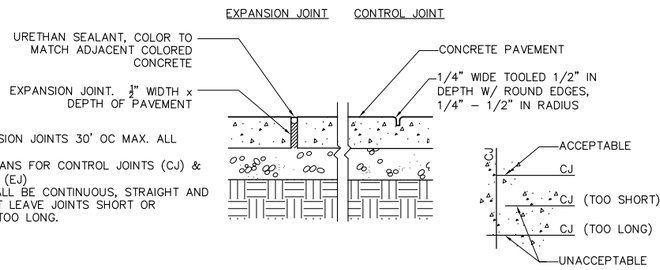
	PAVEMENT TYPE:	CONCRETE THICKNESS (A)	BASE THICKNESS (B)	LOCATION
TYPE 3	CONCRETE PAVEMENT – INTEGRAL COLOR	5" REINFORCED	8"	SPLASH PAD BAND
TYPE 4	CONCRETE PAVEMENT – STANDARD COLOR	5" REINFORCED	8"	SPLASH PAD

NOTES:
1. MEDIUM BROOM FINISH, UNLESS OTHERWISE STATED.
2. PROVIDE EXPANSION JOINTS 30' ALL WAYS, MINIMUM.
3. ALL CONTROL JOINTS TO BE SAW CUT AND FINISHED COMPLETELY TO EDGES OF SLAB WITH A HAND SAW. NO 'OVER-CUTS' OR 'SHORT' CUTS WILL BE ALLOWED.
4. * CONTRACTOR TO PROVIDE JOINTING AND SCORING PLAN PRIOR TO INSTALL.
5. DOWEL DISSIMILAR COLOR POURS



5 / C7.0 SPLASH PAD CONCRETE PAVEMENT TYPE 3 & 4

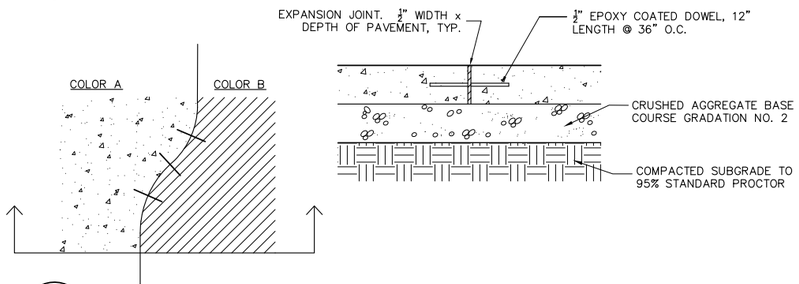
SCALE NTS



NOTES:
1. PROVIDE EXPANSION JOINTS 30' OC MAX. ALL WAYS
2. SEE LAYOUT PLANS FOR CONTROL JOINTS (CJ) & EXPANSION JOINTS (EJ)
3. ALL JOINTS SHALL BE CONTINUOUS, STRAIGHT AND COMPLETE, DO NOT LEAVE JOINTS SHORT OR CONTINUE JOINTS TOO LONG.

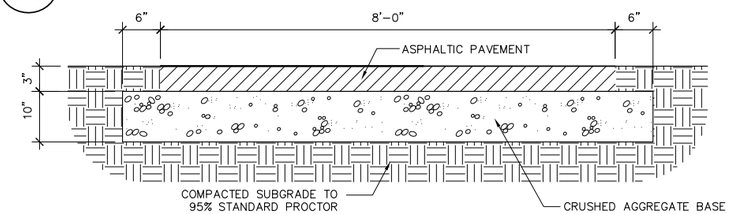
6 / C7.0 EXPANSION/CONTROL JOINTS (SPLASHPAD)

SCALE NTS



7 / C7.0 PAVEMENT DOWEL

SCALE NTS



8 / C7.0 ASPHALT PATH

NOTE: REFERENCE BID ITEMS 40201 & 40102.

SCALE NTS

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1250 McKenna Blvd
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DRAWING

DETAILS

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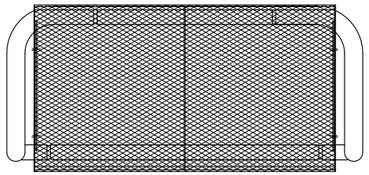
Sheet Number

C7.0

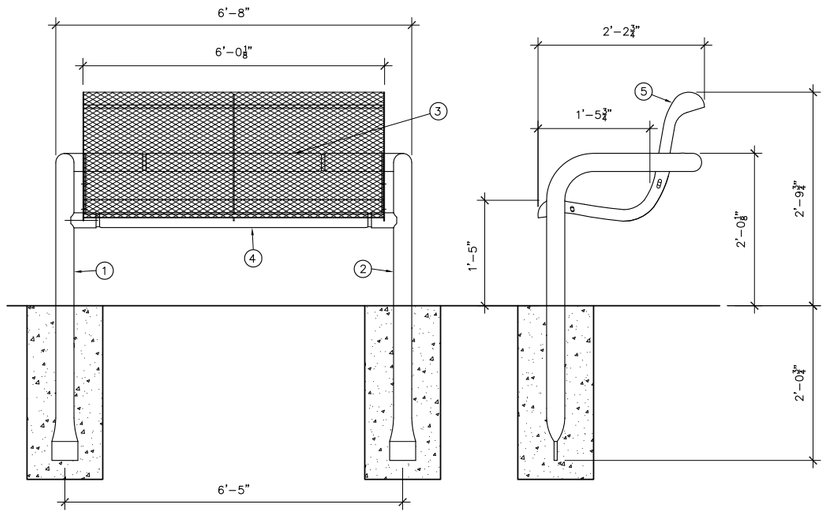


NOTES:

WABASH VALLEY CONTEMPORARY SERIES BENCH WITH BACK, IN GROUND, PERFORATED PATTERNS, PLASTISOL COATING IN COLOR BEIGE FOR SEAT, BACK AND FRAME.

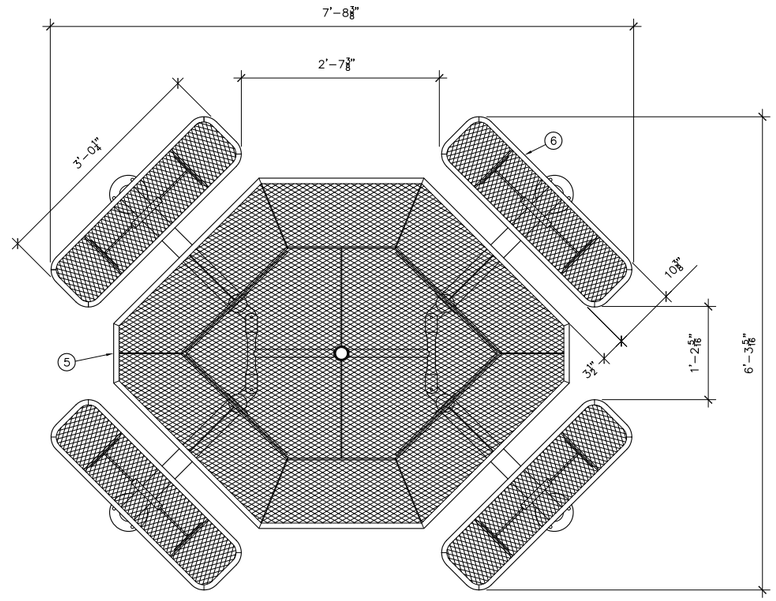
ALL DIMENSIONS AFTER PLASTISOL COATING.

	QTY.	ITEM	PART#
1	1	LEG	7025 – RIGHT
2	1	LEG	7026 – LEFT
3	1	TUBE	7106
4	2	TUBE	7413
5	1	SEAT	8209



1 C7.1 BENCH

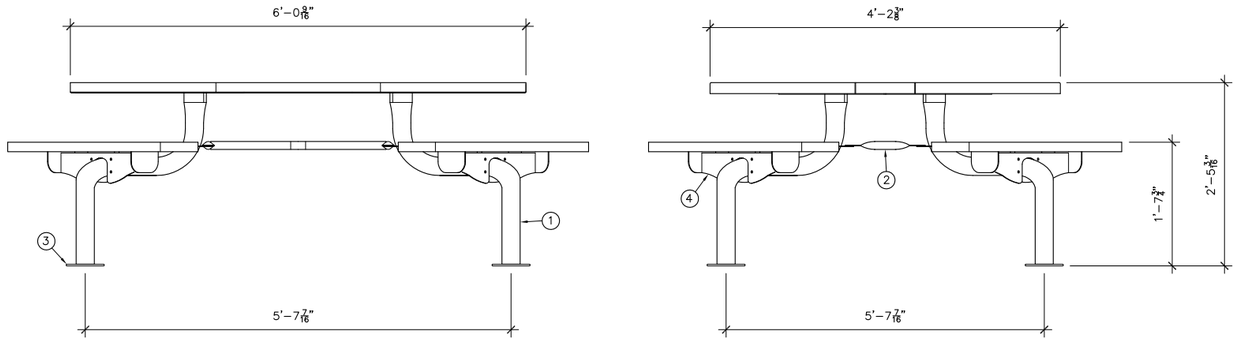
SCALE NTS



NOTES:

WABASH VALLEY SPYDER SERIES ADA ACCESSIBLE OCTAGON TABLE WITH 4 SEATS – PORTABLE SURFACE MOUNT, PERFORATED PATTERN, PLASTISOL COATING IN COLOR BEIGE FOR ALL TOPS, FRAME, AND SEATS.

	QTY.	ITEM	PART#
1	4	LEG	7206
2	1	BRACE	7207
3	4	FRAME	7256
4	4	FRAME	7228
5	1	TOP	7505
6	4	SEAT	7530R



2 C7.1 ADA PICNIC TABLE

SCALE NTS

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Project Name

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1250 McKenna Blvd
Madison, WI 53719

Drawn By:	KM
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DRAWING

DETAILS

N

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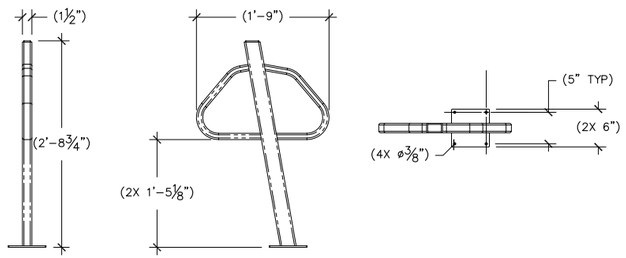
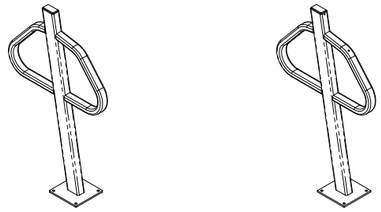
Sheet Number

C7.1

TABULATION			
BLACK P/N	COLOR P/N	GALVANIZED P/N	WEIGHT (LBS)
2451	2451C	2451G	21.3





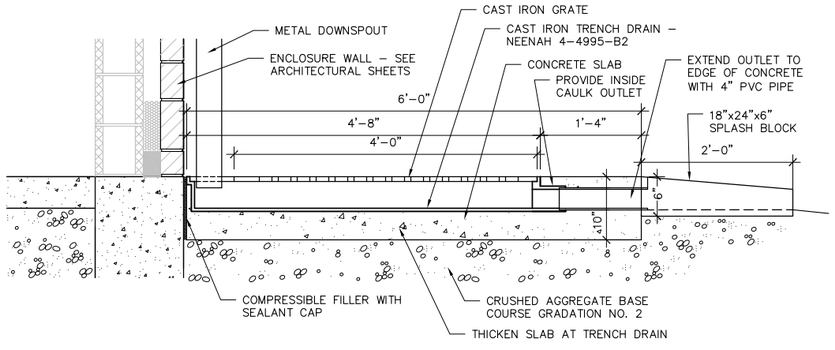
FLANGE MOUNT
PAINTED

FLANGE MOUNT
GALVANIZED

NOTES:
1. DO NOT SCALE DRAWING.
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. WEIGHT IS RACK ONLY, NOT TO BE CONSIDERED AS SHIPPING WEIGHT.
4. FINISHING OPTIONS INCLUDE SUPER DURABLE POLYESTER POWDERCOAT AND HOT DIP GALVANIZING.
5. SEE WEBSITE OR CATALOG FOR POLYESTER POWDERCOAT COLOR OPTIONS.

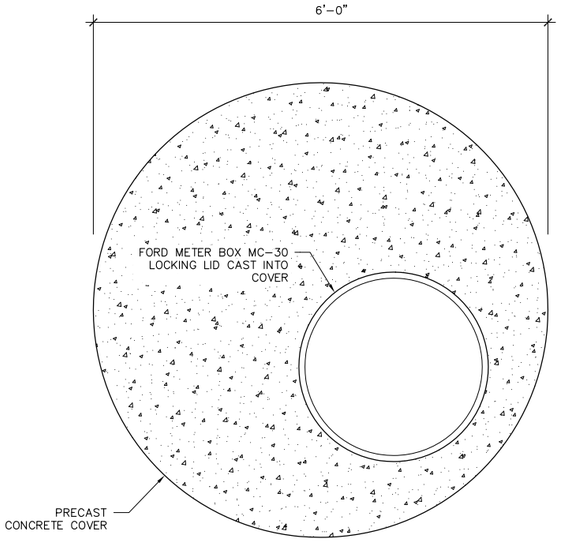
1 / C7.2 BICYCLE PARKING

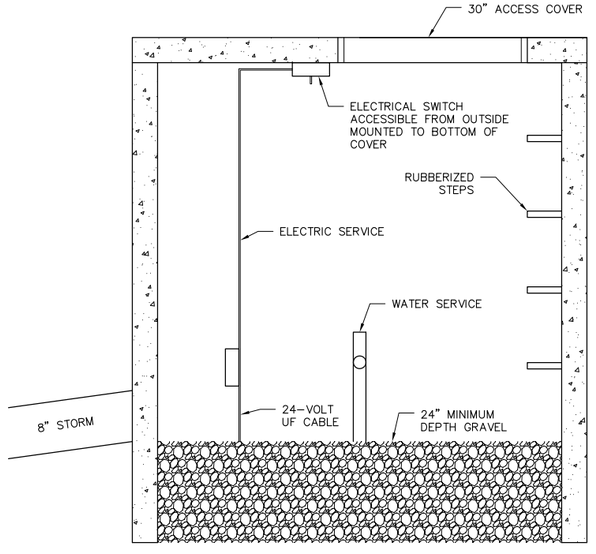
SCALE VARIES



2 / C7.2 TRENCH DRAIN

SCALE NTS





NOTES:
1. MATCH ALL EXISTING RINK WATERING STRUCTURE FEATURES.
2. REUSE EXISTING PIPE, SOLENOID VALVE, & ELECTRICAL SERVICE IN EXISTING ICE RINK STRUCTURE IN SIMILAR CONFIGURATION.
3. REFERENCE BID ITEM 50726.

3 / C7.2 ICE RINK WATERING STRUCTURE

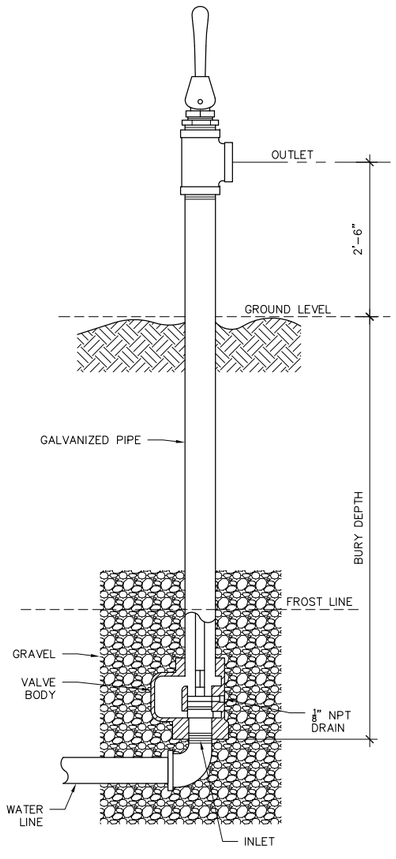
SCALE NTS

NOTES:
1. DIG HOLE FOR HYDRANT APPROXIMATELY 2 FEET IN DIAMETER AND DEEPER THAN THE BURY DEPTH.
2. FLUSH GRAVEL, DEBRIS, ETC. OUT OF THE SUPPLY LINE BEFORE CONNECTING HYDRANT.
3. INSTALL HYDRANT WITH DRAIN HOLE BELOW FROST LINE. USE WRENCHES ON SUPPLY LINE FITTING AND BRASS VALVE BODY ONLY. THIS AVOIDS OVER TIGHTENING THE HYDRANT ASSEMBLY WHICH COULD AFFECT OPERATION.
4. IF SUPPLY LINE TO THE HYDRANT WILL NOT SUPPORT HYDRANT, USE RE-BAR, LENGTH OF PIPE OR OTHER SUITABLE SUPPORT DRIVEN IN BOTTOM OF PIT TO HELP SUPPORT HYDRANT. BEFORE FILLING EXCAVATION, TURN ON WATER AND CHECK HYDRANT CONNECTION FOR LEAKS.
5. PROVISIONS MUST BE MADE TO ALLOW THE WATER TO DRAIN FROM THE HYDRANT DRAIN HOLE EACH TIME THE HYDRANT IS CLOSED.

   A) FILL BOTTOM OF PIT WITH ¾" GRAVEL TO A MINIMUM OF 3" ABOVE BRASS DRAIN VALVE BODY TO INSURE ADEQUATE DRAINAGE.

   B) IF THE HYDRANT IS INSTALLED INSIDE A STRUCTURE OR CONCRETE DRIVEWAY, CONNECT COPPER DRAIN TUBING TO THE ¾" NPT DRAIN HOLE AND DIG A REMOTE DRAIN FIELD OUTSIDE THE STRUCTURE FOR THE DRAIN PIPE TO EMPTY INTO. WITHOUT THIS REMOTE PIPING DRAIN FIELD, THE WATER FROM THE HYDRANT DRAINAGE MAY PERCOLATE UP TO THE SURFACE AROUND OR NEAR THE HYDRANT AND WILL DAMAGE THE FLOOR SURFACE OR CAUSE MUDDY AREAS AROUND THE HYDRANT.

   C) SATURATED GROUND IN THE HYDRANT DRAIN FIELD CAN PREVENT THE HYDRANT FROM FULLY DRAINING AND MAY RESULT IN FREEZING. IF THE AREA WHERE THE HYDRANT IS LOCATED IS LOW LYING OR HAS A TENDENCY TO HAVE STANDING WATER, A LARGER DRAIN FIELD OR PIT MAY BE REQUIRED TO PROVIDE THE HYDRANT A PLACE TO DRAIN.



4 / C7.2 UTILITY HYDRANT – U200M

SCALE NTS

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Revision	Date

Project Name

Elver Park
Splashpad

1250 McKenna Blvd
Madison, WI 53719

Drawn By:	AO
Checked By:	BT
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DETAILS

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0

Sheet Number

C7.2

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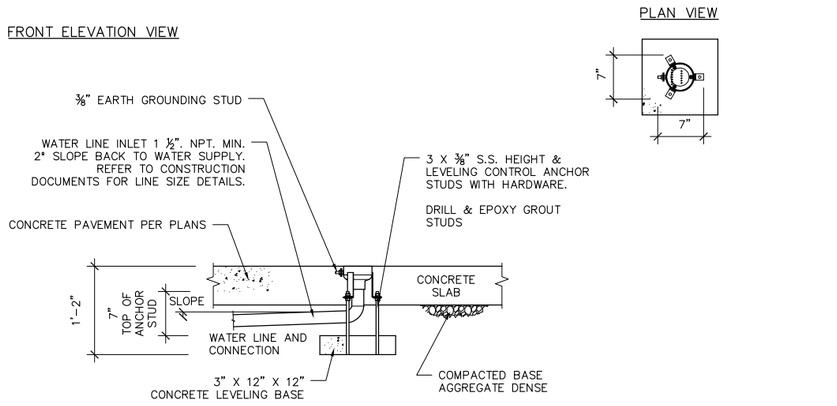
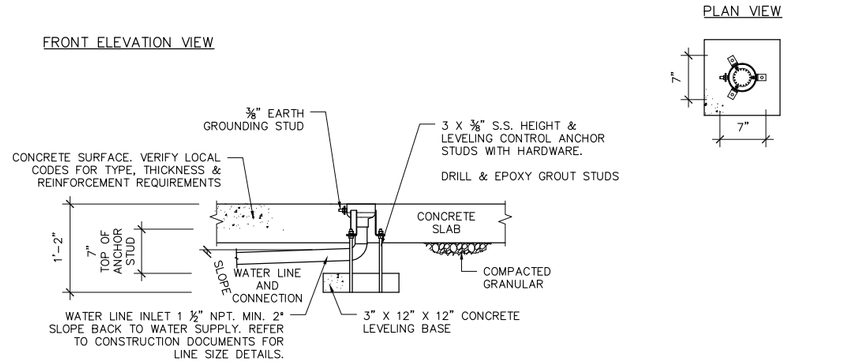


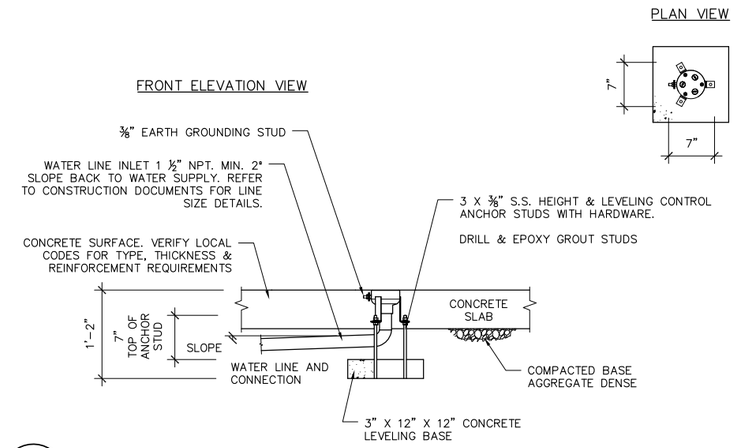
1 C7.3 ROOSTER TAIL (PBO)

SCALE 1" = 1'-0"



4 C7.3 SIDE WINDER (PBO)

SCALE 1" = 1'-0"



2 C7.3 MAGIC MIST NO. 2 (PBO)

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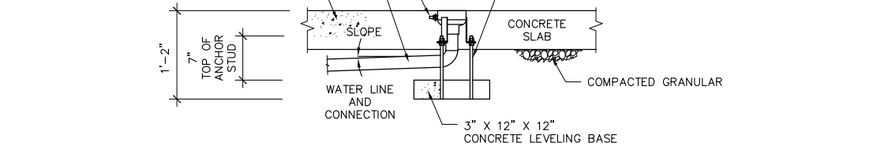

5 C7.3 SPLIT STREAM (PBO)

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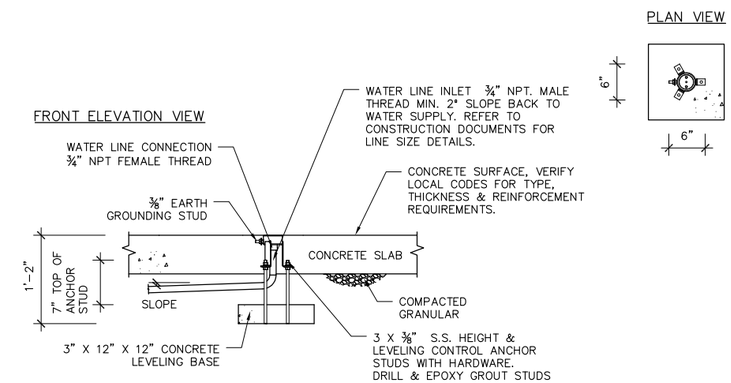

3 C7.3 JET STREAM (PBO)

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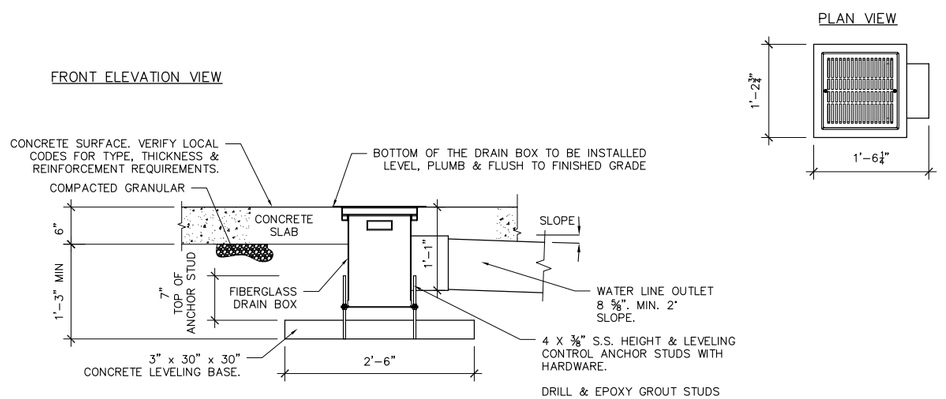

6 C7.3 DECK DRAIN (PBO)

SCALE 1" = 1'-0"

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C7.3

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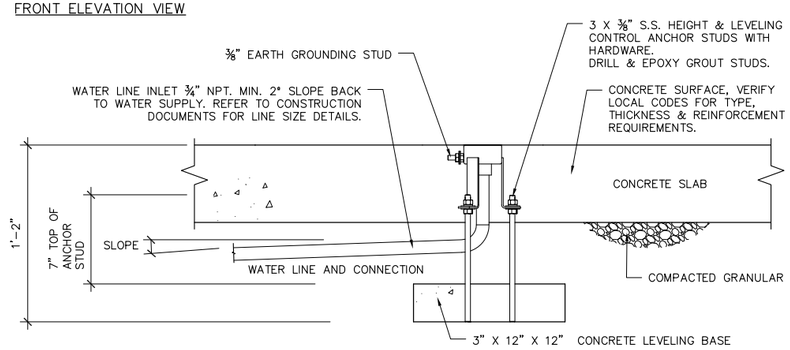
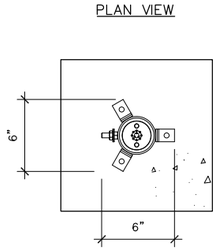


PLAN VIEW



1 / C7.4 FOUNTAIN SPRAY (PBO)

SCALE 2" = 1'-0"

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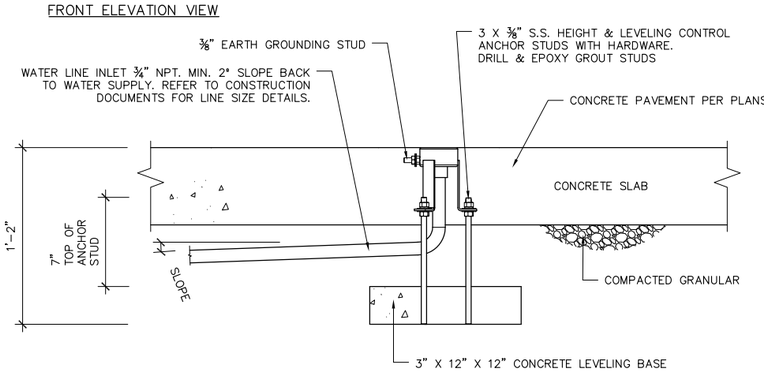
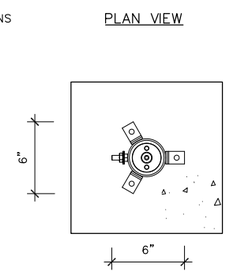


PLAN VIEW



2 / C7.4 DIRECTIONAL WATER JET (PBO)

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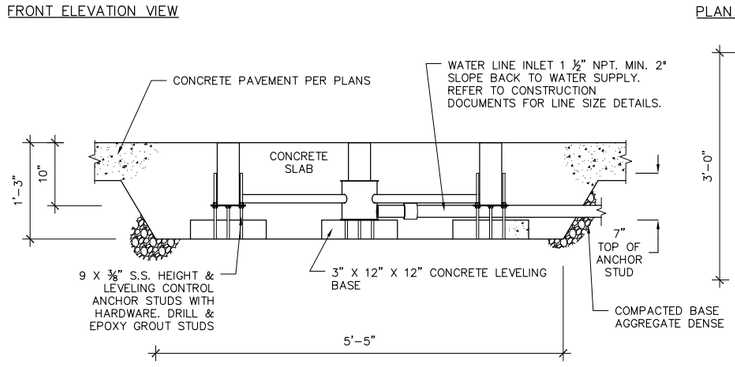

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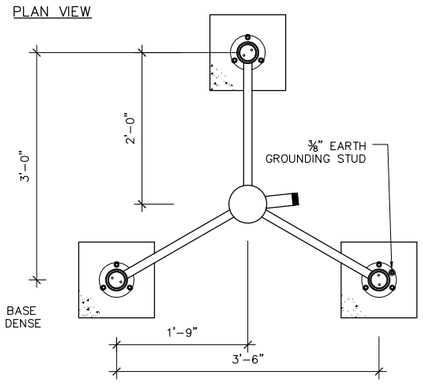
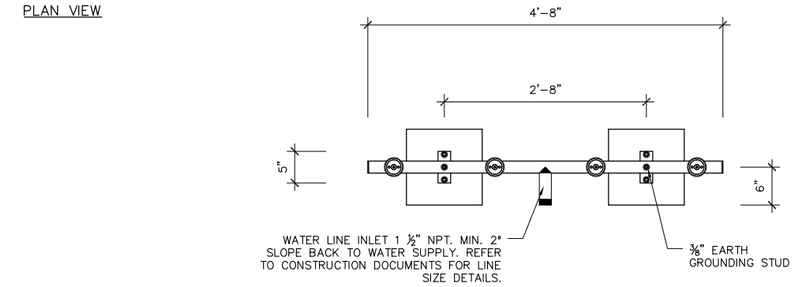


3 / C7.4 WATER JELLY No3 (PBO)

SCALE 1" = 1'-0"

PLAN VIEW



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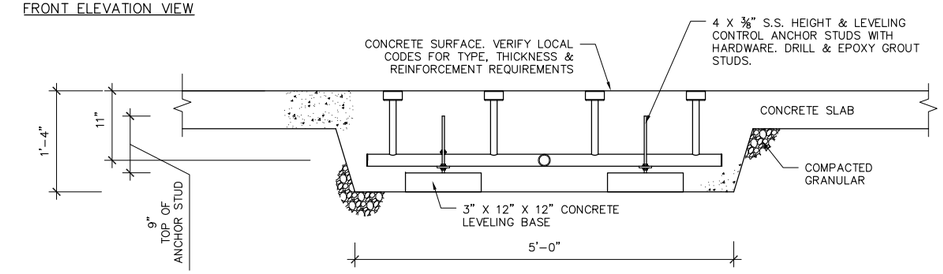

4 / C7.4 WATER TUNNEL No 2 (PBO)

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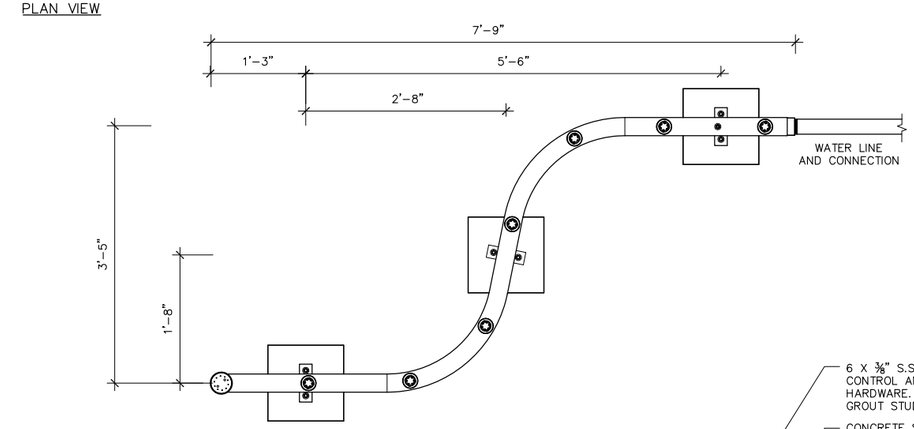
PLAN VIEW



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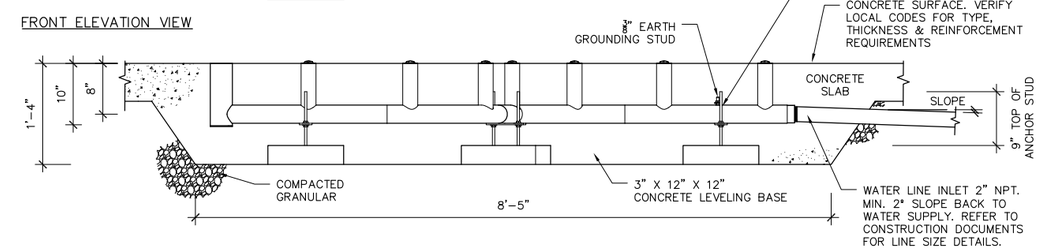

5 / C7.4 TEAM SPRAY NO. 1 (PBO)

SCALE 1" = 1'-0"

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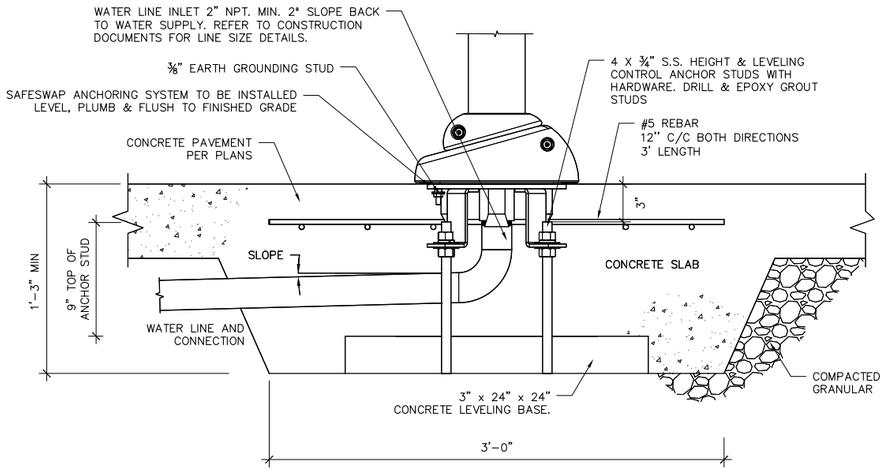

1 C7.5 SAFESWAP No 1 (PBO)

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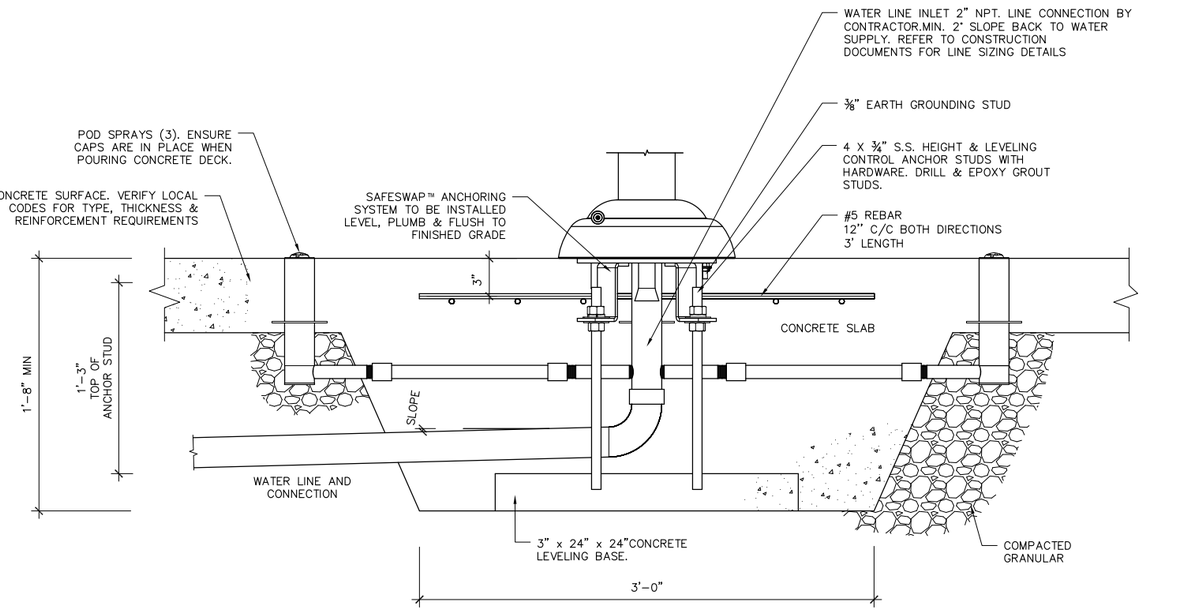

3 C7.5 SAFESWAP No 3 (PBO)

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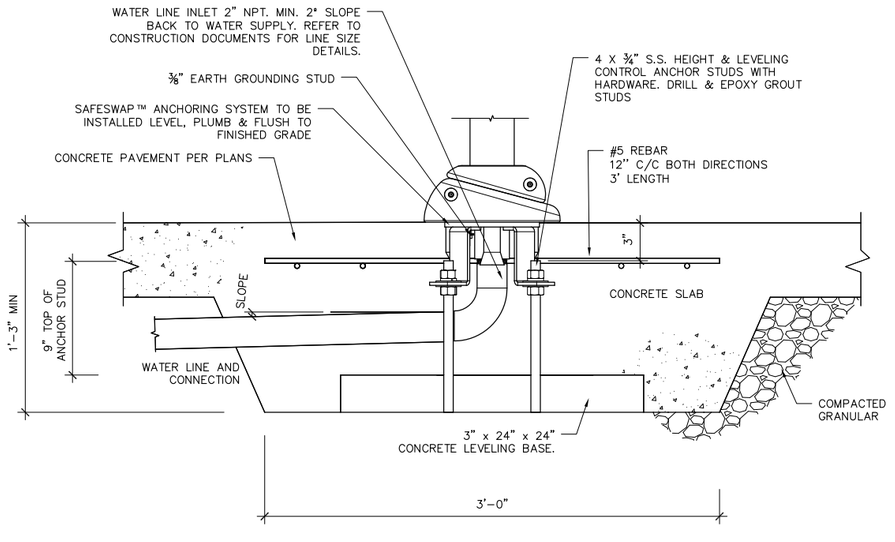

2 C7.5 SAFESWAP No 2 (PBO)

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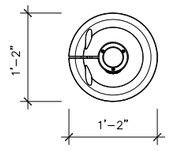
PLAN VIEW



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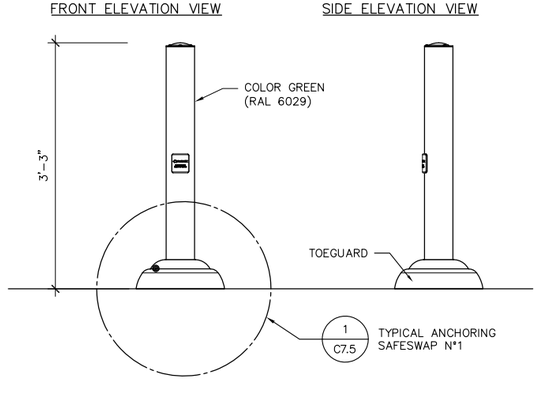
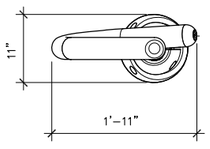


4 C7.5 BOLLARD ACTIVATOR No 3 (PBO)

SCALE 1/2" = 1'-0"

PLAN VIEW



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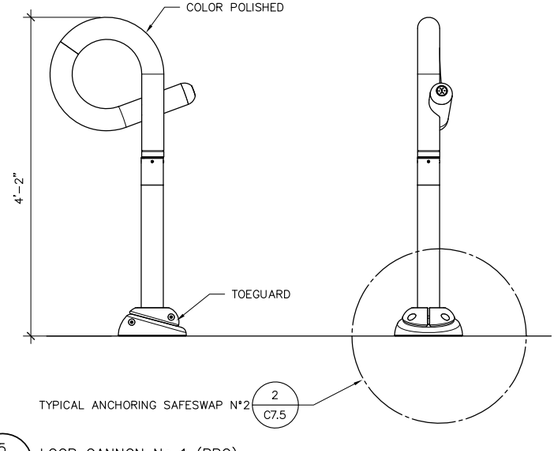

5 C7.5 LOOP CANNON No 1 (PBO)

SCALE 1" = 1'-0"

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File: P:\2500\2532_ElverSP\CAD\P-D.dwg Layout: C7.5 User: kmacdonald Plotted: Jan 21, 2014 - 3:09pm

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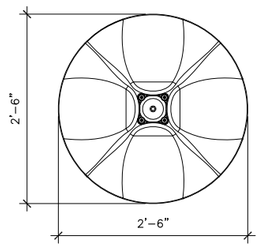
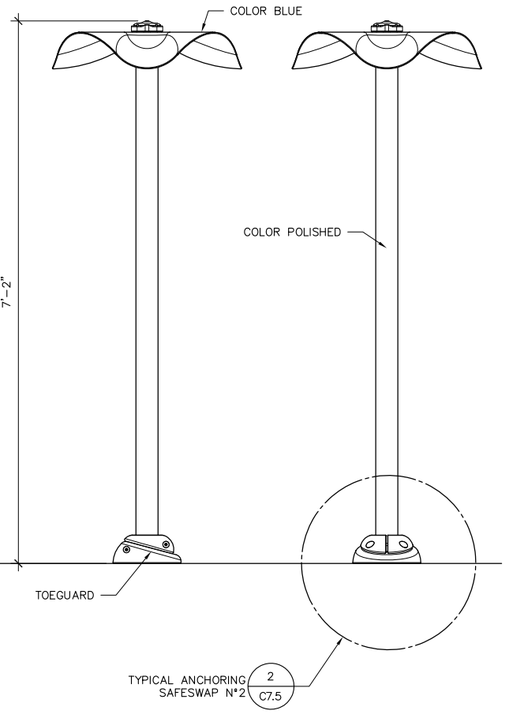
PLAN VIEW



FRONT ELEVATION VIEW

SIDE ELEVATION VIEW

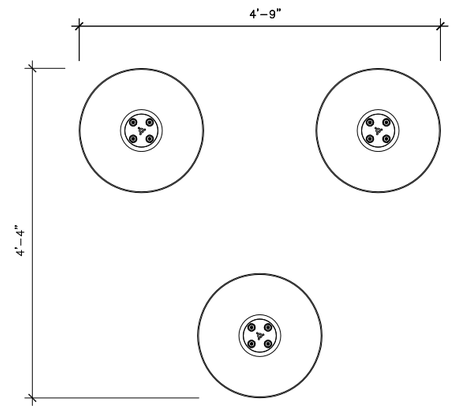


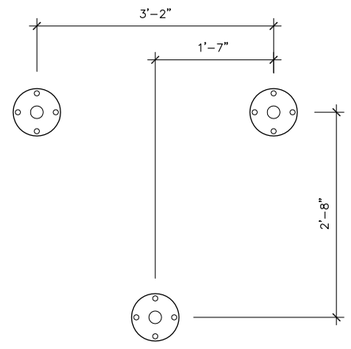
1 / C7.6 AQUALIEN FLOWER No. 2 (PBO)

SCALE 1" = 1'-0"

PLAN VIEW

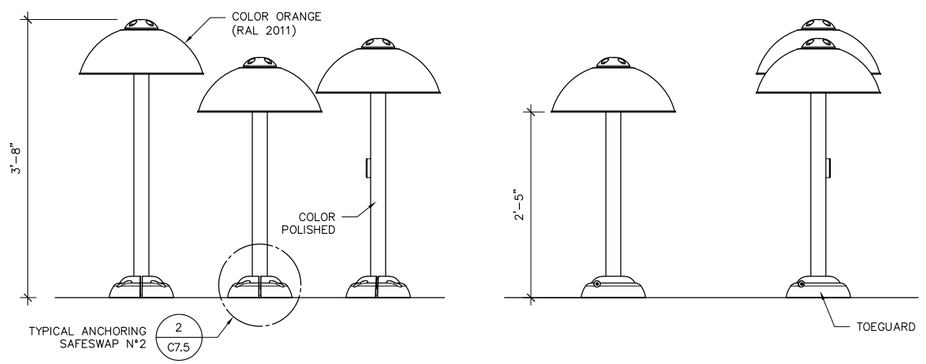
ANCHORING LOCATIONS





FRONT ELEVATION VIEW

SIDE ELEVATION VIEW



2 / C7.6 AQUALIEN RAINFOREST No7 (PBO)

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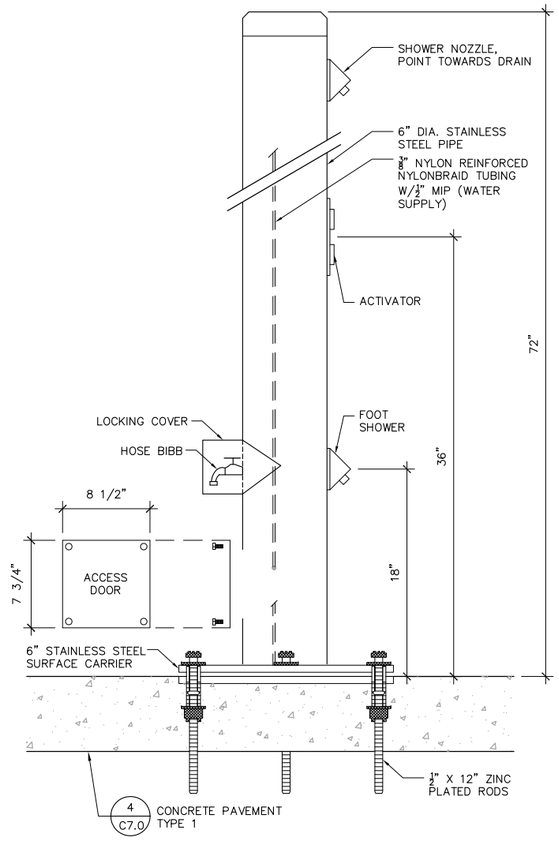

3 / C7.6 SHOWER

SCALE NTS

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Sheet Number

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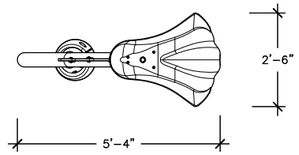
PLAN VIEW



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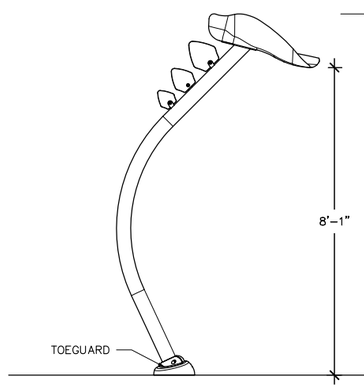
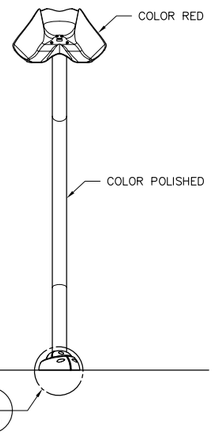


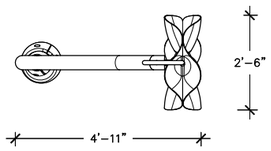
SIDE ELEVATION VIEW



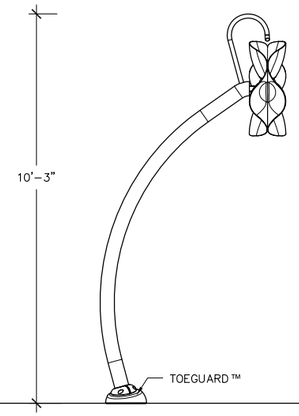
1 / C7.7 AQUALIEN No1 (PBO)

SCALE ½" = 1'-0"

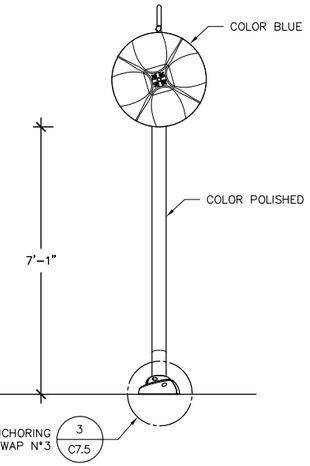
PLAN VIEW



FRONT ELEVATION VIEW



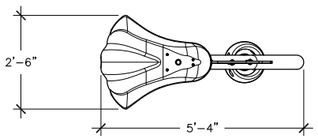
SIDE ELEVATION VIEW



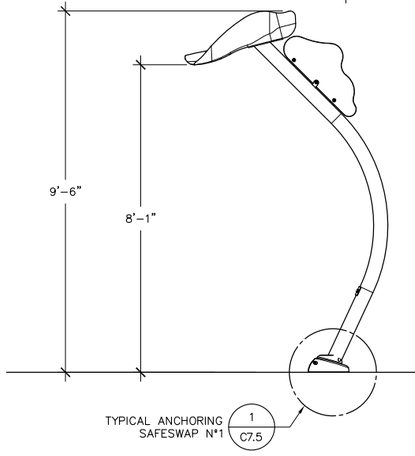
3 / C7.7 AQUALIEN POWER SPINNER (PBO)

SCALE ½" = 1'-0"

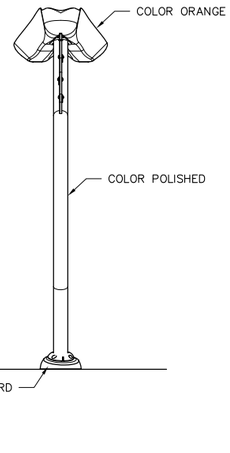
PLAN VIEW



FRONT ELEVATION VIEW



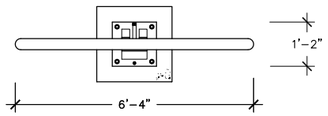
SIDE ELEVATION VIEW



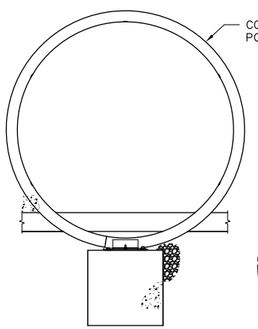
2 / C7.7 AQUALIEN No2 (PBO)

SCALE ½" = 1'-0"

PLAN VIEW



FRONT ELEVATION VIEW



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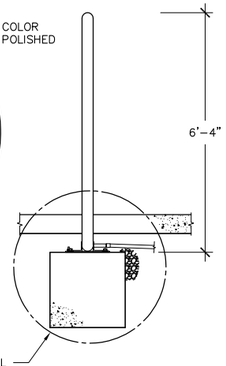

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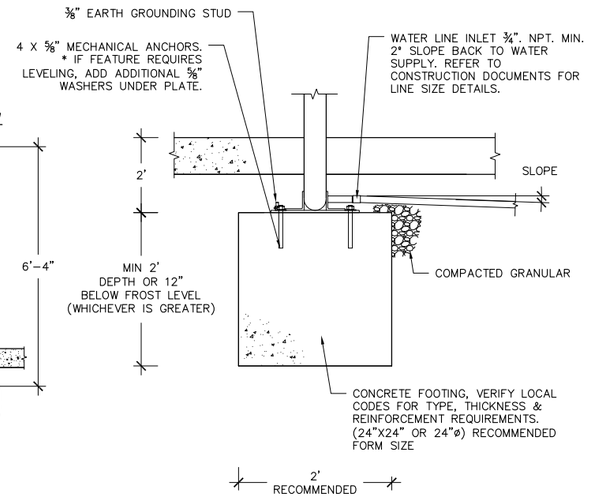

4 / C7.7 SPRAY LOOP (PBO)

SCALE ½" = 1'-0"

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Revision	Date

Project Name

Elver Park Splashpad

1250 McKenna Blvd
Madison, WI 53719

Drawn By:	AO
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DRAWING

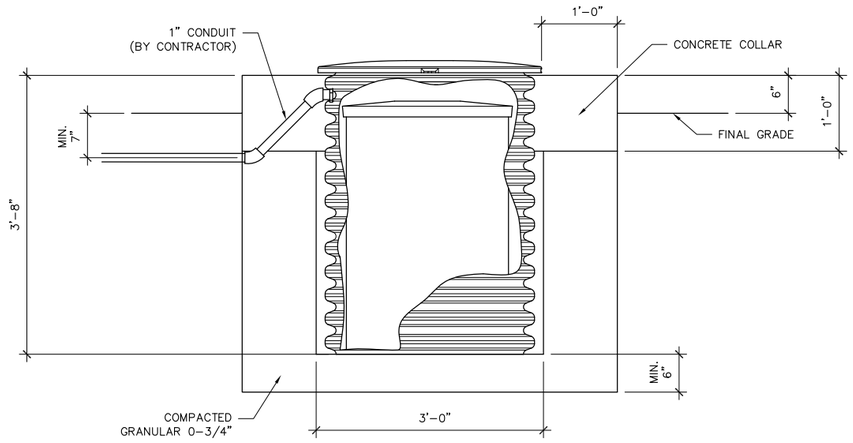
DETAILS

N

0

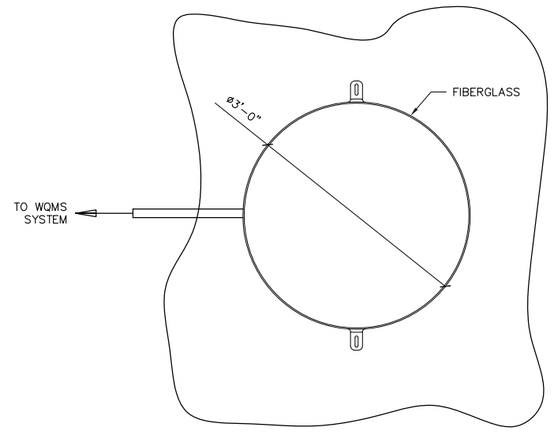
Sheet Number

C7.7



IMPORTANT NOTE :
MINIMUM 10' RECOMMENDED BETWEEN CHLORINE RESERVOIR AND ACID RESERVOIR. MIXTURE OF THESE CHEMICALS CAN PRODUCE A TOXIC FUME.

PLAN VIEW



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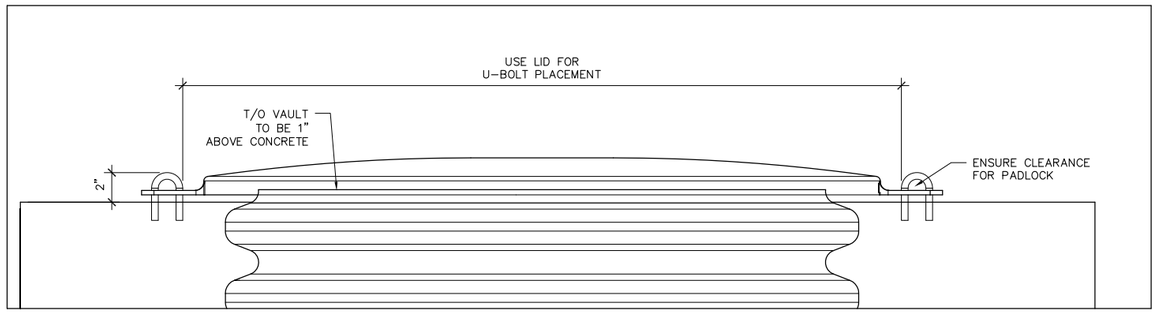

1 / C7.8 UNDER GROUND CHEMICAL RESERVOIR – 50 GALLONS (PBO)

SCALE VARIES

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DETAILS

N

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Sheet Number

C7.8

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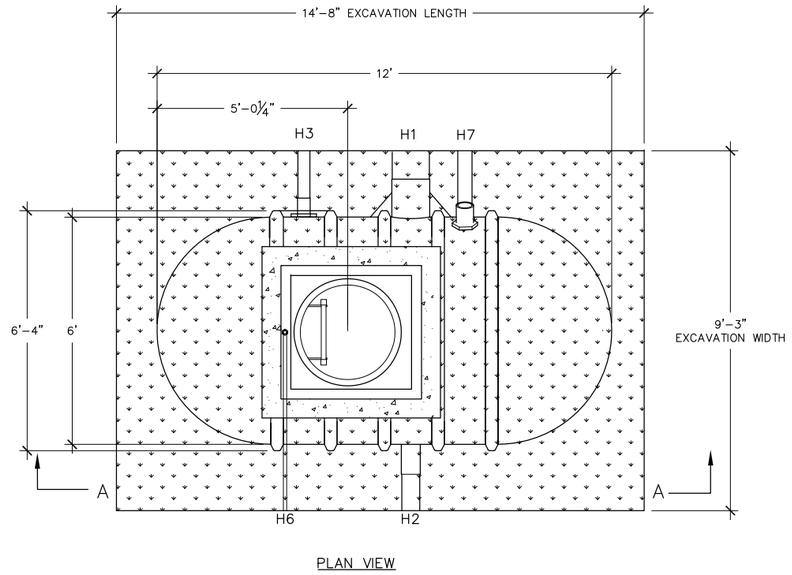
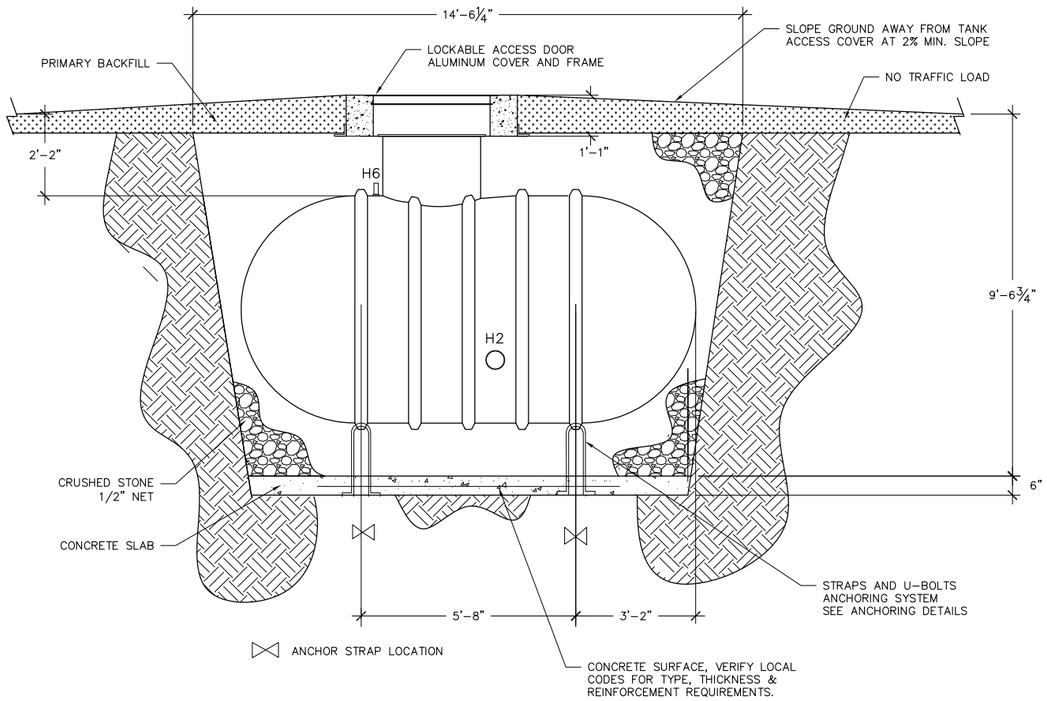
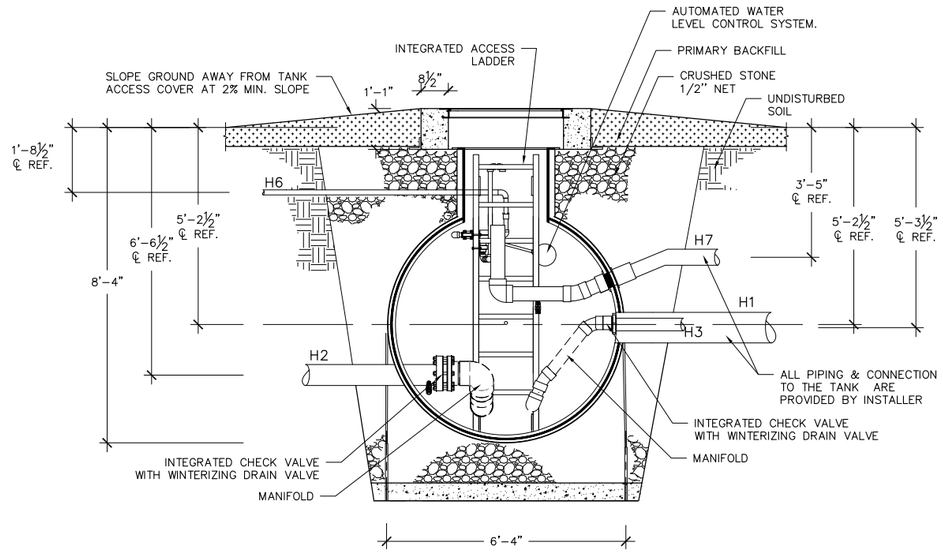


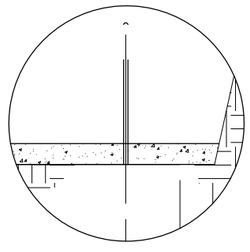
PLAN VIEW

LINE	DESCRIPTION	SIZE	HEIGHT FROM C/L
H 1	MAIN DRAIN RETURN	10"	-1"
H 2	CIRCULATION PUMP SUCTION OUTLET W/PUMP SUCTION MANIFOLD	6"	-16"
H 3	FILTER RETURN W/RETURN MANIFOLD	3"	0
H 6	FRESH WATER INLET	1"	40"
H 7	OVERFLOW OUTLET	4"	14"

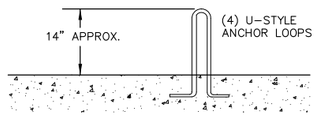


SIDE ELEVATION VIEW
SECTION A-A

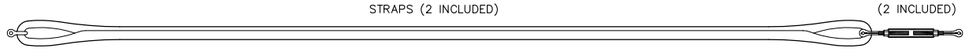




ANCHORING DETAILS



NOTE : DURING APPLICATION OF THE STRAPS, MAKE SURE THAT THE FACE WITH THE MOST ORANGE PART IS VISIBLE ONCE ON THE HOLDING TANK.



1 / C7.9 WATER CONTAINMENT SYSTEM - 2000 GALLON (PBO)

SCALE: ½" = 1'-0"

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DETAILS

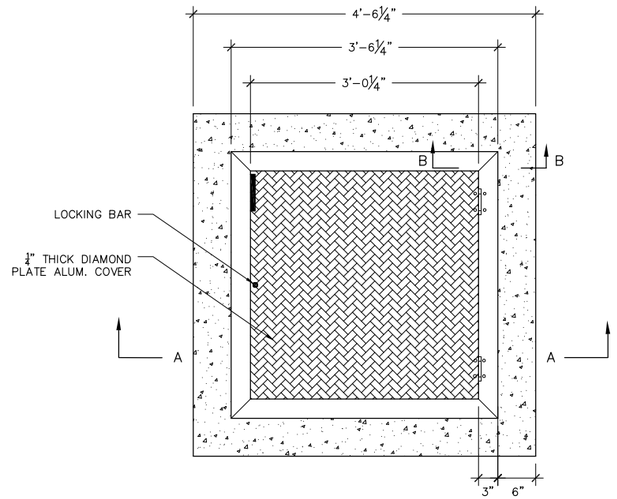
N

0

Sheet Number

C7.9

PLAN VIEW



VOR-5312.0008 WATER CONTAINMENT SYSTEM – 2000 Gallon

The 2000-gallon tank shall be a pre-fabricated unit designed to safely store the water used for the facility. The tank shall be pre-assembled at the factory and shall include the following connections: one 10" inlet for main drain, one 6" suction output for circulation pump, one 3" connection for filtration return, one 1" connection for freshwater and one 4" connection for overflow/discharge. The tank shall also include a water level detection system and one access hatch with ladder. It shall have the following characteristics:

Tank
- 2000 gallon capacity
- Fiberglass
- Single wall
- Ø 72", ~144" long

Anchor
- Anchoring straps with hardware
- U-bolt type embedded in concrete

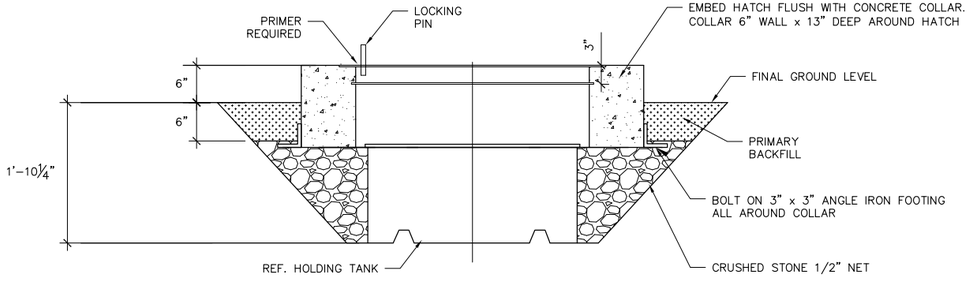
Access hatch
- Aluminum access hatch
- Hinged and pad-locked, with aluminum frame and SS hardware
- Fiberglass ladder included

Level control
- Float valve connected to make up water line
- Polypropylene anti corrosion valve
- Inlet size 1", outlet size 1"
- Maximum working pressure 100 psi

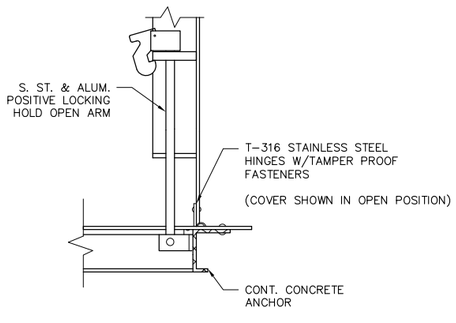
Inlets
- 10" inlet for main drain
- 3" inlet for filtration return
- 1" connection for freshwater

Outlets
- 6" output for feature pump
- 4" connection for overflow / discharge

SECTION A–A



SECTION B–B



1 / C7.10 WATER CONTAINMENT SYSTEM – 2000 GALLON

SCALE VARIES

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DETAILS

N

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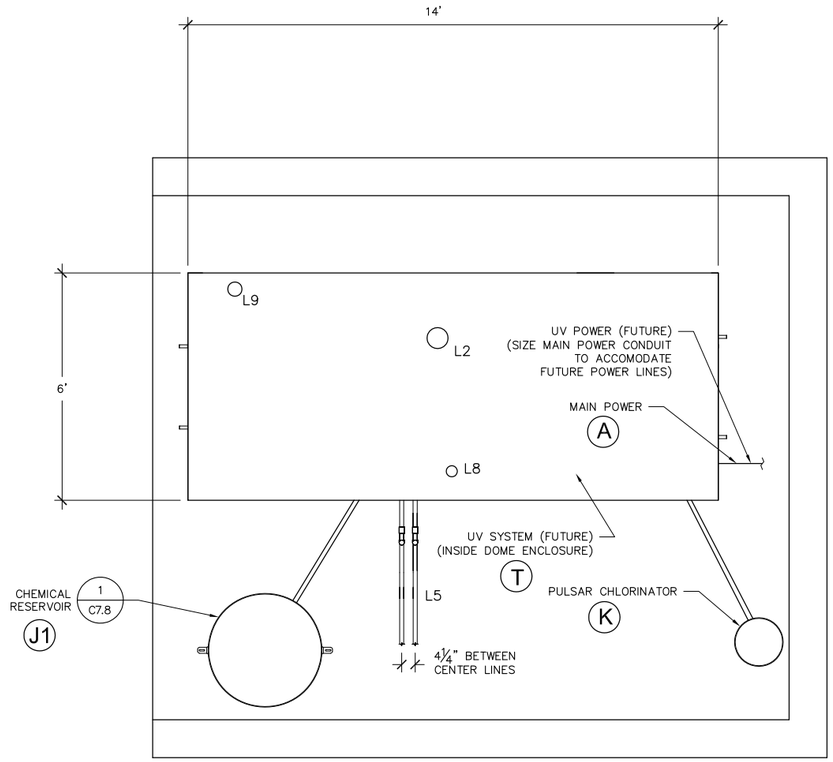
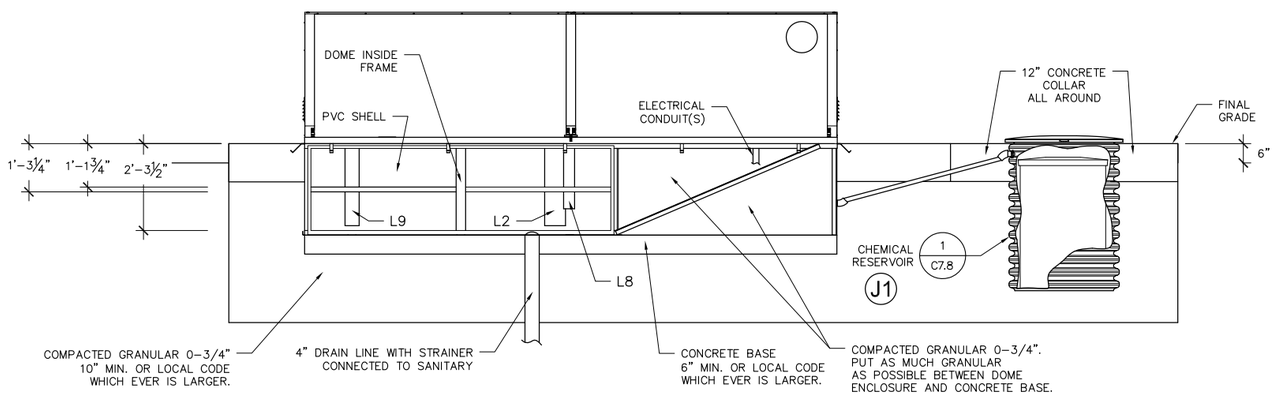
Sheet Number

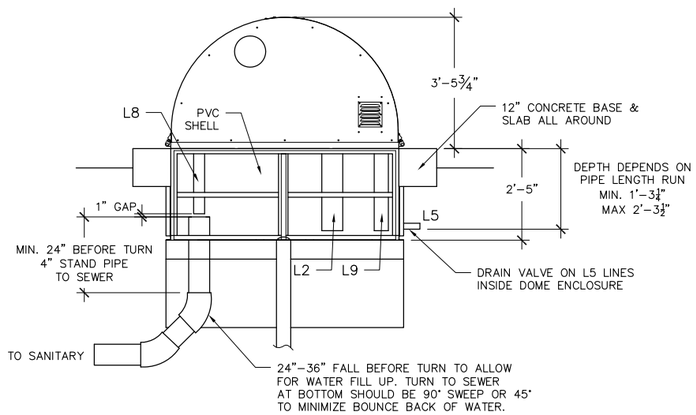
C7.10



PLAN VIEW



FRONT ELEVATION



SIDE ELEVATION

NOTES:

1) PIPES L2 AND L9 CAN GO OUT THROUGH SIDEWALLS OR THROUGH BOTTOM CONCRETE BASE.

2) PIPE AND EQUIPMENT LOCATIONS ARE APPROXIMATE AND SUBJECT TO CHANGE.

1 / C7.11 WATER QUALITY MANAGEMENT SYSTEM

SCALE: ½" = 1'-0"

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DETAILS

N

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Sheet Number

C7.11

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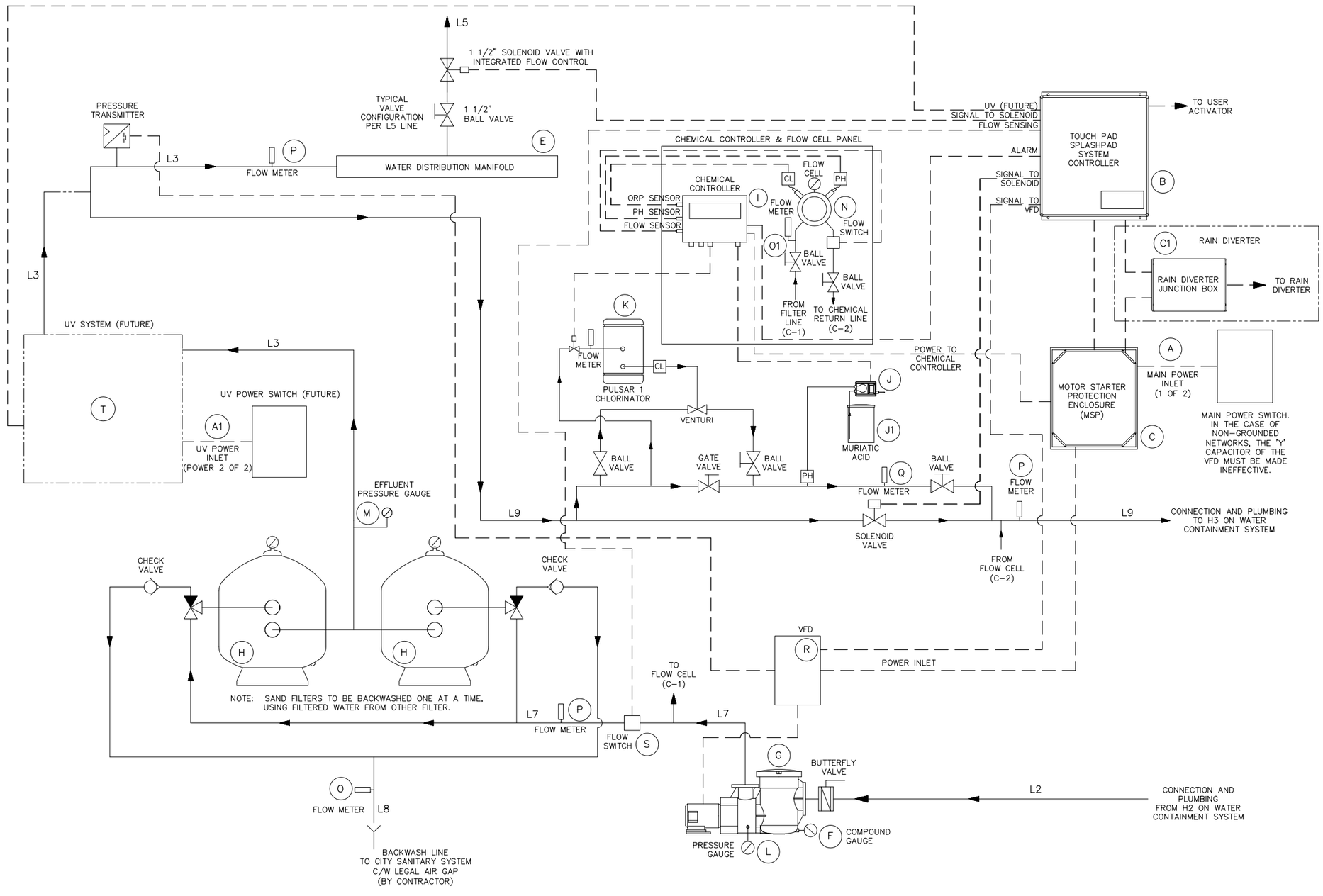

1 / C7.12 WATER QUALITY MANAGEMENT SYSTEM

SCALE: NTS

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Project No.	2532

DRAWING

DETAILS

N

0

Sheet Number

C7.12

File: P:\2500\2532_ElverSP\CAD\P-D.dwg Layout: C7.12 User: kmacdonald Plotted: Jan 21, 2014 - 3:11pm

WATER QUALITY MANAGEMENT SYSTEM SPECIFICATIONS

GENERAL				
ITEM	ITEM	PROVIDED BY	DESCRIPTION	QTY
A	MAIN ELECTRICAL POWER	CONTRACTOR	230 VAC, 60 AMPS, SINGLE PHASE, 60 Hz. IN THE CASE OF NON-GROUNDED NETWORKS, THE 'Y' CAPACITOR OF THE VFD MUST BE MADE INEFECTIVE.	1
A1	UV ELECTRICAL POWER	CONTRACTOR	CONDUIT TO BE INSTALLED FOR FUTURE USE	1
B	SPLASHPAD SYSTEM CONTROLLER	VORTEX	26 OUTPUT TOUCH SCREEN INTERFACE CONTROLLER, PREWIRED TO ALL SKID MOUNTED COMPONENTS. USER PROGRAMMABLE OPERATIONAL HOUR TIME CLOCK AND SPLASHPAD SPRAY SEQUENCES. INCLUDE FACTORY PRESET SPRAY SEQUENCE. EQUIPMENT AND ALARM FAILSAFES.	1
C	MOTOR STARTER PROTECTION ENCLOSURE	VORTEX	MOTOR STARTERS AND OVERLOAD RELAYS. INDIVIDUAL CONTROL FOR EACH PUMP.	1
C1	RAIN DIVERTER JUNCTION BOX	VORTEX	PREWIRED TO SYSTEM CONTROLLER AND MOTOR STARTER PROTECTION ENCLOSURE. CONTROL VALVE FOR RAIN DIVERTER INSIDE DEBRIS TRAP.	1
D	SYSTEM ENCLOSURE	VORTEX	29" BELOW GRADE FIBER REINFORCED POLYMER COMPOSITE BASE. 72"W X 168"L X 42"H STAINLESS STEEL ENCLOSURE W/ ALUMINUM LOCKABLE ACCESS DOORS.	1
E	WATER DISTRIBUTION MANIFOLD	VORTEX	15 VALVES DISTRIBUTION MANIFOLD, PREWIRED TO ALL SOLENOIDS. WITH BALL VALVES.	1
F	COMPOUND GAUGE	WINTER INSTRUMENTS	COMPOUND GAUGE, 0-30" Hg / 0-60 PSI	1
G	CIRCULATION PUMP	PENTAIR, EQ SERIES, EQK750	7.5 HP, SELF PRIMING PUMP, THREE PHASE 230V, 335 GPM @ 70 FT HD, 390 GPM @ 60 FT HD, 18.3 AMPS FLA. NSF CERTIFIED.	1
H	SAND FILTER	PENTAIR, TRITON, TR-140C	7.06 SQ. FT, 141 GPM @ 20 GPM/SQ FT, 106 GPM @ 15 GPM/SQ. FT, 36" DIAMETER. NSF CERTIFIED.	2
I	CHEMICAL CONTROLLER	BECS TECHNOLOGY, BECSYS3	ORP AND PH CONTROL WITH HIGH / LOW READING ALARM. NSF 50 CERTIFIED.	1
J	PERISTALTIC PUMP	BLUE-WHITE IND, A1N20A-6T	UP TO 24GPD FEED CAPACITY, NSF CERTIFIED.	2
J1	CHEMICAL RESERVOIR	VORTEX	SEE CHEMICAL RESERVOIR INSTALLATION DRAWINGS FOR DETAILS, DETAIL 1/C7.8.	1
K	CHLORINE FEED SYSTEM	PULSAR 1 CHLORINATOR	CALCIUM HYPOCHLORITE AUTOMATIC CHLORINATOR NSF CERTIFIED	1
L	PRESSURE GAUGE	WINTER INSTRUMENTS	COMPOUND GAUGE, 0-60 PSI	1
M	EFFLUENT PRESSURE GAUGE	WINTER INSTRUMENTS	COMPOUND GAUGE, 0-60 PSI	1
N	FLOW SWITCH	HARWILL	FLOW SWITCH, 24V	1
O	FLOW METER	BLUE-WHITE IND, F-300 SERIES	3" PIPE FLOW METER, 40-140 GPM READING	1
O1	FLOW METER	BLUE-WHITE IND, F-400 SERIES	3/8" PIPE FLOW METER, 0.2-2 GPM READING	1
P	FLOW METER	BLUE-WHITE IND, F-300 SERIES	4" PIPE FLOW METER, 125-500 GPM READING	3
Q	FLOW METER	BLUE-WHITE IND, F-300 SERIES	2" PIPE FLOW METER, 15-70 GPM READING	1
R	VFD	VORTEX	15 HP RATED VFD, 230V AC SINGLE PHASE INPUT, 230V AC THREE PHASE OUTPUT.	1
S	FLOW SWITCH	IFM EFECTOR	FLOW SWITCH, 24V	1
T	ULTRA VIOLET SYSTEM (FUTURE)	VORTEX	FUTURE	1

LINE SIZE CONNECTION CHART

BY	FROM	TO	ITEM	SIZE
VORTEX	CIRCULATION PUMP Q	SAND FILTER H	L7	4"/3"(2)
VORTEX	SAND FILTER H	WATER DISTRIBUTION MANIFOLD E	L3	4"
CONTRACTOR	WATER CONTAINMENT SYSTEM H2	CIRCULATION PUMP Q	L2	6"
CONTRACTOR	WATER DISTRIBUTION MANIFOLD E	PLAY PRODUCTS	L5	SEE SHEET C5.2
CONTRACTOR	SAND FILTER H	SANITARY SEWER SYSTEM	L8	3"
CONTRACTOR	LINE L3	WATER CONTAINMENT SYSTEM H3	L9	4"
CONTRACTOR	RAIN DIVERTER	WATER CONTAINMENT SYSTEM H1	L1	10"

NOTE:
REFER TO VORTEX' WATER QUALITY MANAGEMENT SYSTEM AND VORTEX' WATER CONTAINMENT SYSTEM FOR PIPE SIZES. BETWEEN THE TWO SYSTEMS, PUT THE LESSER OF THE TWO PIPE SIZE.

1 / C7.13 WATER QUALITY MANAGEMENT SYSTEM

SCALE: NTS

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DETAILS

N

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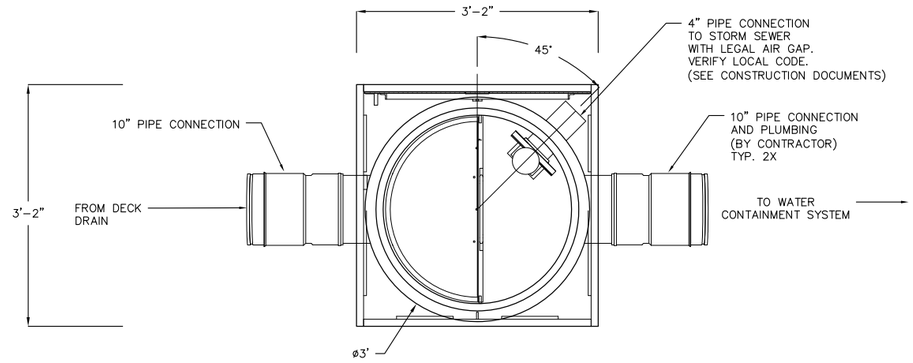
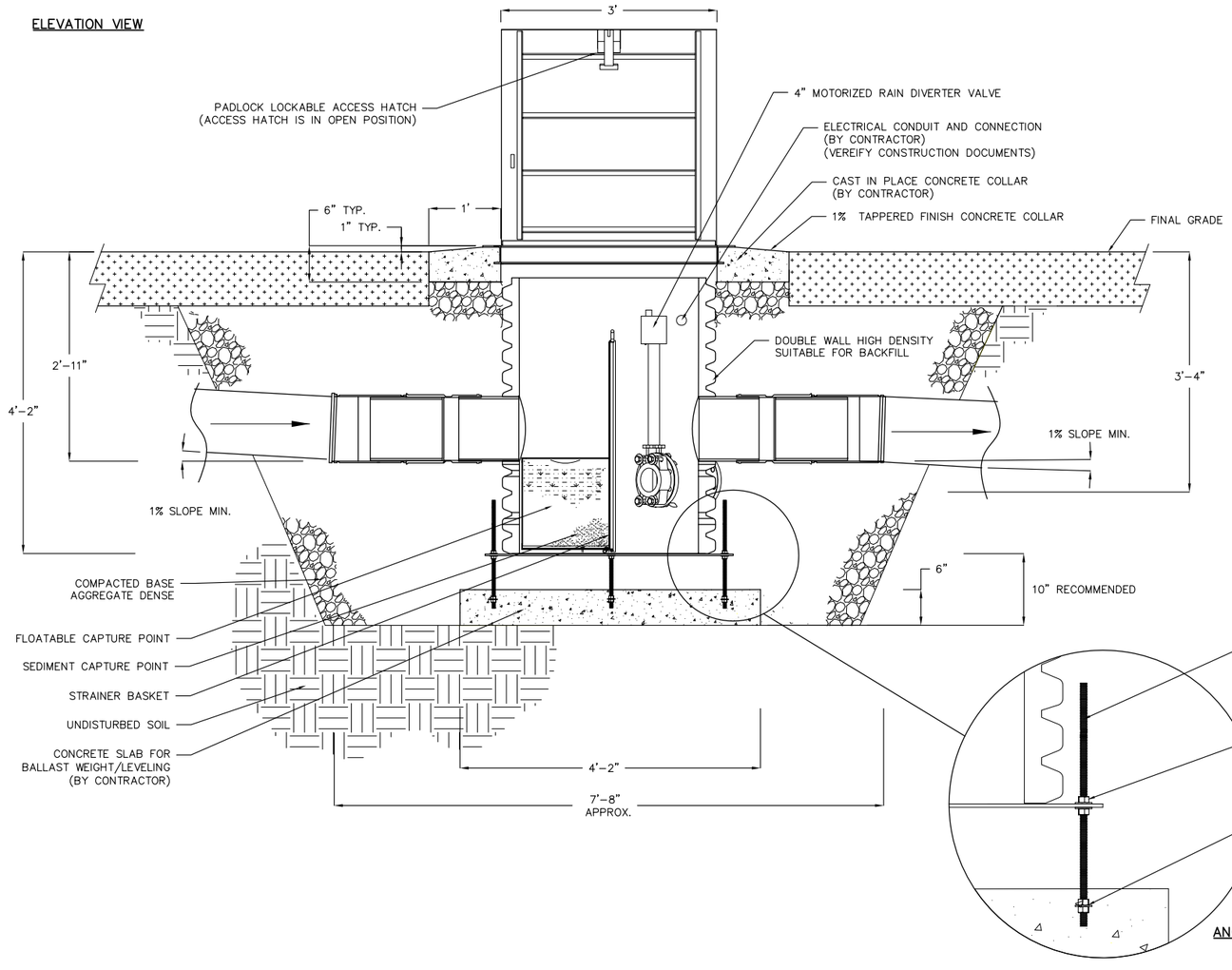
Sheet Number

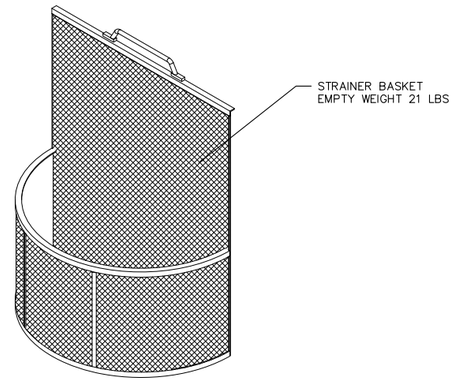
C7.13

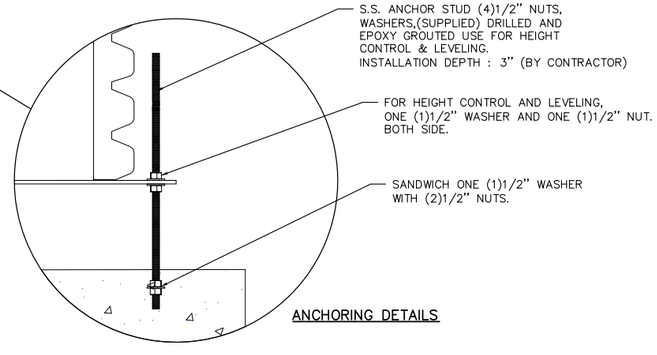
TOP VIEW



ELEVATION VIEW







ANCHORING DETAILS

1 / C7.14 RAIN DIVERTER

SCALE 1" = 1'-0"

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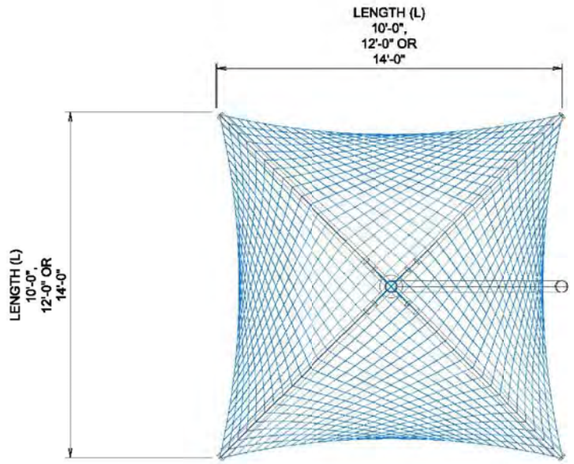
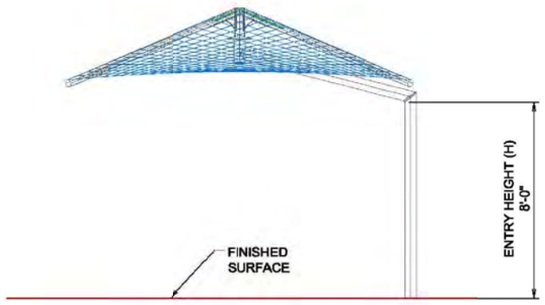
C7.14

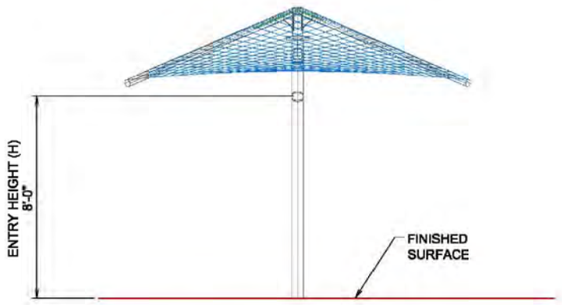


PLAN VIEW

PERSPECTIVE VIEW



SIDE ELEVATION



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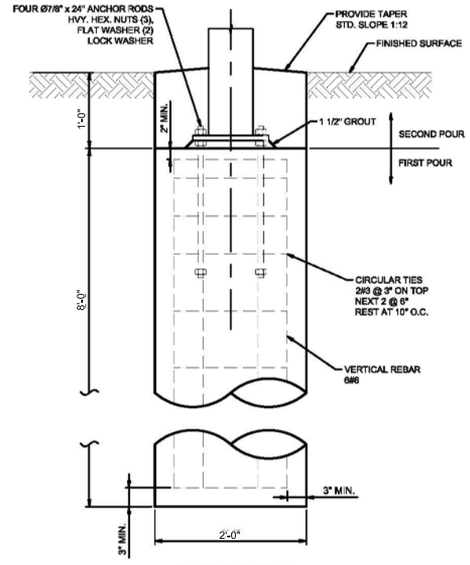
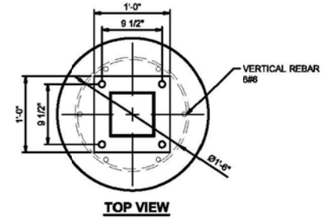


FOOTING TYPE 05
RECESSED BASE PLATE (FRBP-05-012)



TOP VIEW

1 C7.15 SHADE STRUCTURE (2 BASE BID, 2 FUTURE)

SCALE: NTS

2 C7.15 SHADE STRUCTURE FOOTINGS (4 BASE BID)

SCALE: 1"=1'-0"

SAA DESIGN GROUP
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Revision	Date

Project Name

Elver Park
Splashpad

1250 McKenna Blvd
Madison, WI 53719

Drawn By:	AO
Checked By:	BT
File:	P-D
Issued For:	Bidding
Issue Date:	1/30/2014
Project No.	2532

DRAWING

DETAILS

N

0

Sheet Number

C7.15

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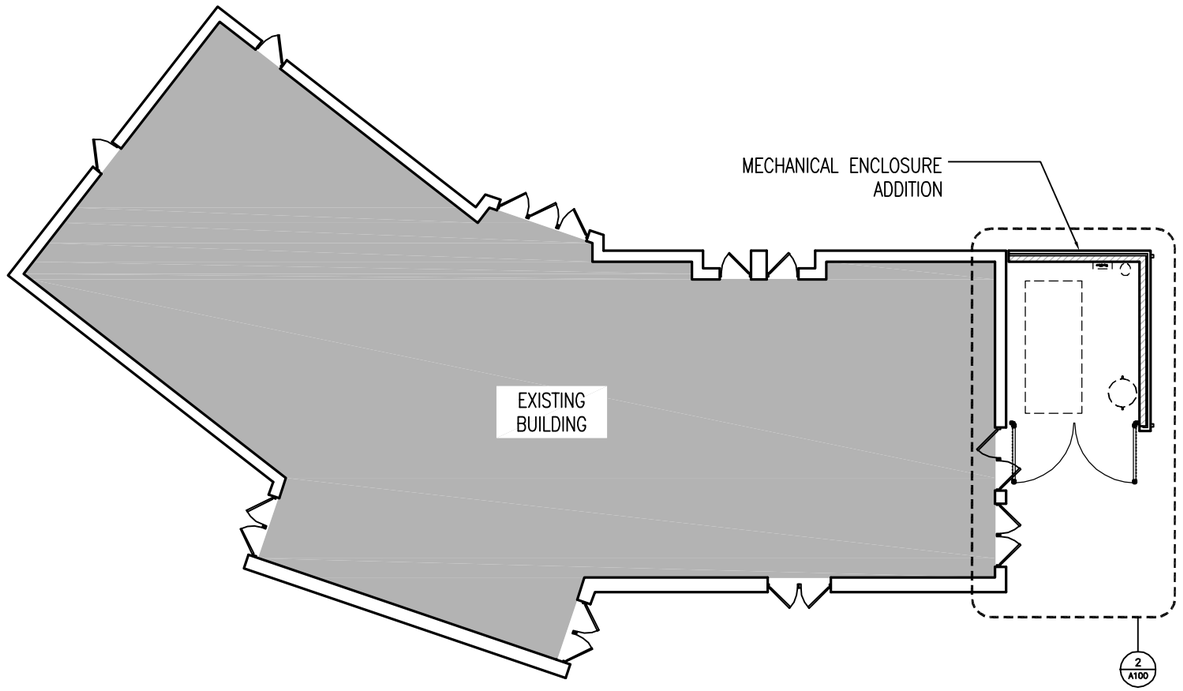
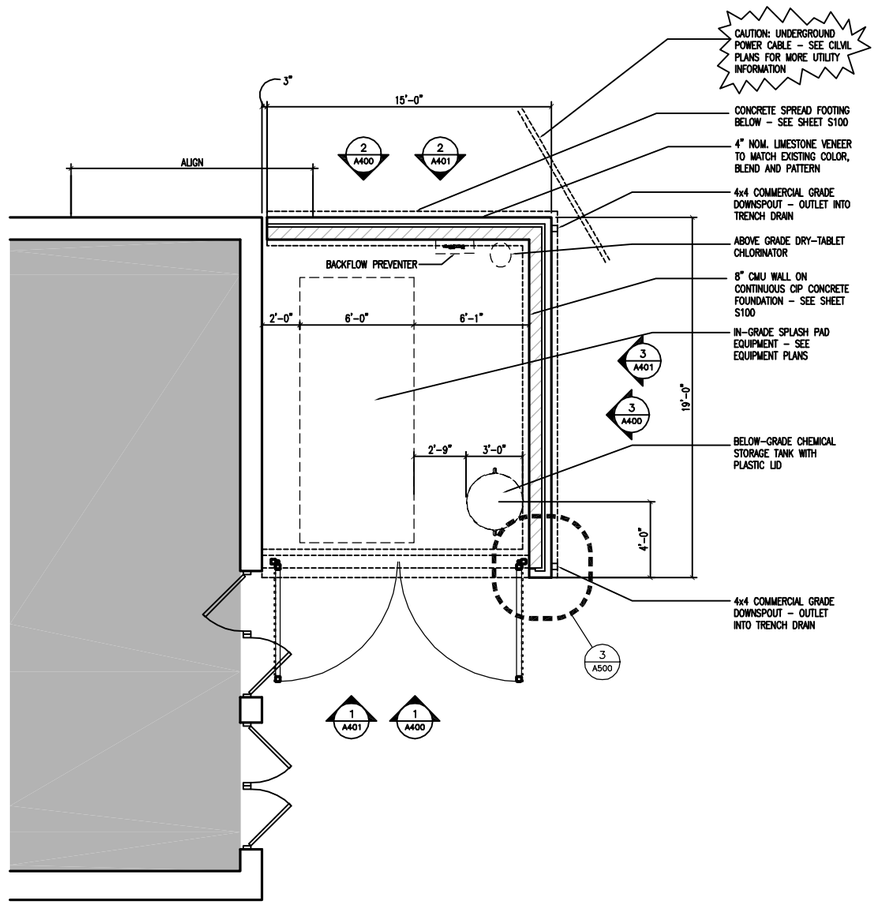


1 OVERALL FLOOR PLAN
1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8" = 1'-0"



1 ENCLOSURE FLOOR PLAN
1/8" = 1'-0"

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. BASE BID: 10-0" TALL OPEN AIR MECHANICAL ENCLOSURE WITH CORRESPONDING STEEL GATE - SEE SHEET A400
2. ALTERNATE BID: LOWER WALL AND CORRESPONDING GATE HEIGHT TO 8'-0" AND ADD A STEEL AND WOOD FRAMED ROOF - SEE SHEET A400 AND A401
3. CONTRACTOR TO SUBMIT LIMESTONE VENEER SAMPLES TO PROJECT ENGINEER PRIOR TO INSTALLATION
4. ALL DIMENSIONS ARE TO FINISH FACES
5. ANY DAMAGE TO EXISTING BUILDING SHALL BE REPAIRED AS PART OF THE GENERAL CONSTRUCTION CONTRACT
6. REPORT ANY DESIGN DISCREPANCIES TO ARCHITECT FOR RESPONSE.

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ARO EBERLE ARCHITECTS

Revision	Date
-	

Project Name
Elver Park
Splashpad

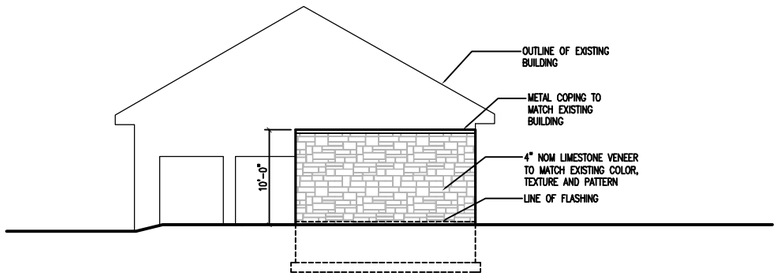
1250 McKenna Blvd
Madison, WI 53719

Drawn By:	XX
Checked By:	XX
File:	FILE
Issued For:	BIDDING
Issue Date:	1/30/2014
Project No.	2532

DRAWING
FLOOR PLANS

N
0

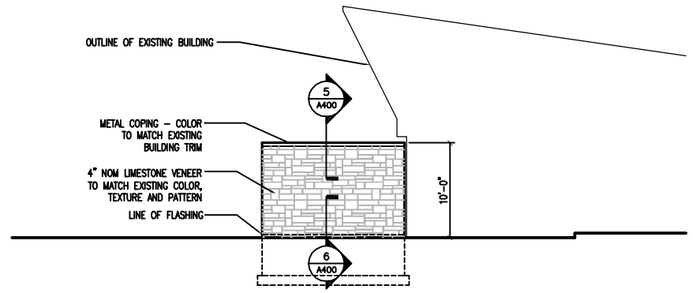
Sheet Number
A100



3 East Elevation
1/8" = 1'-0"

0 4' 8' 16'

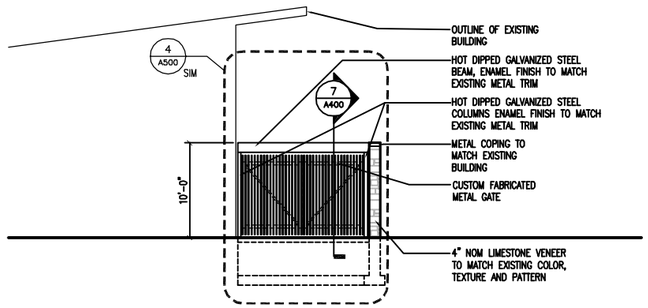
SCALE: 1/8" = 1'-0"



2 North Elevation
1/8" = 1'-0"

0 4' 8' 16'

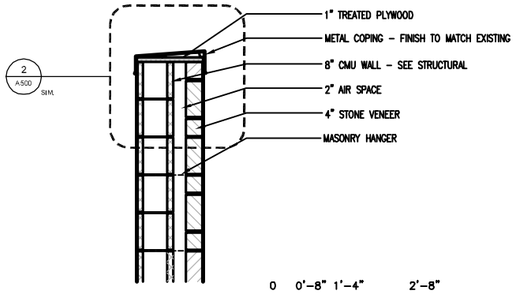
SCALE: 1/8" = 1'-0"



1 South Elevation
1/8" = 1'-0"

0 4' 8' 16'

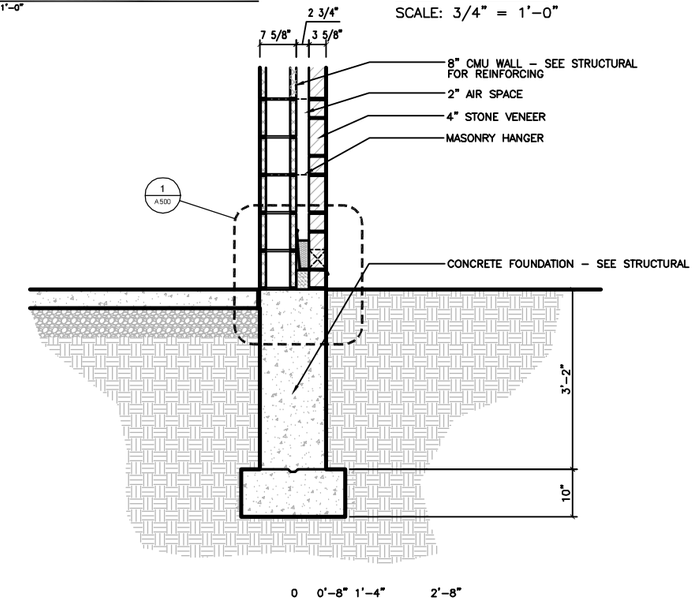
SCALE: 1/8" = 1'-0"



5 TOP OF WALL SECTION DETAIL
3/4" = 1'-0"

0 0'-8" 1'-4" 2'-8"

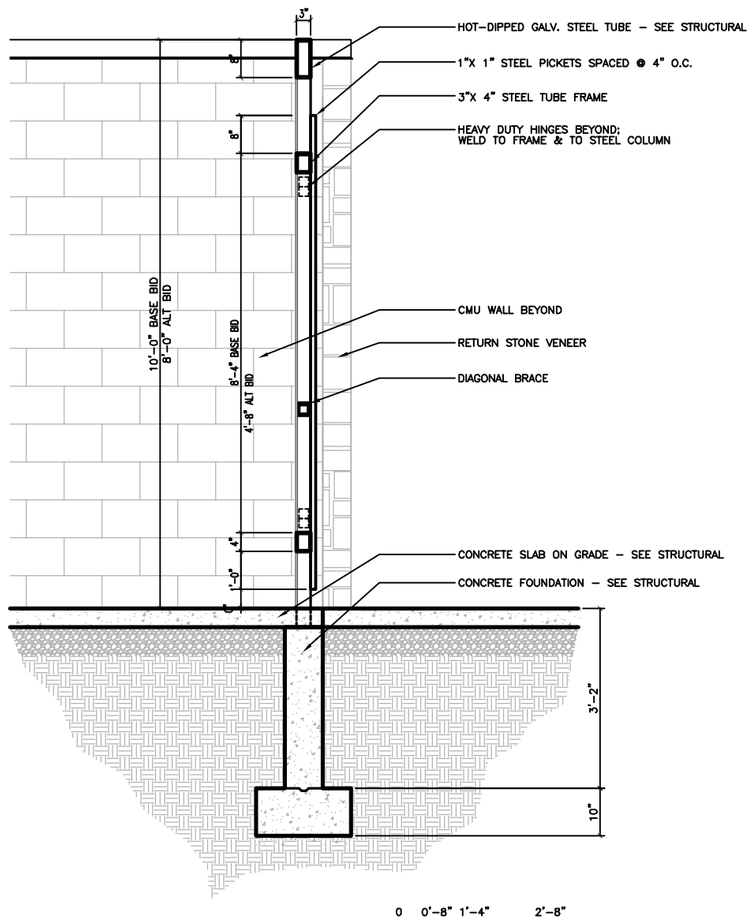
SCALE: 3/4" = 1'-0"



6 BASE OF WALL SECTION DETAIL
3/4" = 1'-0"

0 0'-8" 1'-4" 2'-8"

SCALE: 3/4" = 1'-0"



7 GATE SECTION DETAIL
3/4" = 1'-0"

0 0'-8" 1'-4" 2'-8"

SCALE: 3/4" = 1'-0"

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ARO EBERLE ARCHITECTS

Revision	Date
-	

Project Name

Elver Park
Splashpad

1250 McKenna Blvd
Madison, WI 53719

Drawn By:	XX
Checked By:	XX
File:	FILE
Issued For:	BIDDING
Issue Date:	1/30/2014
Project No.	2532

DRAWING

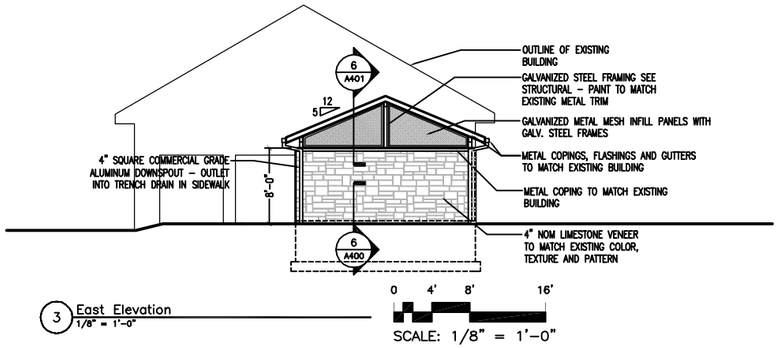
PLANS AND ELEVATIONS - BASE BID

N

0

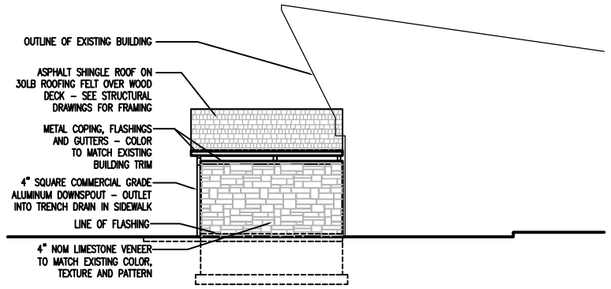
Sheet Number

A400



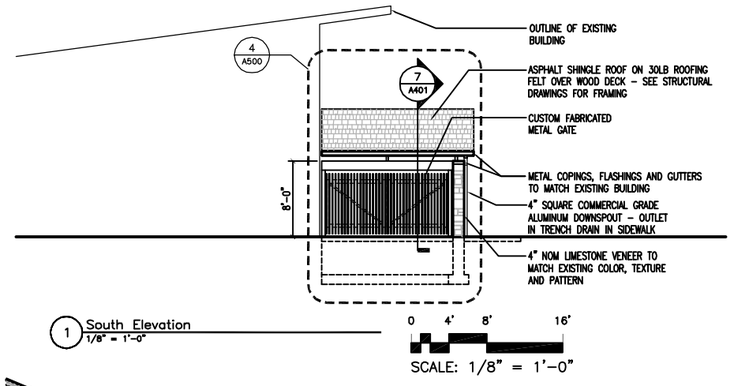
3 East Elevation
1/8" = 1'-0"

SCALE: 1/8" = 1'-0"



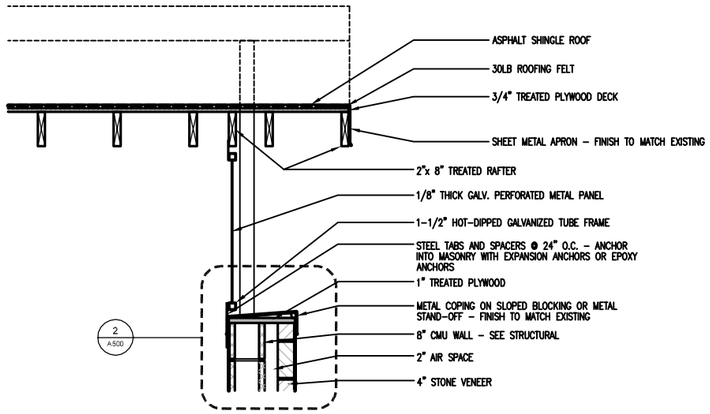
2 North Elevation
1/8" = 1'-0"

SCALE: 1/8" = 1'-0"

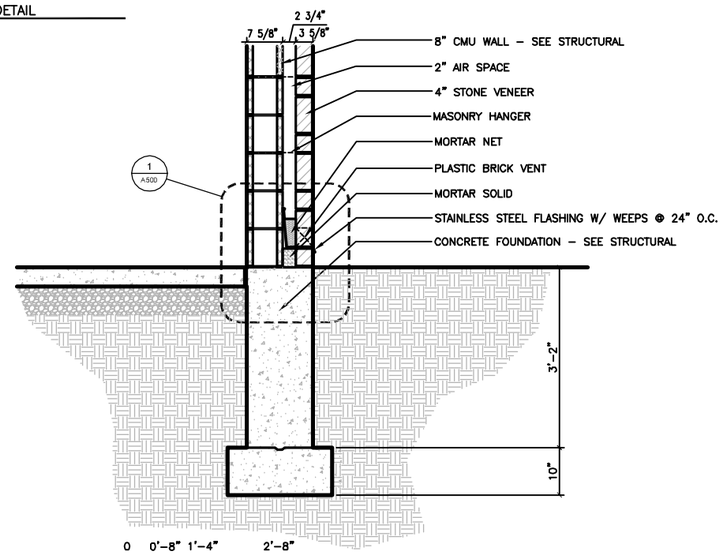


1 South Elevation
1/8" = 1'-0"

SCALE: 1/8" = 1'-0"

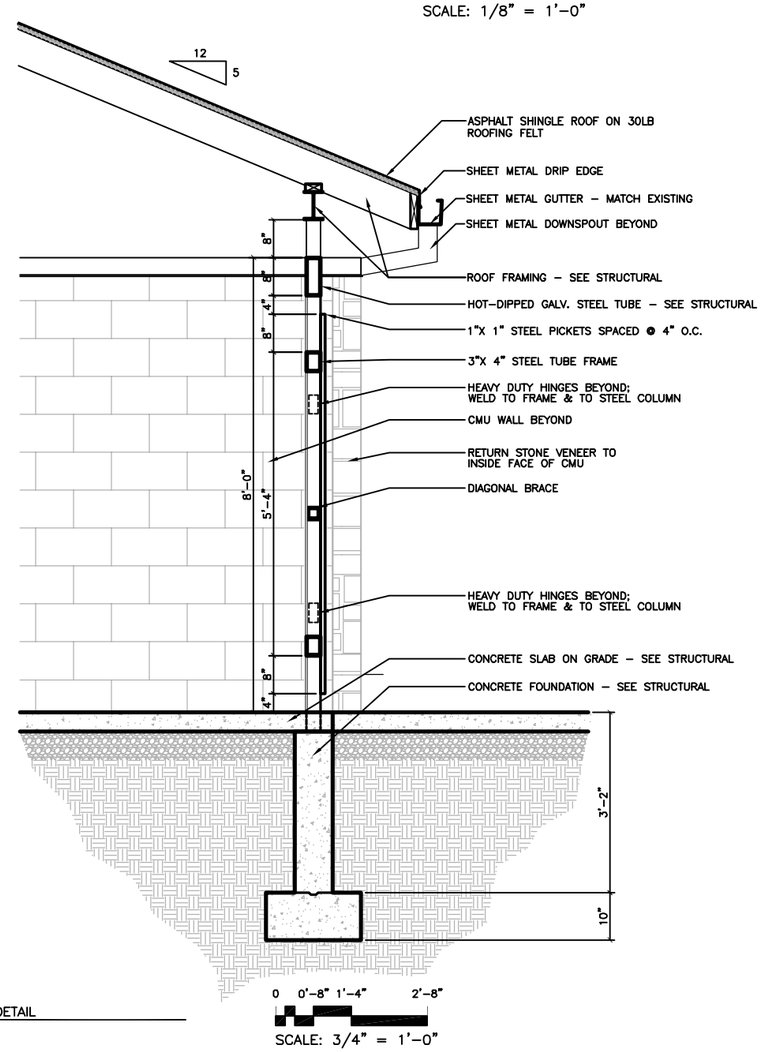


5 TOP OF WALL SECTION DETAIL
3/4" = 1'-0"



6 BASE OF WALL SECTION DETAIL
3/4" = 1'-0"

SCALE: 3/4" = 1'-0"



7 GATE SECTION DETAIL
3/4" = 1'-0"

SCALE: 3/4" = 1'-0"

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ARO EBERLE ARCHITECTS

Revision	Date
	-

Project Name

Elver Park
Splashpad

1250 McKenna Blvd
Madison, WI 53719

Drawn By:	XX
Checked By:	XX
File:	FILE
Issued For:	BIIDING
Issue Date:	1/30/2014
Project No.	2532

DRAWING

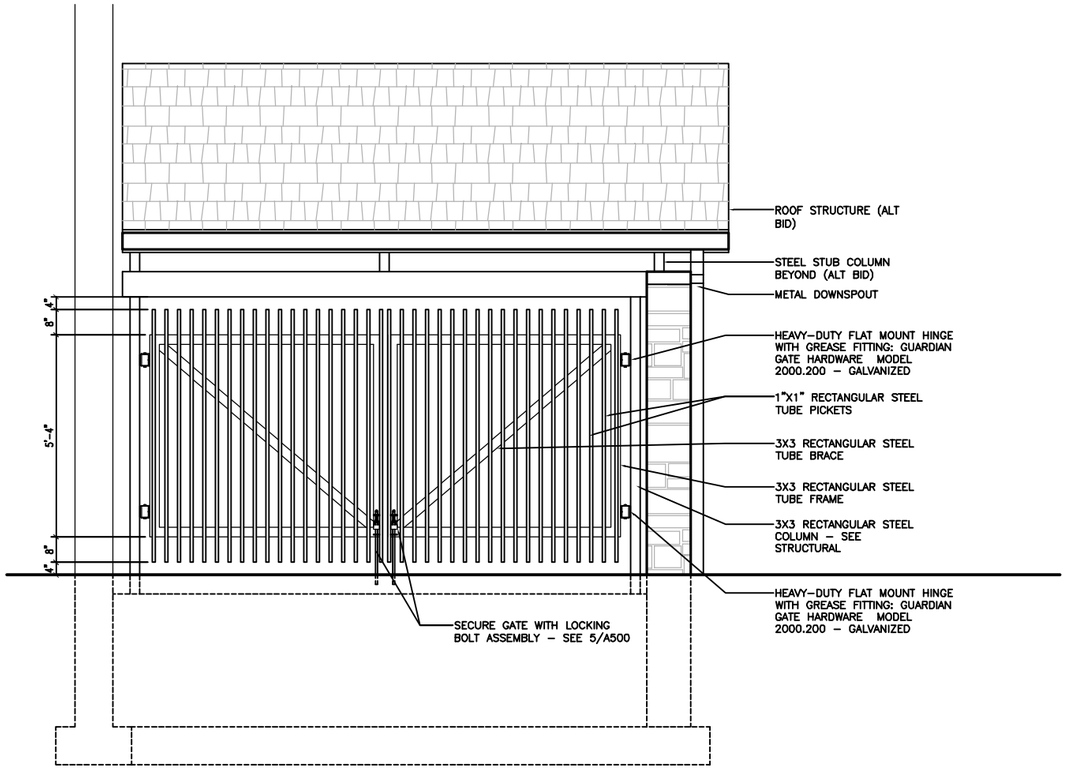
PLANS AND ELEVATIONS - ALTERNATE BID

N

0

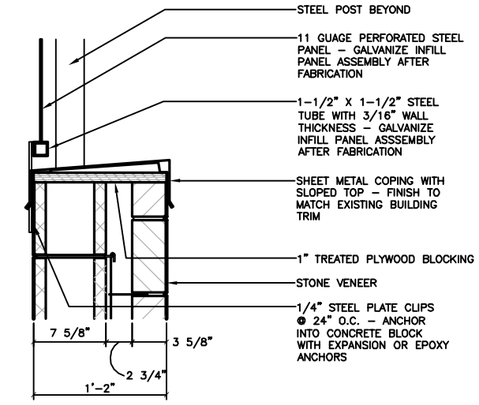
Sheet Number

A401



4 ENLARGED GATE ELEVATION
1/2" = 1'-0"

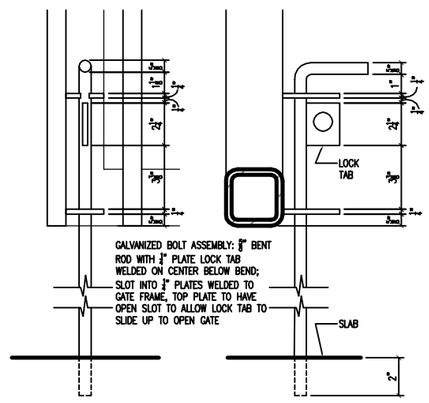
SCALE: 1/2" = 1'-0"



2 WALL CAP DETAIL
1-1/2" = 1'-0"

0 4" 8" 1'-4"

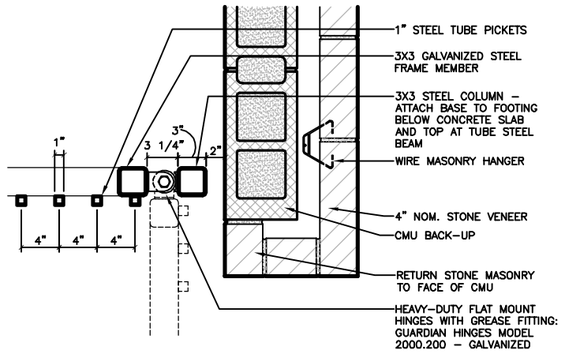
SCALE: 1 1/2" = 1'-0"



5 GATE LOCKING BOLT ASSEMBLY
3" = 1'-0"

0 2" 4" 8"

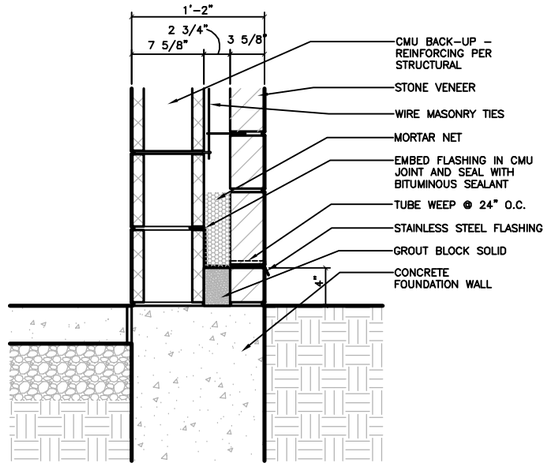
SCALE: 3" = 1'-0"



3 WALL END DETAIL
1-1/2" = 1'-0"

0 4" 8" 1'-4"

SCALE: 1 1/2" = 1'-0"



1 WALL BASE DETAIL
1-1/2" = 1'-0"

0 4" 8" 1'-4"

SCALE: 1 1/2" = 1'-0"

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ARQ EBERLE ARCHITECTS

Revision	Date
-	

Project Name

Elver Park Splashpad

1250 McKenna Blvd
Madison, WI 53719

Drawn By:	XX
Checked By:	XX
File:	FILE
Issued For:	BIDDING
Issue Date:	1/30/2014
Project No.	2532

DRAWING

DETAILS

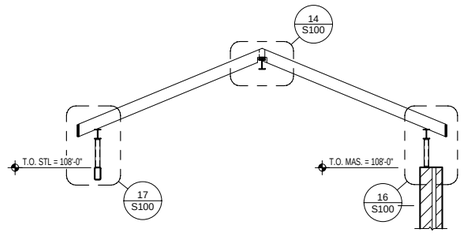
N

0

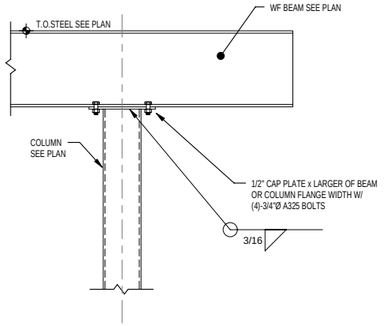
Sheet Number

A500

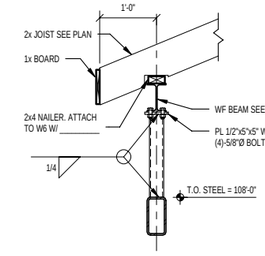
ALTERNATE BID



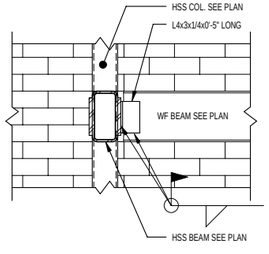
13 S100 TYP ROOF SECTION
1/4" = 1'-0"



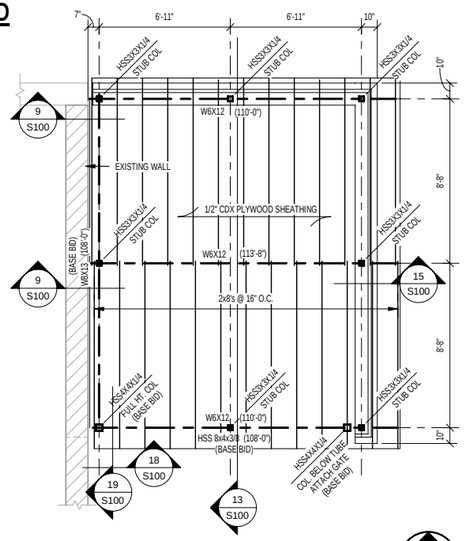
15 S100 BEAM OVER COLUMN DETAIL
3/4" = 1'-0"



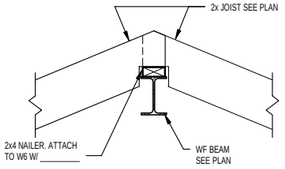
17 S100 JOIST BRG @ COLUMN ON BEAM
3/4" = 1'-0"



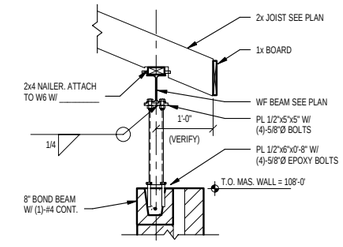
19 S100 BEAM TO COL. CONN. ALT. BID
1" = 1'-0"



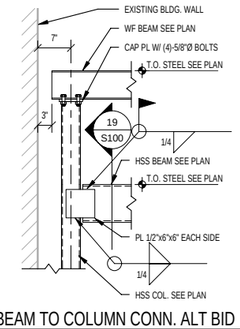
12 S100 ROOF FRAMING PLAN ALTERNATE BID
1/4" = 1'-0"



14 S100 JOIST BRG AT RIDGE
1" = 1'-0"

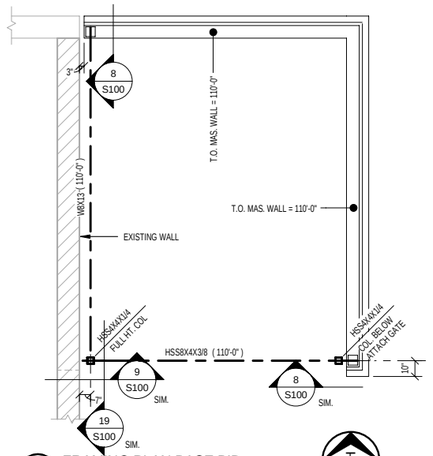


16 S100 JOIST BRG @ COLUMN ON WALL
3/4" = 1'-0"

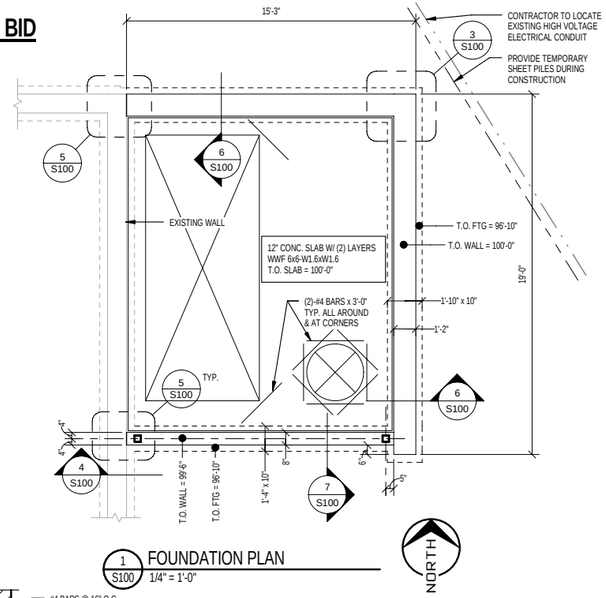


18 S100 BEAM TO COLUMN CONN. ALT BID
3/4" = 1'-0"

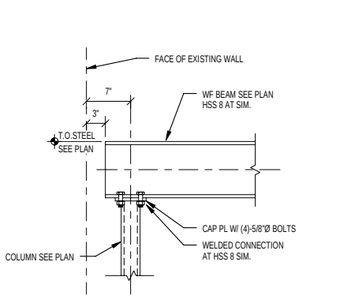
BASE BID



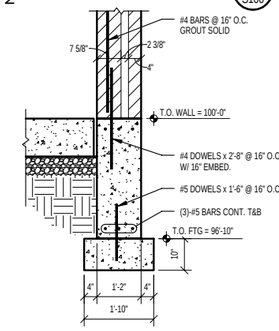
2 S100 FRAMING PLAN BASE BID
1/4" = 1'-0"



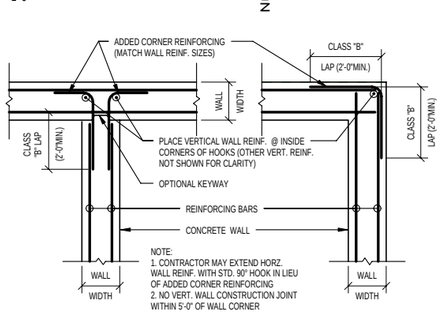
1 S100 FOUNDATION PLAN
1/4" = 1'-0"



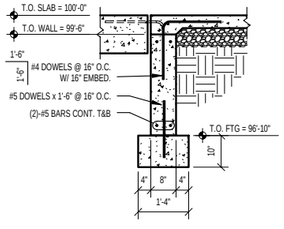
9 S100 BEAM TO COLUMN CONN. DETAIL
1" = 1'-0"



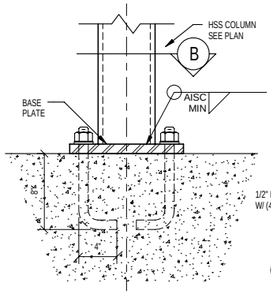
6 S100 TYP FDN WALL SECTION
1/2" = 1'-0"



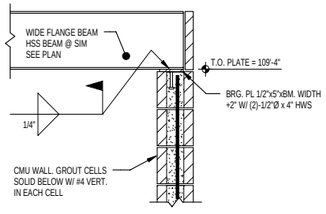
3 S100 WALL CORNER REINFORCING
1/2" = 1'-0"



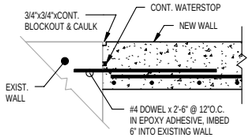
7 S100 WALL SECTION AT GATE
1/2" = 1'-0"



4 S100 COLUMN BASE PLATE DETAIL
1 1/2" = 1'-0"



8 S100 BEAM BRG. ON MASONRY WALL
3/4" = 1'-0"



5 S100 FOUNDATION DOWELING DETAIL
3/4" = 1'-0"

DESIGN STRESSES

CONCRETE:	
FOOTINGS	fc' = 3000 psi
WALLS	fc' = 4000 psi
SLAB-ON -GRADE	fc' = 3500 psi
REBAR	fy = 60 ksi
STRUCTURAL STEEL:	
WF BEAM	Fy = 50 ksi
TUBE COLUMN	Fy = 46 ksi
OTHER	GR 36
MASONRY:	
CMU	f'm = 2500 psi
MORTAR TYPE "S"	f'm = 1800 psi
WOOD:	
ROOF RAFTERS 2x8	HEM-FIR #1
SOIL BEARING	qS = 2KSF (ASSUMED)

DESIGN LOADS

SNOW LOADING:	
Pg	35 psf
Pf	22 psf
ISL	1.0
Ct	1.0
Ce	.9
WIND LOADING:	
V	90 mph
Iw	1.0
IMPORTANCE CATEGORY	I (IBC)
EXPOSURE	C
GLCpi	± .18
Vw	15 KIP
COMPONENTS & CLADDING	16 psf
SEISMIC:	
USE GROUP	A
SDS	11.7%
SD1	4.7%
SITE CLASS	D
BASIC SFRS	WOOD FRAMING
Vs	
ANALYSIS PROCEDURE	SIMPLIFIED

SAA DESIGN GROUP
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Consultant

GMA Engineers
GUNNAR MALM & ASSOC., INC.
CONSULTING ENGINEERS
6402 Odana Road Madison, Wi. 53719
(608) 288-1108 FAX (608) 288-1109
WEB: www.gmaengineers.com
GMA Project No. 213083

Professional Seal

Revision

Date

FOR BIDDING 1/30/14

Project Name

ELVER PARK

SPLASHPAD

1250 MCKENNA BLVD
MADISON, WI 53719

Drawn By:	DLW
Checked By:	JGM
File:	
Issued For:	BIDDING
Issue Date:	1/30/14
Project No.	2532

DRAWING

STRUCTURAL PLANS & DETAILS

N
0

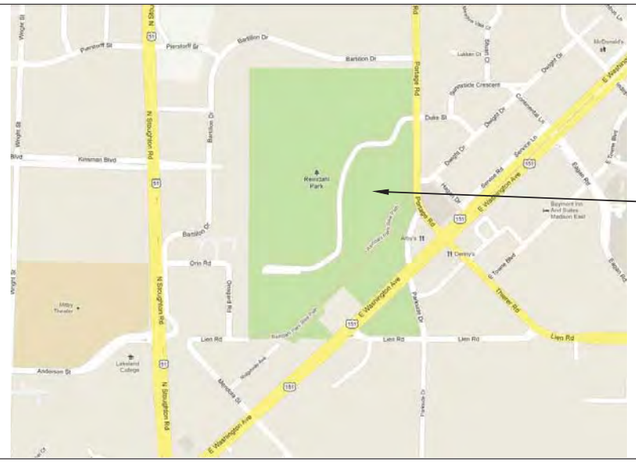
Sheet Number

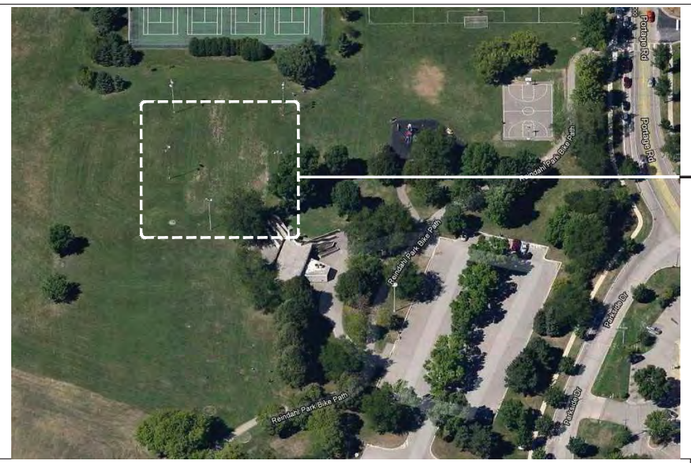
S100

AMUND REINDAHL PARK SPLASH PAD

1818 PORTAGE ROAD

MADISON, WI 53704





LOCATION MAP	6
	NONE

SITE PLAN	3
	NONE

SHEET LIST	1
	NONE

Sheet List Table

Sheet Number	Sheet Title
TITLE SHEET	TITLE SHEET
CIVIL	
C100	EXISTING SITE PLAN
C200	DEMOLITION AND EROTION CONTROL PLAN
C300	SITE AND GRADING PLAN
C500	UTILITY PLAN
C501	WATERMAIN & SANITARY SEWER PLAN AND PROFILE
C502	WATERMAIN PLAN AND PROFILE
C900	DETAILS - SEWER
C900.1	DETAILS - SEWER
C901	DETAILS - WATER MAIN
C902	DETAILS
C903	DETAILS
C904	DETAILS
SITE	
SD1.00	OVERALL SITE PLAN
SD2.00	GRADING PLAN AND 5 INCH CONCRETE LAYOUT
SD3.00	SITE DETAILS
SD3.01	SITE DETAILS
ARCHITECTURAL	
A1.00	BUILDING PLAN AND ELEVATIONS
A1.01	BUILDING SECTIONS AND DETAILS
A1.02	BUILDING DETAILS
A1.03	GENERAL NOTES AND DETAILS
POOL	
PL1.01	GENERAL DETAILS AND SCHEDULES
PL1.10	POOL A SPLASH PAD - PLAN
PL1.11	POOL A - SPLASH PAD DIMENSION PLAN
PL1.12	POOL A - SECTION, DETAILS
PL1.13	WATER FEATURE DETAILS
PL1.14	WATER FEATURE DETAILS
PL3.00	POOL A - PIPING AND DETAILS
PL4.00	MECHANICAL PLAN, EQUIPMENT LIST AND DETAILS
PL4.01	REFERENCE DRAWINGS BY VORTEX
PL4.02	REFERENCE DRAWING BY VORTEX
PLUMBING	
P000	PLUMBING SYMBOLS, ABBREVIATIONS, SCHEDULES AND SHEET INDEX
P100	PLUMBING FLOOR PLAN AND DETAILS
P200	PLUMBING RISER DIGRAMS
P900	PLUMBING SPECIFICATIONS
P901	PLUMBING SPECIFICATIONS
MECHANICAL	
M000	MECHANICAL SYMBOLS, ABBREVIATIONS AND SHEET INDEX
M100	MECHANICAL FLOOR PLAN, DETAILS AND SCHEDULES
ELECTRICAL	
E000	ELECTRICAL SYMBOLS, ABBREVIATIONS AND SHEET INDEX
E100	ELECTRICAL FLOOR PLAN, DETAILS AND SCHEDULES
E600	ELECTRICAL SPECIFICATIONS

THIS SPACE NOT USED	7
	NONE

ELECTRICAL NOTES	5
	NONE

ELECTRICAL NOTES

1. ALL WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE ARTICLE 680 (2011), STATE, AND LOCAL ELECTRICAL CODES.
2. THE SPLASH PAD SHALL BE GROUNDED ACCORDING TO NATIONAL ELECTRICAL CODE ARTICLE 680 (2011 EDITION). .
3. THE SPLASH PAD SHALL BE BONDED ACCORDING TO NATIONAL ELECTRICAL CODE ARTICLE 680 (2011 EDITION).
4. THE CHEMICAL CONTROLLER, SHALL BE ELECTRICALLY INTERLOCKED WITH THE CORRESPONDING SPLASH PAD FILTRATION PUMP.
5. THE CHLORINE BOOSTER PUMP , SHALL BE ELECTRICALLY INTERLOCKED WITH THE CORRESPONDING SPLASH PAD FILTRATION PUMP.

CONTACTS	4
	NONE

OWNER

CITY OF MADISON PARKS DIVISION
CITY-COUNTY BUILDING, RM 104
210 MARTIN LUTHER KING, JR. BLVD.
MADISON, WI 53703
OWNER PROJECT REP. : SARAH LERNER
PHONE: 608-261-4281

ARCHITECT/AQUATIC DESIGN

WATER TECHNOLOGY, INC.
100 PARK AVENUE
BEAVER DAM, WI 53916
PHONE: 920-887-7375
WEB SITE: www.watertechnologyinc.com
PROJECT MANAGER: DEAN MUELLER, AIA

ENGINEER

GRÄEF
1150 SPRINGHURST DRIVE, SUITE 201
GREEN BAY, WI 54304
PHONE: 920-592-9440
WEB SITE: www.graef-usa.com
ENGINEER: JEFFERY S. ROSNER, P.E.

BUILDING INFORMATION	2
	NONE

BUILDING INFORMATION
CODE SUMMERY: (2011 WCBC - 2009 IBC/IMC)

BUILDING AREA 555 SQ. FT.
TYPE OF CONSTRUCTION VB
OCCUPANCY
MECHANICAL/CONCESSIONS B

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REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

ID	DATE	DESCRIPTION

DATE	01/23/2014
PROJECT NO.	12408.01
DRAWN BY	MLS
CHECKED BY	DGM
PHASE	BID DOCUMENTS

TITLE SHEET

TITLE SHEET

Date: Friday, January 24, 2014 Plotted by: Michael Schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408.01 COVER.dwg

PARKING LOT

OVERFLOW STAGING AREA

ASPHALT

LIMITS OF PROPOSED DISTURBED AREA, SEE C200 FOR FULL EXTENT

CONSTRUCTION ENTRANCE TO BE LOCATED AT PROPOSED BIKE PATH LOCATION

TENNIS COURT

SOCCER FIELD

BASKETBALL COURT

EXISTING LIGHT POLE AND CONCRETE BASE, TYP

HOCKEY RINK

PLAYGROUND

GRASSY AREA/ LAWN, TYP

EXISTING TREE, TYP

BIKE PATH

EXISTING CULVERT

NOTES:
1. STAGING AREAS TO BE SURROUNDED BY CONSTRUCTION FENCE. TURF THAT IS DISTURBED MUST BE REPAIRED - COST FOR SEED IS INCLUDED, BUT ALL OTHER COST IS INCIDENTAL TO CONTRACT.

2. THE CONTRACTOR WILL BE ALLOWED TO STORE EQUIPMENT AND MATERIALS WITHIN THE CONSTRUCTION LIMITS. THE CONTRACTOR SHALL SECURE MATERIALS AT THE END OF EACH WORK DAY TO DETER ANY POTENTIAL VANDALISM AND THEFT.

PRIMARY STAGING AREA

GRAVEL

EXISTING CONCRETE PATIO

SHELTER

LIMITS OF DISTURBED AREA

EXISTING CONCRETE PAD AND BICYCLE RACK FOR BIKE PARKING

BIKE PATH

PARKING LOT

SKATING RINK

SURVEY NOTES

1. THE BASE SURVEY WAS PREPARED BY THE CITY OF MADISON. ALL UNDERGROUND UTILITIES AND STRUCTURES HAVE BEEN SHOWN TO A REASONABLE DEGREE OF ACCURACY AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THEIR EXACT LOCATION AND TO AVOID DAMAGE THERETO.
2. COORDINATES ARE BASED THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), DANE COUNTY. NORTH AMERICAN DATUM OF 1983, 2007 ADJUSTMENT (NAD83(07)). NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

01 C100 EXISTING SITE PLAN

1" = 30'

0 15' 30'
SCALE: 1" = 30'

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REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

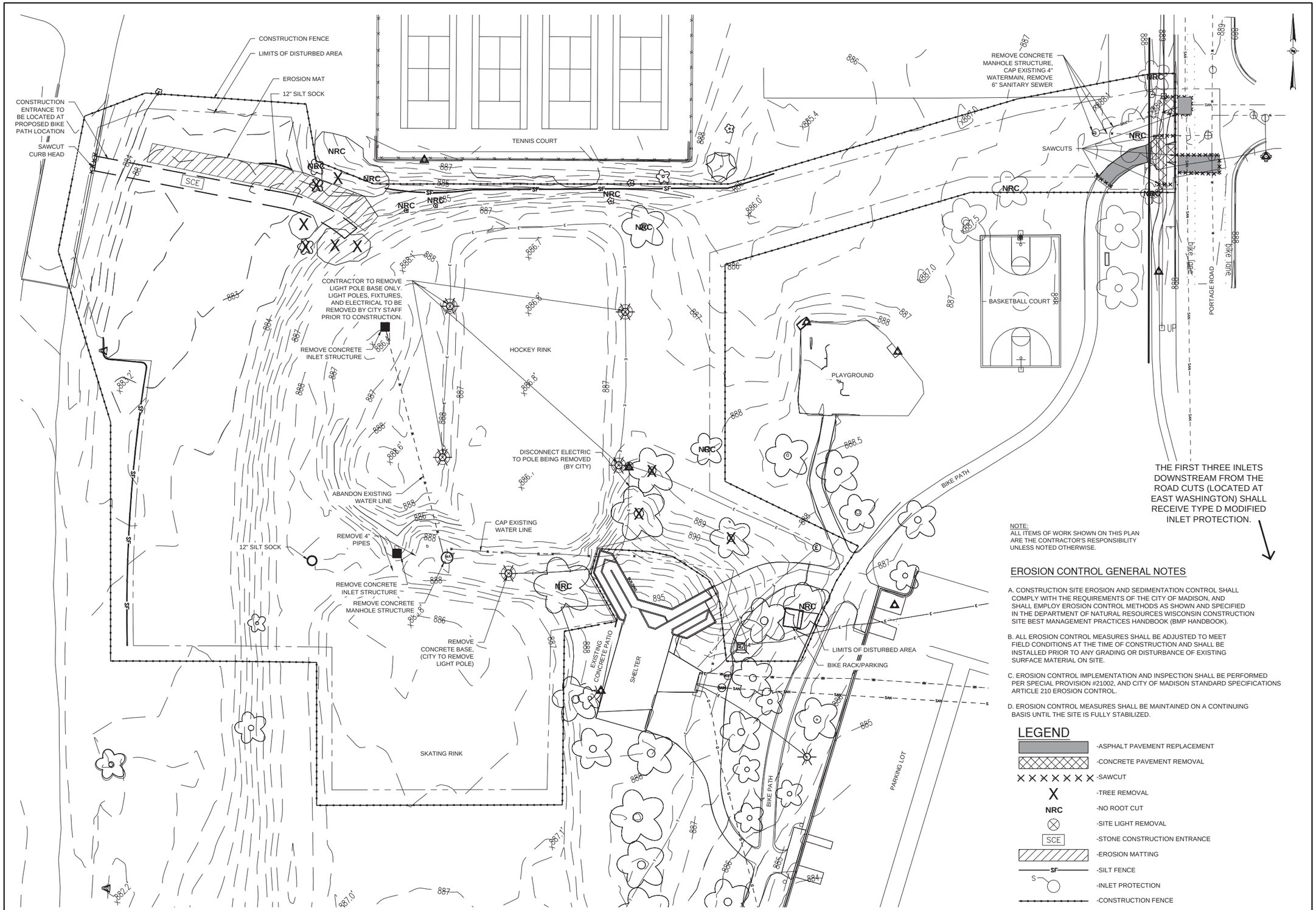
ID	DATE	DESCRIPTION

DATE	01/31/2014
PROJECT NO.	2013-2000.01
DRAWN BY	KRN
CHECKED BY	WAB
PHASE	BID DOCUMENTS

EXISTING SITE PLAN

C100

Date: Monday, January 27, 2014 Plotted by: Nelson, Kara Drawing location: J:\Jobs2013\2013200\CAD\01-REINDAHL\CAD\Site\dwg\00\20132000_C100.dwg



NOTE:
ALL ITEMS OF WORK SHOWN ON THIS PLAN ARE THE CONTRACTOR'S RESPONSIBILITY UNLESS NOTED OTHERWISE.

EROSION CONTROL GENERAL NOTES

A. CONSTRUCTION SITE EROSION AND SEDIMENTATION CONTROL SHALL COMPLY WITH THE REQUIREMENTS OF THE CITY OF MADISON, AND SHALL EMPLOY EROSION CONTROL METHODS AS SHOWN AND SPECIFIED IN THE DEPARTMENT OF NATURAL RESOURCES WISCONSIN CONSTRUCTION SITE BEST MANAGEMENT PRACTICES HANDBOOK (BMP HANDBOOK).

B. ALL EROSION CONTROL MEASURES SHALL BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION AND SHALL BE INSTALLED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL ON SITE.

C. EROSION CONTROL IMPLEMENTATION AND INSPECTION SHALL BE PERFORMED PER SPECIAL PROVISION #21002, AND CITY OF MADISON STANDARD SPECIFICATIONS ARTICLE 210 EROSION CONTROL.

D. EROSION CONTROL MEASURES SHALL BE MAINTAINED ON A CONTINUING BASIS UNTIL THE SITE IS FULLY STABILIZED.

LEGEND

- -ASPHALT PAVEMENT REPLACEMENT
- -CONCRETE PAVEMENT REMOVAL
- -SAWCUT
- X -TREE REMOVAL
- NRC -NO ROOT CUT
- -SITE LIGHT REMOVAL
- SCE -STONE CONSTRUCTION ENTRANCE
- -EROSION MATTING
- SF -SILT FENCE
- S -INLET PROTECTION
- -CONSTRUCTION FENCE
- -LIMITS OF DISTURBED AREA

01 C200 DEMOLITION AND EROSION CONTROL PLAN
1" = 30'

SCALE: 1" = 30'

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REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

ID	DATE	DESCRIPTION

DATE	01/31/2014
PROJECT NO.	2013-2000.01
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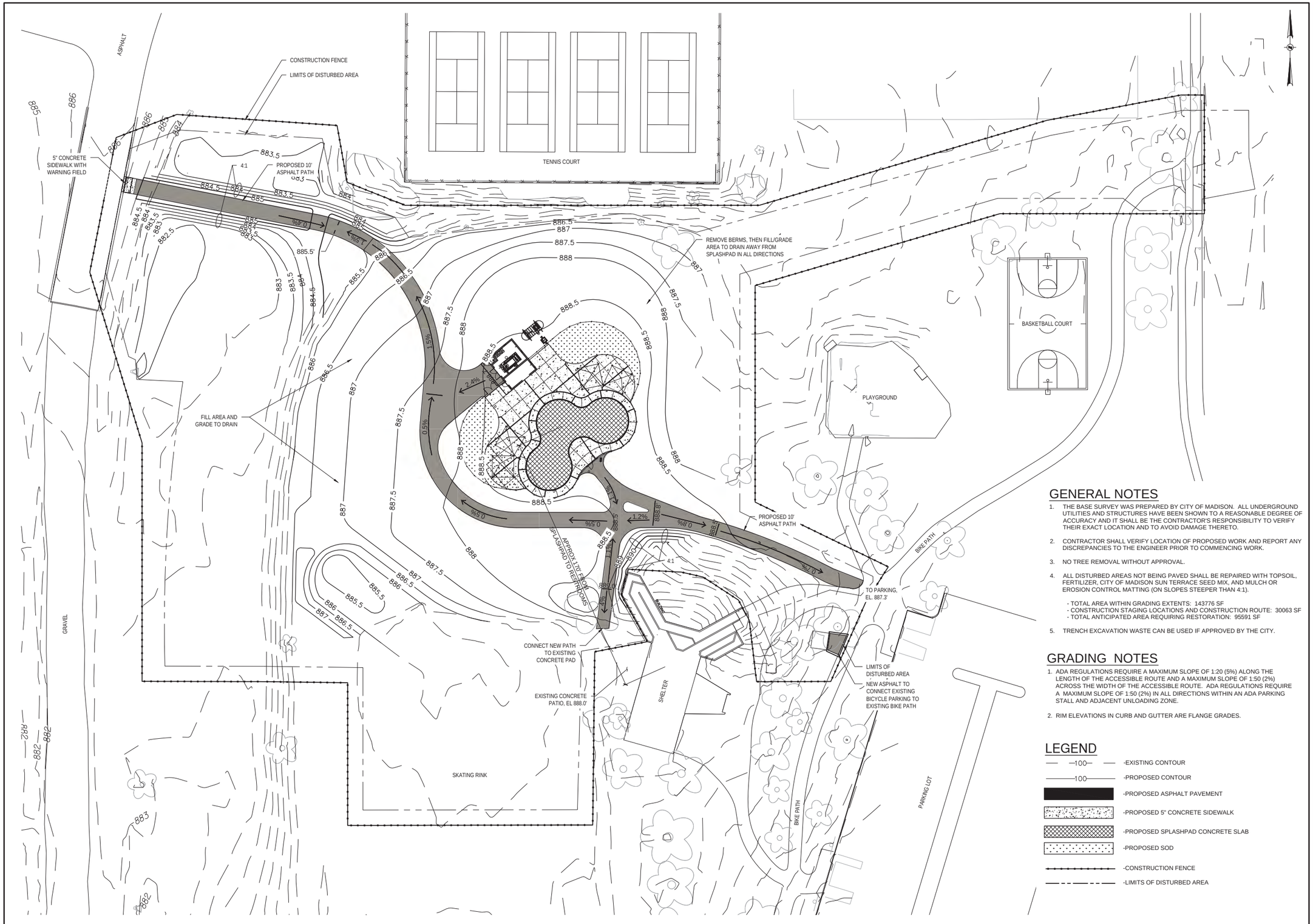
CHECKED BY	WAB
PHASE	BID DOCUMENTS

DEMOLITION AND EROSION CONTROL PLAN

C200

Date: Monday, January 27, 2014 Plotted By: Nelson, Kara Drawing location: J:\Jobs2013\2013200\CAD\01-REINDAHL\CAD\Site\dwg\00\20132000_C200.dwg



01 C300 SITE/GRADING PLAN

1" = 30'

0 15' 30'

SCALE: 1" = 30'

GENERAL NOTES

1. THE BASE SURVEY WAS PREPARED BY CITY OF MADISON. ALL UNDERGROUND UTILITIES AND STRUCTURES HAVE BEEN SHOWN TO A REASONABLE DEGREE OF ACCURACY AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THEIR EXACT LOCATION AND TO AVOID DAMAGE THERETO.
2. CONTRACTOR SHALL VERIFY LOCATION OF PROPOSED WORK AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO COMMENCING WORK.
3. NO TREE REMOVAL WITHOUT APPROVAL.
4. ALL DISTURBED AREAS NOT BEING PAVED SHALL BE REPAIRED WITH TOPSOIL, FERTILIZER, CITY OF MADISON SUN TERRACE SEED MIX, AND MULCH OR EROSION CONTROL MATTING (ON SLOPES STEEPER THAN 4:1).
   - TOTAL AREA WITHIN GRADING EXTENTS: 143776 SF
   - CONSTRUCTION STAGING LOCATIONS AND CONSTRUCTION ROUTE: 30063 SF
   - TOTAL ANTICIPATED AREA REQUIRING RESTORATION: 95591 SF
5. TRENCH EXCAVATION WASTE CAN BE USED IF APPROVED BY THE CITY.

GRADING NOTES

1. ADA REGULATIONS REQUIRE A MAXIMUM SLOPE OF 1:20 (5%) ALONG THE LENGTH OF THE ACCESSIBLE ROUTE AND A MAXIMUM SLOPE OF 1:50 (2%) ACROSS THE WIDTH OF THE ACCESSIBLE ROUTE. ADA REGULATIONS REQUIRE A MAXIMUM SLOPE OF 1:50 (2%) IN ALL DIRECTIONS WITHIN AN ADA PARKING STALL AND ADJACENT UNLOADING ZONE.
2. RIM ELEVATIONS IN CURB AND GUTTER ARE FLANGE GRADES.

LEGEND

- -EXISTING CONTOUR
- -PROPOSED CONTOUR
- -PROPOSED ASPHALT PAVEMENT
- -PROPOSED 5" CONCRETE SIDEWALK
- -PROPOSED SPLASHPAD CONCRETE SLAB
- -PROPOSED SOD
- -CONSTRUCTION FENCE
- -LIMITS OF DISTURBED AREA

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REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

ID	DATE	DESCRIPTION

DATE	01/31/2014
PROJECT NO.	2013-2000.01
DRAWN BY	KRN
CHECKED BY	WAB
PHASE	BID DOCUMENTS

SITE AND GRADING PLAN

C300

Date: Monday, January 27, 2014 Plotted by: Nelson, Kara Drawing location: J:\Jobs2013\20132000\CAD\01-REINDAHL\CAD\Site\dwg\00\20132000_C300.dwg

NOTE:
CONTRACTOR TO DEVELOP TRAFFIC CONTROL PLAN FOR INSTALLING SANITARY SEWER AND WATER MAIN IN PORTAGE ROAD.

TRAFFIC VOLUMES MAY DICTATE USE OF FLAGGERS TO INSTALL PIPES AND REPAIR STREET BETWEEN THE HOURS OF 9 A.M. - 3 P.M..

CONSTRUCTION FENCE
LIMITS OF DISTURBED AREA
FUTURE WATER MAIN, BY OTHERS
WATER MAIN EXTENSION TO END AT PROPOSED SHUT-OFF VALVE, INSTALL 10" GATE VALVE AND BOX
PROPOSED LOCATION FOR ELECTRICAL TRANSFORMER, INSTALL CONCRETE PAD, COORDINATE SIZE AND LOCATION WITH MG&E AND CITY OF MADISON PARKS DIVISION
PROPOSED 2" TYPE K COPPER WATER SERVICE TO SPLASHPAD BUILDING
PROPOSED 10" DUCTILE IRON WATER MAIN
PROPOSED 10" DUCTILE IRON WATER MAIN
INSTALL 22.5° BEND
EXISTING MANHOLE WEST IE = 880.81
15" RCP AE WITH CONCRETE COLLAR IE = 883.07, REFER TO CITY STANDARD DETAIL 5.4.5 FOR CONCRETE COLLAR
INSTALL 2" SHUT-OFF VALVE AND CURB BOX AND BLOW POINT, ITEMS ARE INCIDENTAL TO 2" WATER SERVICE
ELECTRICAL SERVICE, PROVIDE (1) SET OF (3) #3/0 AWG AND (1) #3 GROUND IN EACH OF (2) 2" SCH 40 PVC CONDUIT
4" PVC STORM/ OVERFLOW PIPING, DRAIN TO DITCH
INSTALL 10"x6" TEE
INSTALL 11.25° BEND
INSTALL 45° BEND
400'-8" @ 0.40%
INSTALL 10" GATE VALVE
CONNECT WATER MAIN EXTENSION TO EXISTING PIPE IN PORTAGE ROAD
PROPOSED 6" DUCTILE IRON WATER MAIN
SAS A
NE IE = 882.41
SW IE = 882.50
20'-6" @ 1.0%
IE = 883.20 (5.8' B.F.F.)
RINSE-OFF SHOWER
253' - 12" HDPE @ 0.50%
1" TYPE K COPPER WATER LINES TO DRINKING FOUNTAIN, AND SHOWER (TYPE K COPPER)
INSTALL 6" GATE VALVE
PROPOSED NEW HYDRANT
RINSE-OFF SHOWER
DRINKING FOUNTAIN, PROVIDED BY THE CITY OF MADISON, INSTALLED BY THE CONTRACTOR
1" PVC PIPE, CAPPED AT BOTH ENDS, FOR FUTURE ELECTRICAL
4'x4' STORM SAS
RIM = 887.80
W IE = 881.50
S IE = 881.23
ELECTRICAL SERVICE, BY MG&E
NEW 3'x3' CATCH BASIN
RIM = 885.20
E IE = 881.74
N IE = 881.80
88' - 12" HDPE @ 0.50%
EX 12" RCP
EXISTING CONCRETE PATIO
bike lane
bike lane

LEGEND

- -PROPOSED STORM SEWER
- -PROPOSED SANITARY SEWER
- -PROPOSED WATER MAIN
- -PROPOSED ELECTRICAL
- -CONSTRUCTION FENCING
- -LIMITS OF DISTURBED AREA
- -PROPOSED MANHOLE
- -PROPOSED CATCH BASIN
- -PROPOSED GATE VALVE
- -PROPOSED HYDRANT
- -PROPOSED UTILITY PLUG
- -PROPOSED BLOW POINT

01 C500 UTILITY PLAN
1" = 30'

SCALE: 1" = 30'

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REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

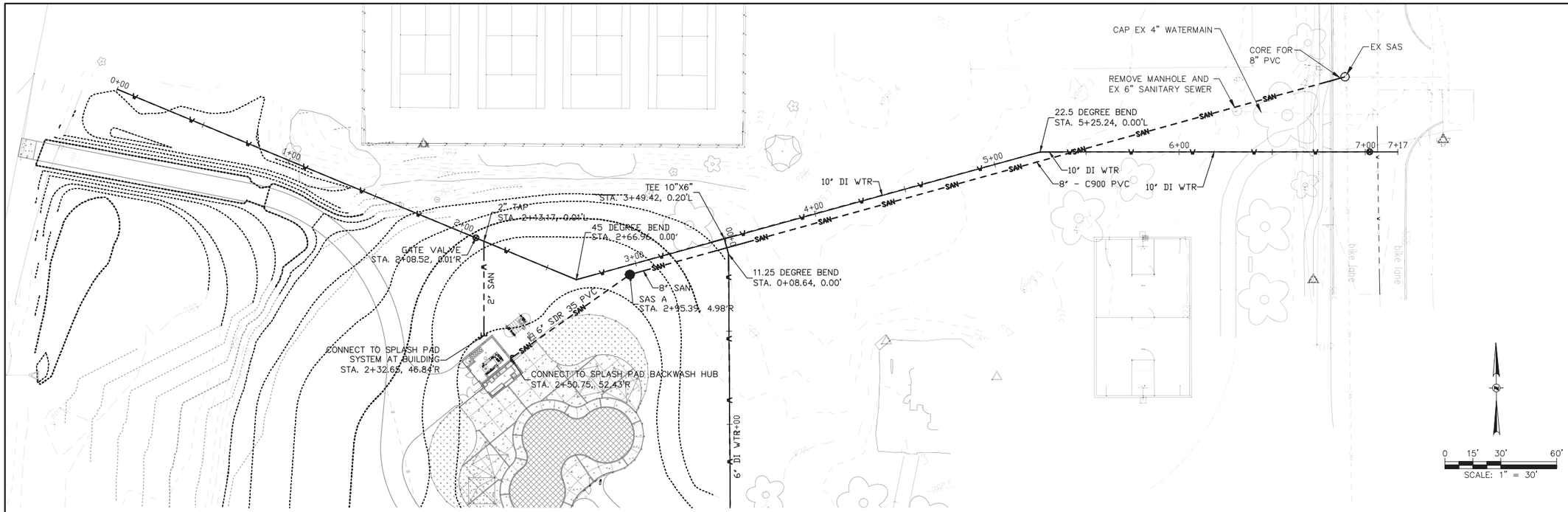
ID	DATE	DESCRIPTION

DATE	01/31/2014
PROJECT NO.	2013-2000.01
DRAWN BY	KRN
CHECKED BY	WAB
PHASE	BID DOCUMENTS

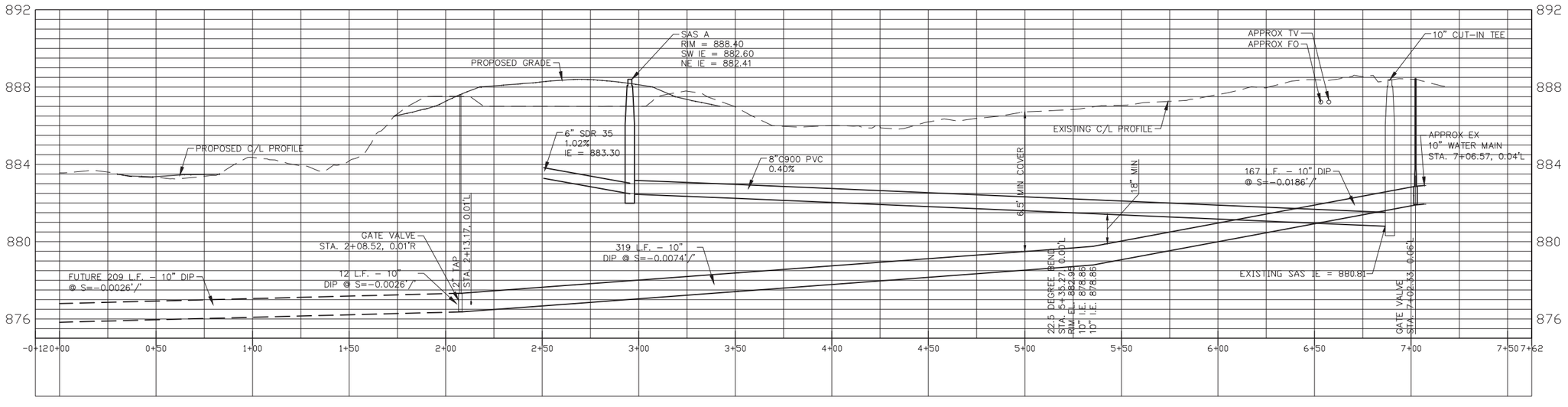
UTILITY PLAN

C500

Date: Tuesday, January 28, 2014 Plotted by: Nelson, Kara Drawing location: J:\Jobs2013\20132000\CAD\01-REINDAHL\CAD\Site\dwg\00\20132000_C500.dwg



PROP. WATERMAIN #1 PROFILE



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1818 PORTAGE ROAD
MADISON, WI 53704

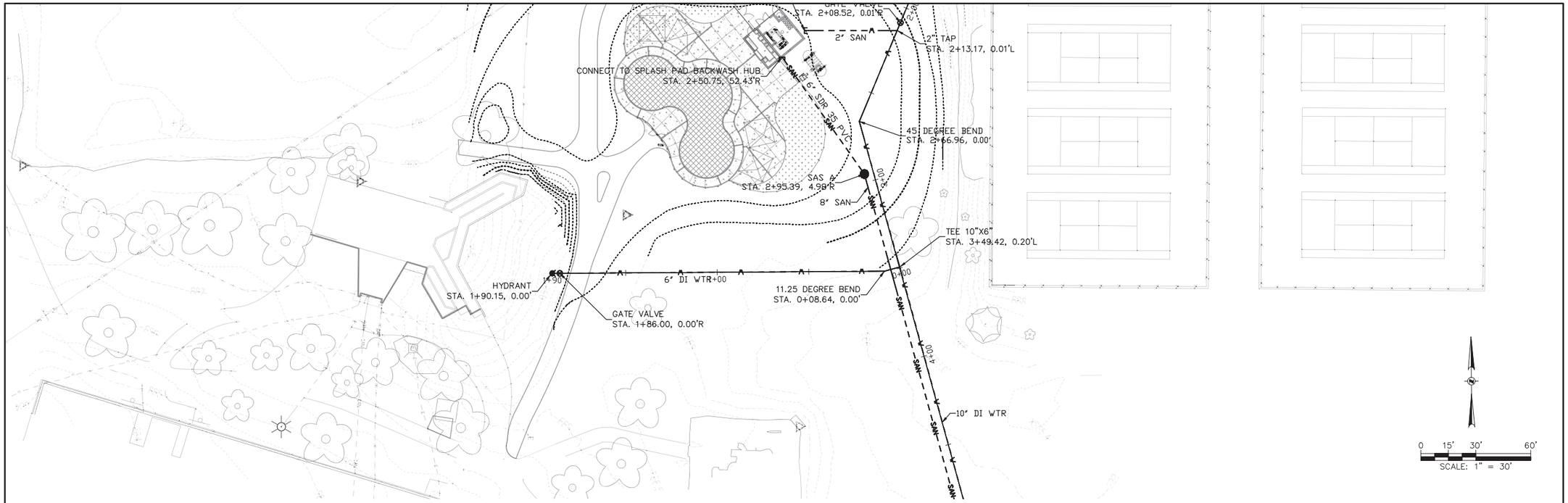
ID	DATE	DESCRIPTION

DATE	01/31/2014
PROJECT NO.	2013-2000.01
DRAWN BY	KRN
CHECKED BY	WAB
PHASE	BID DOCUMENTS

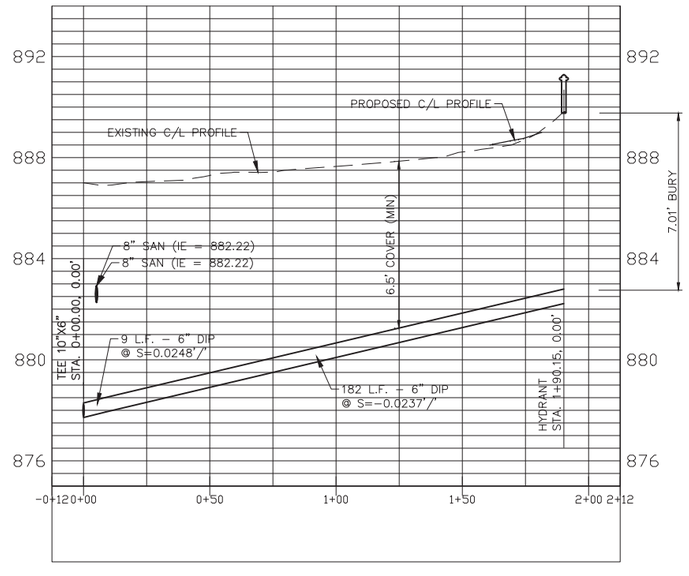
WATERMAIN & SANITARY SEWER PLAN AND PROFILE

C501

Date: Tuesday, January 28, 2014 Plotted by: Nelson, Kara Drawing location: J:\Jobs2013\20132000\CAD\01-REINDAHL\CAD\Site\dwg\00\20132000_C501.dwg



PROP. WATERMAIN #2 PROFILE



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REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

ID	DATE	DESCRIPTION

DATE	01/31/2014
PROJECT NO.	2013-2000.01
DRAWN BY	KRN
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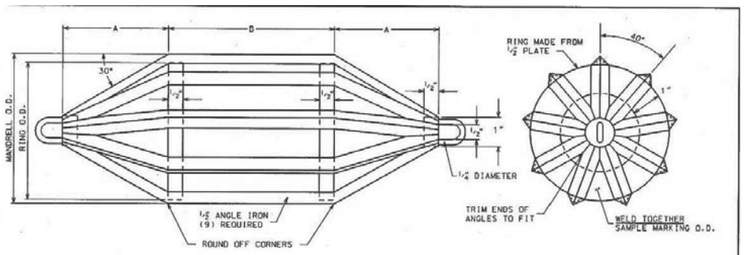
PHASE	BID DOCUMENTS

WATERMAIN PLAN AND PROFILE

C502

Date: Tuesday, January 28, 2014 Plotted by: Nelson, Kara Drawing location: J:\Jobs2013\20132000\CAD\01-REINDAHL\CAD\Site\dwg\00\20132000_C501.dwg



SIDE VIEW END VIEW

NOMINAL PIPE SIZE ID. in	DIMENSIONS A. in	DIMENSIONS B. in	MANDRELL O.D.. in	RING O.D.. in
6	4.0	4	5.61	4.90
8	5.3	6	7.36	6.65
10	6.7	6	9.21	8.50
12	8.0	8	11.06	10.35
15	10.0	9	13.82	13.11

MANDREL FOR USE IN ALL P.V.C. SEWER PIPE

2004

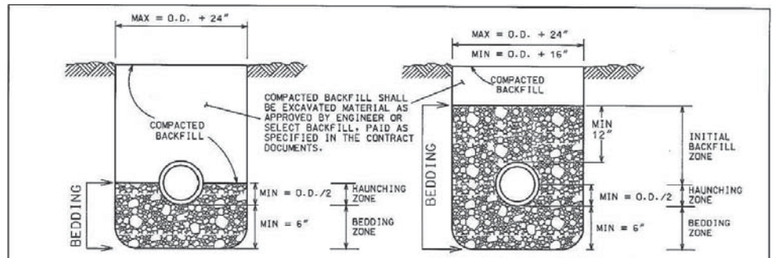
NOTE:

AFTER CONSTRUCTION IS COMPLETE, TRUE THE O.D. DIMENSION FOR THE FULL LENGTH OF "B" TO +/-0.010" BY TOOL AND LATHE OR GRINDING.

CITY OF MADISON ENGINEERING DIVISION

MANDREL DETAIL

STANDARD DETAIL DRAWING 5.1.1



BEDDING FOR REINFORCED CONCRETE SEWER PIPES

BEDDING FOR SANITARY SEWER PIPES AS WELL AS METAL, ADS, AND PVC STORM PIPES

NOTES:

UNLESS OTHERWISE SPECIFIED, ALL SANITARY AND STORM SEWER PIPES, INCLUDING LATERALS AND LEADS, SHALL BE INSTALLED WITH THE TYPE OF BEDDING SHOWN FOR THE TYPE AND SIZE OF PIPE INSTALLED.

THE COSTS OF BEDDING SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THE PIPE. FOR RCP, BEDDING INCLUDES THE HAUNCHING & BEDDING ZONES. FOR PLASTIC PIPES, THE BEDDING INCLUDES THE HAUNCHING, BEDDING & INITIAL BACKFILL ZONES. THE BEDDING SHALL BE INSTALLED & COMPACTED IN 6" MAXIMUM LIFTS.

ALL TRENCHES SHALL BE HAND BACKFILLED TO A POINT 12" ABOVE THE TOP OF THE PIPE. ALL BEDDING SHALL BE MECHANICALLY COMPACTED.

PAYMENT SHALL NOT BE MADE FOR BACKFILL WITH EXCAVATED MATERIAL, IF APPROVED, SELECT FILL, IF REQUIRED, SHALL BE PAID PER CONTRACT.

THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE O.D. + 24" AND MINIMUM OF OD + 16" AS SPECIFIED, AND SHALL APPLY FROM THE BOTTOM OF THE TRENCH TO A POINT 12" ABOVE THE TOP OF THE PIPE. WHERE THIS WIDTH IS EXCEEDED, THE CONTRACTOR SHALL FURNISH AND INSTALL A HIGHER TYPE OF BEDDING AT NO EXTRA COST. THE TYPE OF BEDDING SHALL BE DETERMINED BY THE ENGINEER.

O.D. EQUALS THE OUTSIDE DIAMETER OF THE PIPE.

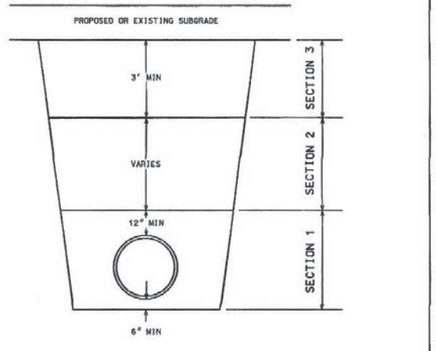
DRAWING NOT TO SCALE

2006

CITY OF MADISON ENGINEERING DIVISION

PIPE BEDDING AND BACKFILL

STANDARD DETAIL DRAWING 5.2.1



TYPICAL TRENCH COMPACTION

ALL BACKFILL MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 12" BEFORE COMPACTION UNLESS AUTHORIZED BY THE ENGINEER DUE TO THE CHARACTER OF THE MATERIAL AND THE COMPACTING EQUIPMENT. EACH LIFT SHALL BE MECHANICALLY COMPACTED TO THE REQUIRED DENSITY PRIOR TO PLACING SUCCEEDING LIFTS OF BACKFILL MATERIAL.

IN COLD WEATHER, TRENCHES SHALL BE COMPACTED IN ACCORDANCE WITH THE REQUIREMENTS SPECIFIED IN SECTION 502.1 (e), BACKFILLING EXCAVATIONS AND COMPACTION OF BACKFILL, OF THESE SPECIFICATIONS.

SECTION 1:

MECHANICALLY COMPACTED BEDDING AS REQUIRED BY THE SPECIFICATIONS. COMPACTION ACHIEVED WITH SMALLER PLATE COMPACTOR. FOR ALL PLASTIC PIPE SECTION 1 SHALL BE INSTALLED IN ACCORDANCE WITH S.D.D. 5.2.1A

SECTION 2:

MINIMUM COMPACTION OF 90% MAXIMUM DENSITY. COMPACTION OF BACKFILL WITH BOMAG OR HOE-PAC SHALL NOT BEGIN UNTIL THE DEPTH OF BACKFILL MATERIAL IS TWO FEET ABOVE THE TOP OF PIPE.

SECTION 3:

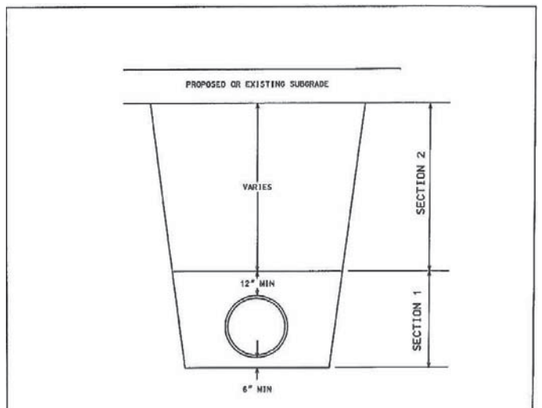
MINIMUM COMPACTION OF 95% MAXIMUM DENSITY.

2011

CITY OF MADISON ENGINEERING DIVISION

TYPICAL TRENCH COMPACTION

STANDARD DETAIL DRAWING 5.2.2



TYPICAL TRENCH COMPACTION (GREENWAY/ PARK)

ALL BACKFILL MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 12" BEFORE COMPACTION UNLESS AUTHORIZED BY THE ENGINEER DUE TO THE CHARACTER OF THE MATERIAL AND THE COMPACTING EQUIPMENT. EACH LIFT SHALL BE MECHANICALLY COMPACTED TO THE REQUIRED DENSITY PRIOR TO PLACING SUCCEEDING LIFTS OF BACKFILL MATERIAL.

IN COLD WEATHER, TRENCHES SHALL BE COMPACTED IN ACCORDANCE WITH THE REQUIREMENTS SPECIFIED IN SECTION 502.1 (e), BACKFILLING EXCAVATIONS AND COMPACTION OF BACKFILL, OF THESE SPECIFICATIONS.

IF PROPOSED PIPE IS LOCATED HORIZONTALLY WITHIN 15' OF AN EXISTING OR PROPOSED ASPHALT OR CONCRETE SURFACE, THEN THE PIPE TRENCH COMPACTION SHALL BE COMPLETED IN CONFORMANCE OF S.D.D. 5.2.2

SECTION 1:

MECHANICALLY COMPACTED BEDDING AS REQUIRED BY THE SPECIFICATIONS. COMPACTION ACHIEVED WITH SMALLER PLATE COMPACTOR.

SECTION 2:

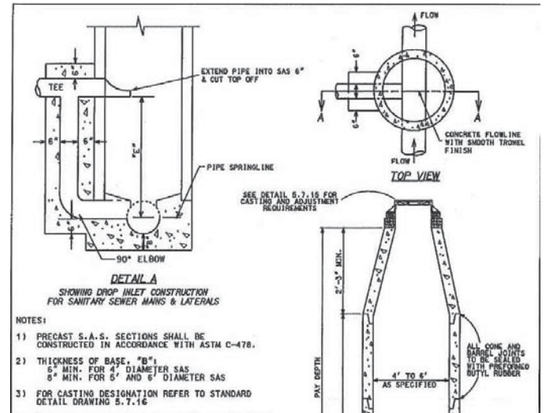
MINIMUM COMPACTION OF 90% MAXIMUM DENSITY. COMPACTION OF BACKFILL WITH BOMAG OR HOE-PAC SHALL NOT BEGIN UNTIL THE DEPTH OF BACKFILL MATERIAL IS TWO FEET ABOVE THE TOP OF PIPE.

2009

CITY OF MADISON ENGINEERING DIVISION

TYPICALTRENCH COMPACTION (GREENWAY/PARK)

STANDARD DETAIL DRAWING 5.2.3



DETAIL A

SHOWING DROP INLET CONSTRUCTION FOR SANITARY SEWER MAINS & LATERALS

SECTION A - A

NOTES:

1) PRECAST S.A.S. SECTIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C-478.
2) THICKNESS OF BASE, "B": 5" MIN. FOR 4' DIAMETER SAS; 8" MIN. FOR 5' AND 6' DIAMETER SAS
3) FOR CASTING DESIGNATION REFER TO STANDARD DETAIL DRAWING 5.7.16
4) CENTERED (CONCENTRIC) CONE SHALL BE INSTALLED UNLESS OTHERWISE DIRECTED.
5) DROP INLET SHALL BE BUILT FOR ALL SEWER MAINS AND LATERALS WHEN "E" IS GREATER THAN 24". "E" SHOULD BE MEASURED FROM INVERT OF INCOMING PIPE TO THE SPRINGLINE OF THE OUTGOING SEWER. INSIDE DROP PER STANDARD DETAIL DRAWING 5.7.30 MAY BE INSTALLED FOR 4" AND 6" SERVICE CONNECTIONS WHERE OUTSIDE DROP INLET CONSTRUCTION IS INFEASIBLE. ENGINEER SHALL APPROVE INSIDE DROP INLET PRIOR TO INSTALLATION.
6) FLEXIBLE PIPE TO SAS CONNECTOR REQUIRED PER STANDARD DETAIL DRAWING 5.7.31
7) ALL BENCHES TO BE FIELD POURED CONCRETE WITH SMOOTH TROWEL FINISH. PRECAST BENCHES ONLY PERMITTED WITH PRIOR APPORVAL OF ENGINEER IN WRITING.
8) ALL JOINTS BETWEEN RINGS SHALL BE SEALED WITH ¾" OF AIR-ENTRAINED TYPE M OR S MORTAR. THE OUTSIDE SURFACE OF THE ADJUSTING RINGS SHALL BE SEALED WITH A ¼" THICK AIR-ENTRAINED MORTAR TYPE M OR S SEAL. THE METHOD USED FOR SEALING THE OUTSIDE SURFACE SHALL BE COMPATIBLE WITH THAT USED TO SEAL JOINTS BETWEEN THE RINGS.
9) PRECAST SANITARY SEWER ACCESS STRUCTURES FOR STREET RECONSTRUCTION PROJECTS AND FOR STREET EXCAVATION PERMITS REQUIRE PRECAST SHOP DRAWING APPROVAL FROM CITY ENGINEERING. PRIOR TO BEING FABRICATED BY THE MANUFACTURER NO PRECAST SHOP DRAWINGS ARE REQUIRED FOR NEW CONSTRUCTION IN SUBDIVISION DEVELOPMENTS.

2010

CITY OF MADISON ENGINEERING DIVISION

SANITARY SEWER PRECAST SAS

STANDARD DETAIL DRAWING 5.7.2

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REINDAHL SPLASH PAD

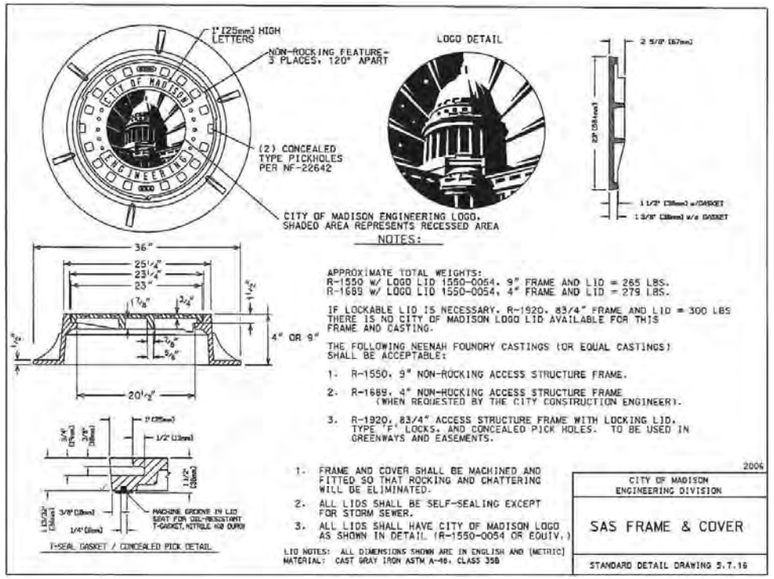
1818 PORTAGE ROAD
MADISON, WI 53704

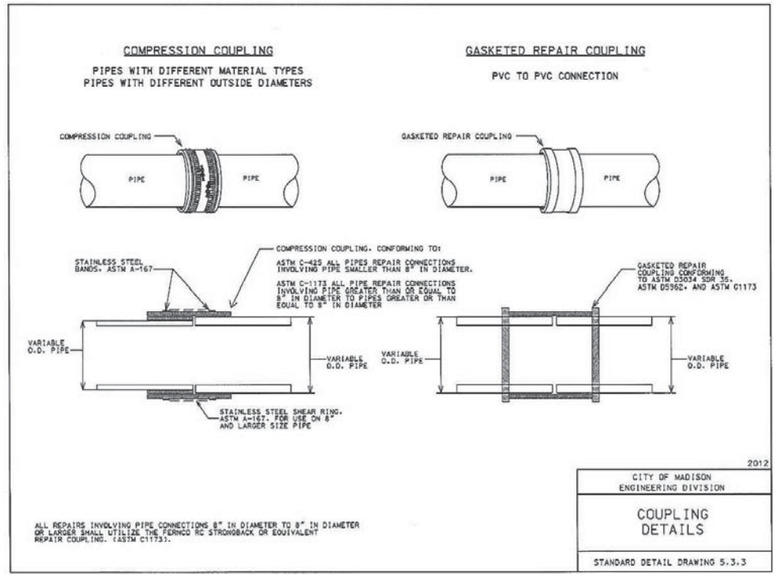
ID	DATE	DESCRIPTION

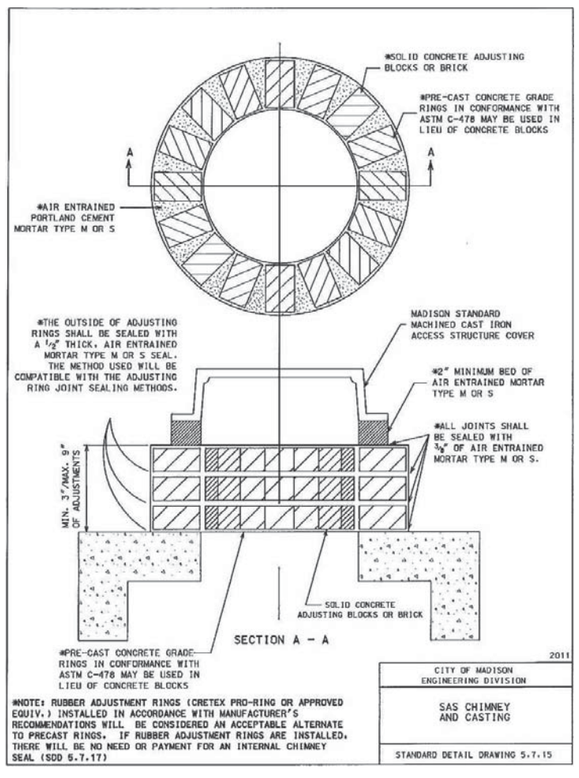
DATE	01/31/2014
PROJECT NO.	2013-2000.01
DRAWN BY	KRN
CHECKED BY	WAB
PHASE	BID DOCUMENTS

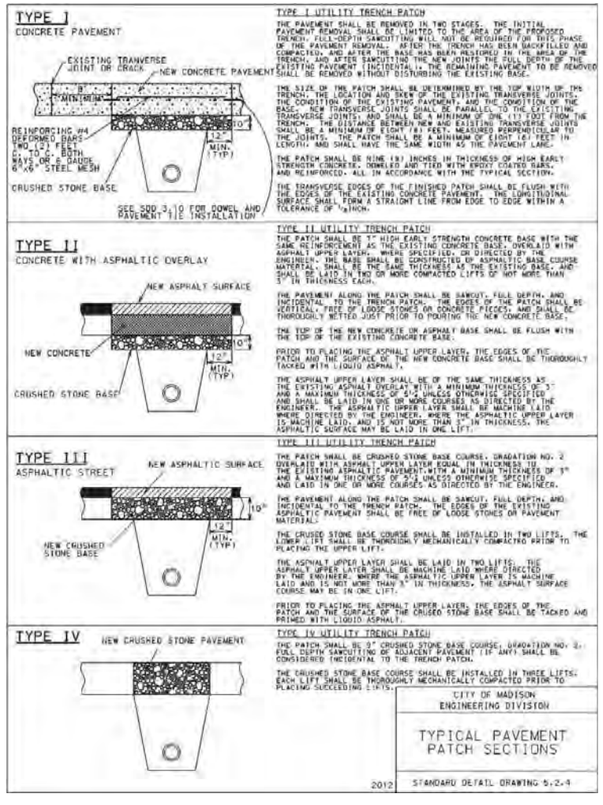
DETAILS - SEWER

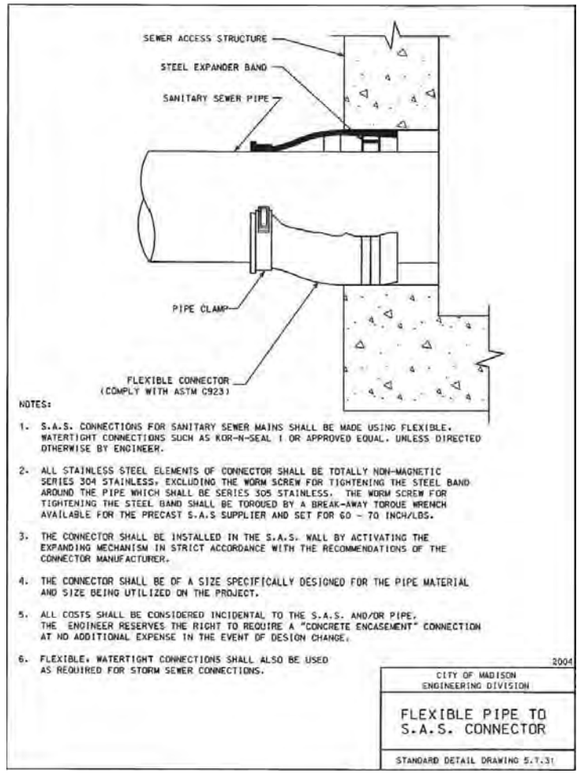
C900











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DATE	01/31/2014
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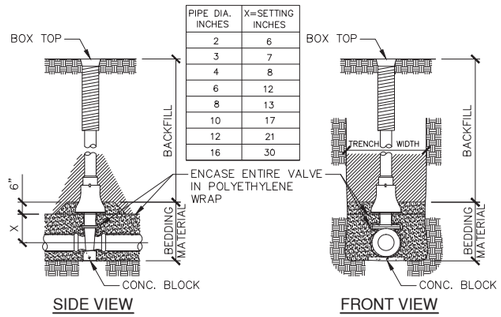
DETAILS - SEWER

C900.1

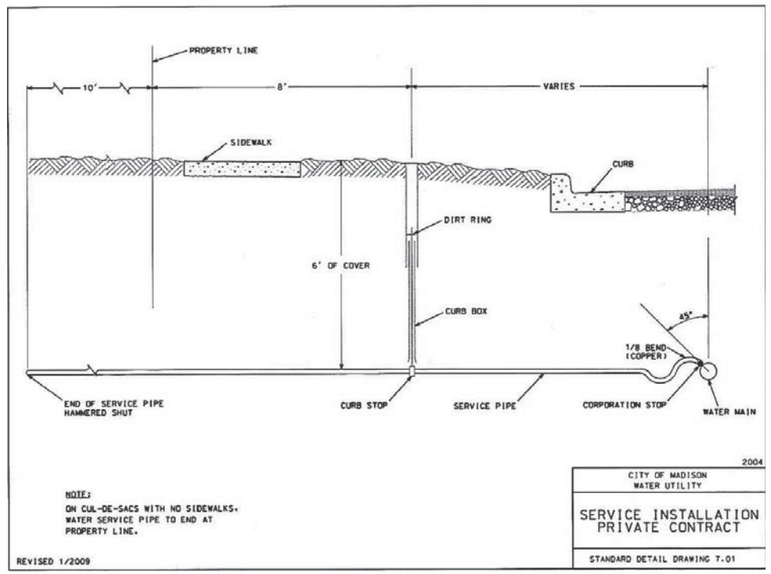
Date: Monday, January 27, 2014 Plotted by: Nelson, Kara Drawing location: J:\Jobs2013\2013200\CAD\01-REINDAHL\CAD\Site\dwg\00\C900.1 DETAILS - SEWER.dwg

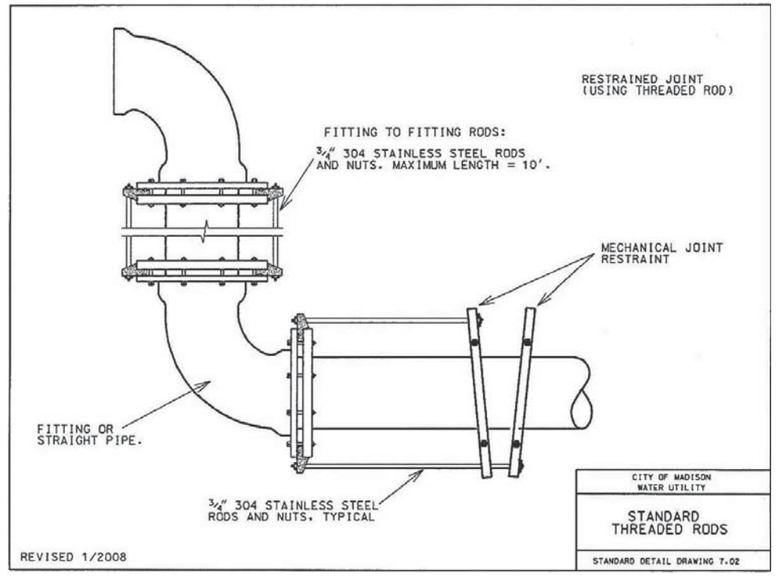


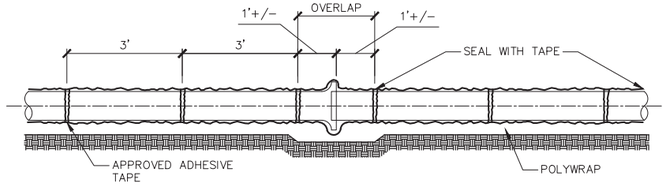
PIPE DIA. INCHES	X=SETTING INCHES
2	6
3	7
4	8
6	12
8	13
10	17
12	21
16	30

STANDARD GATE VALVE BOX SETTING DETAIL

N.T.S.

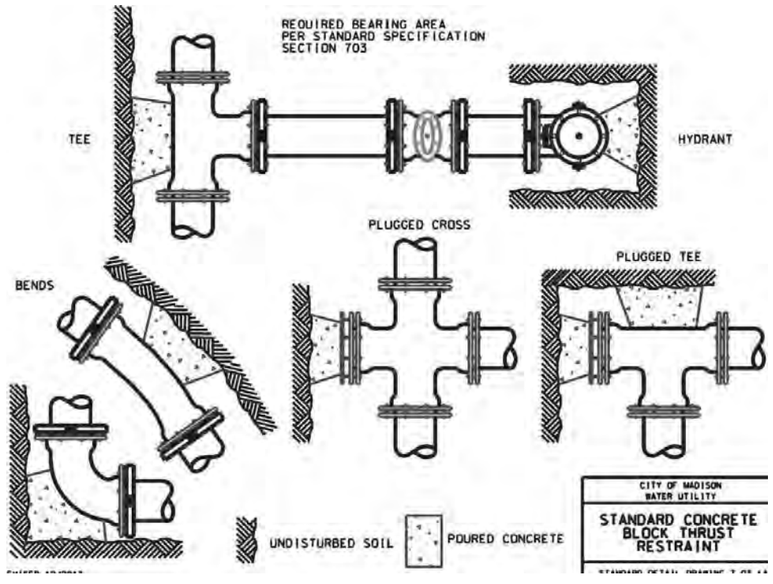


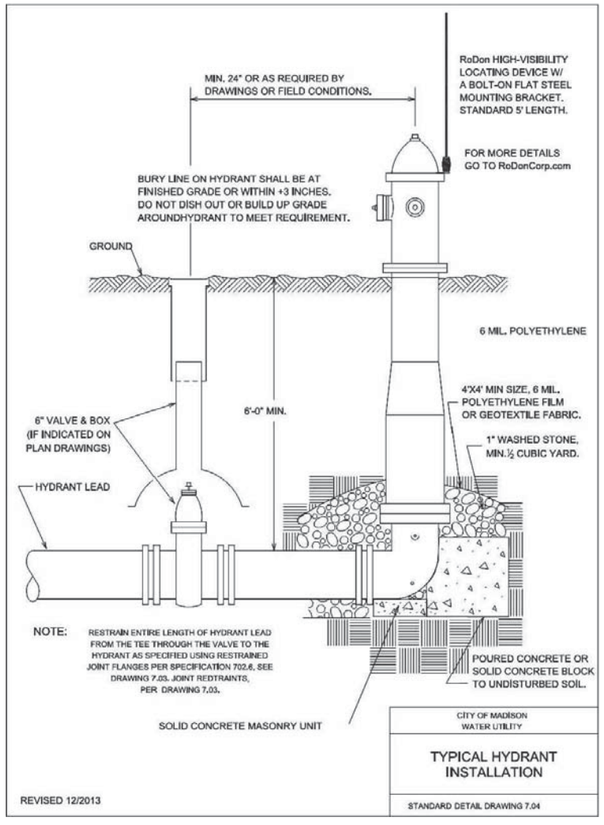


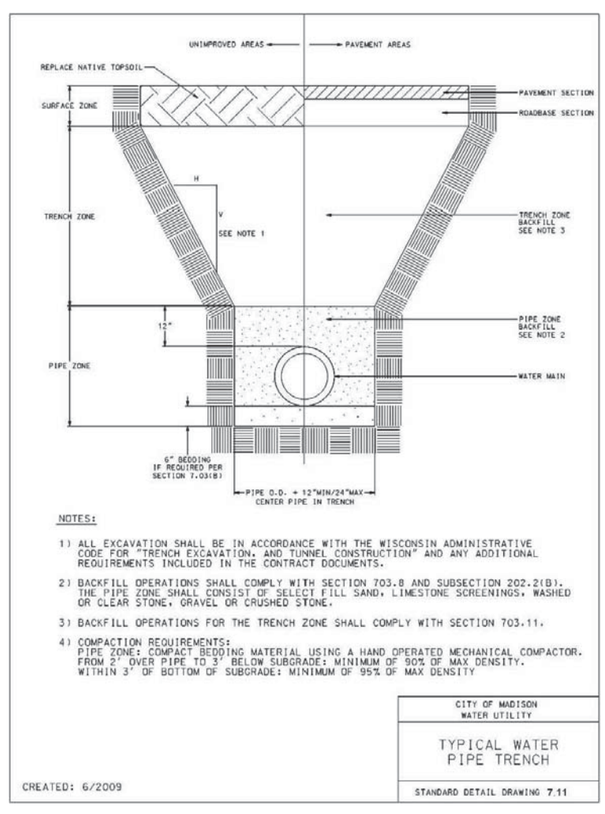


POLYETHYLENE WRAP

N.T.S.







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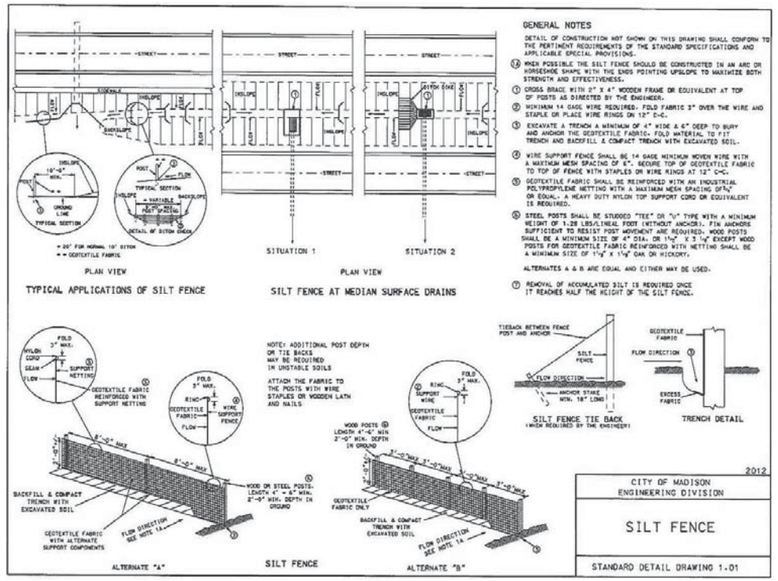
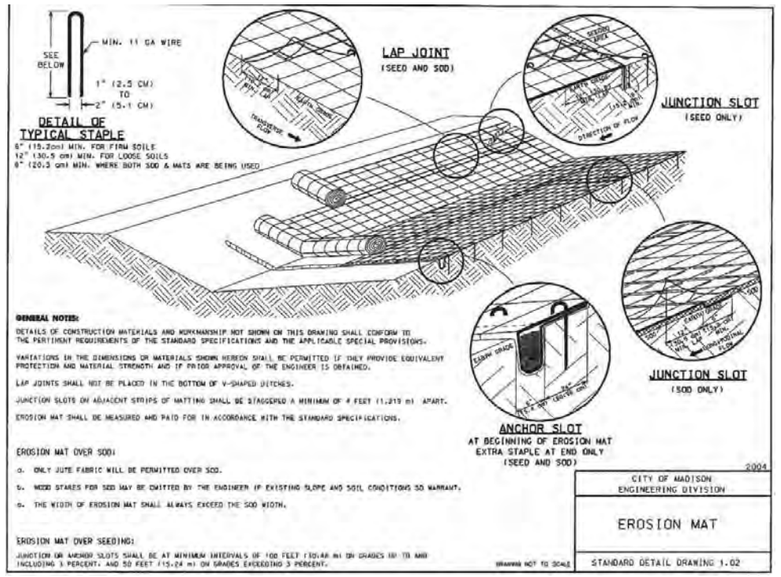
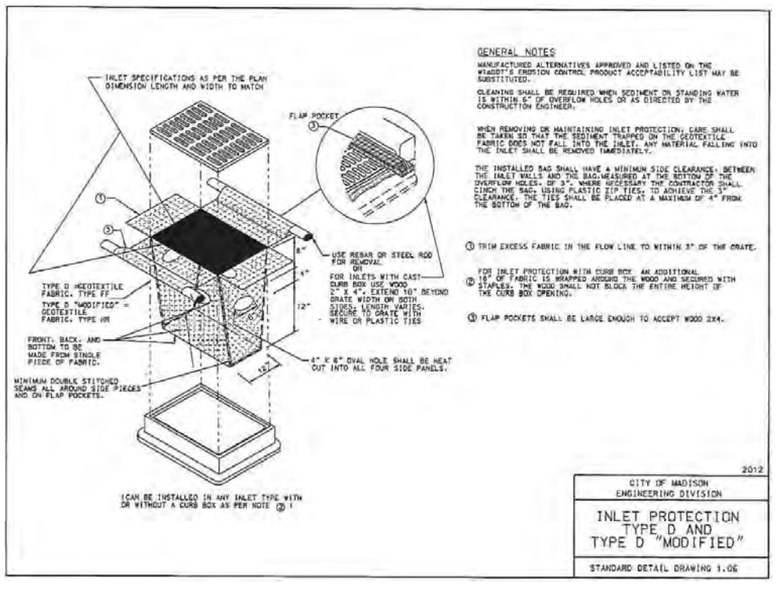
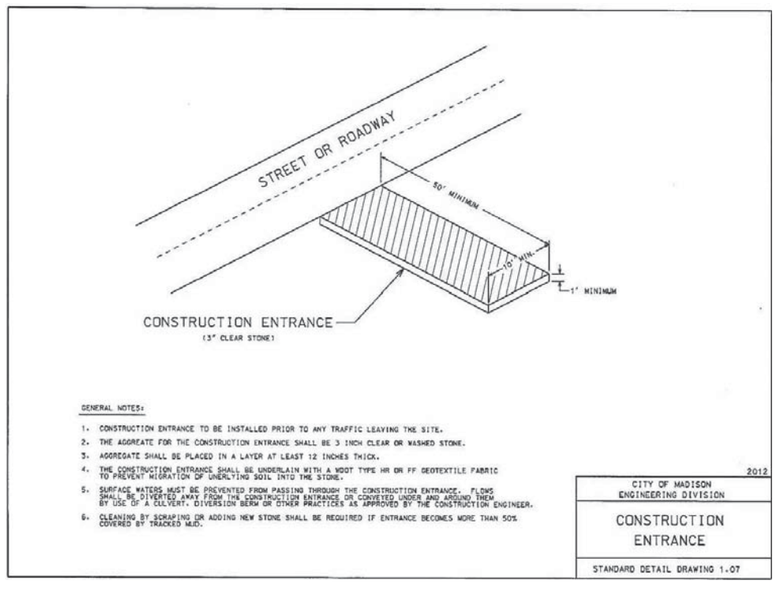
DETAILS - WATER MAIN

C901









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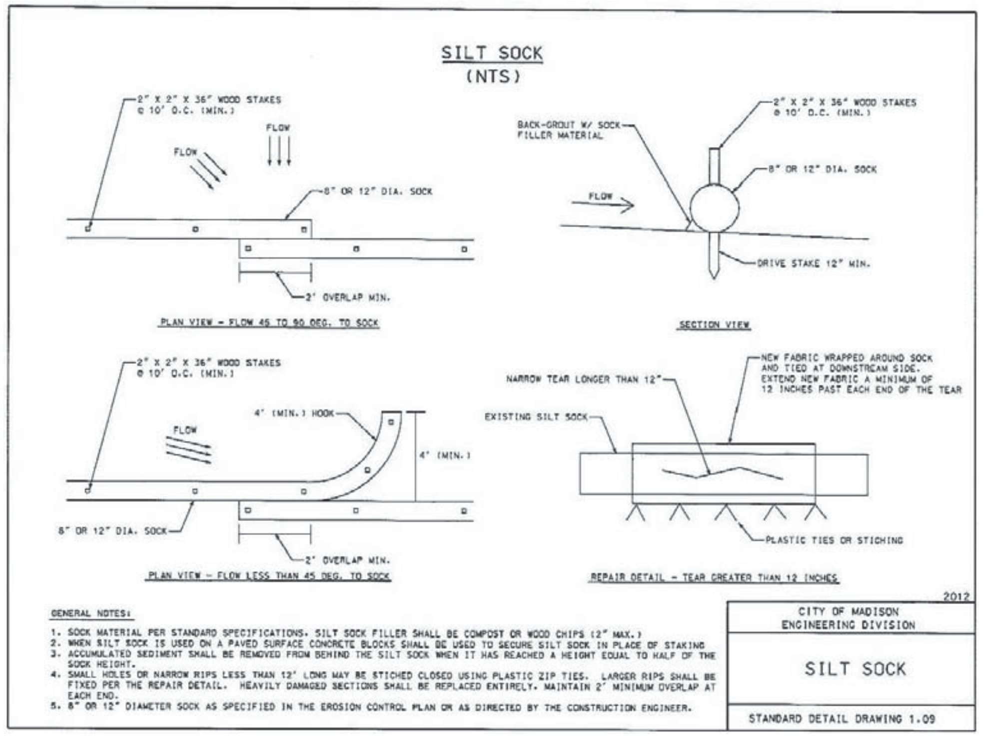
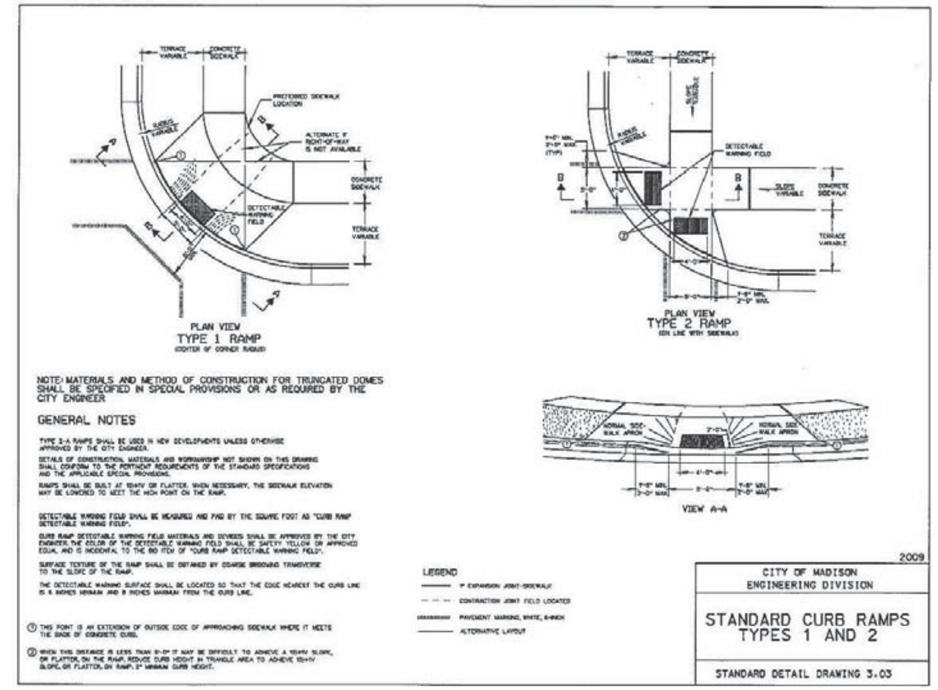
DETAILS

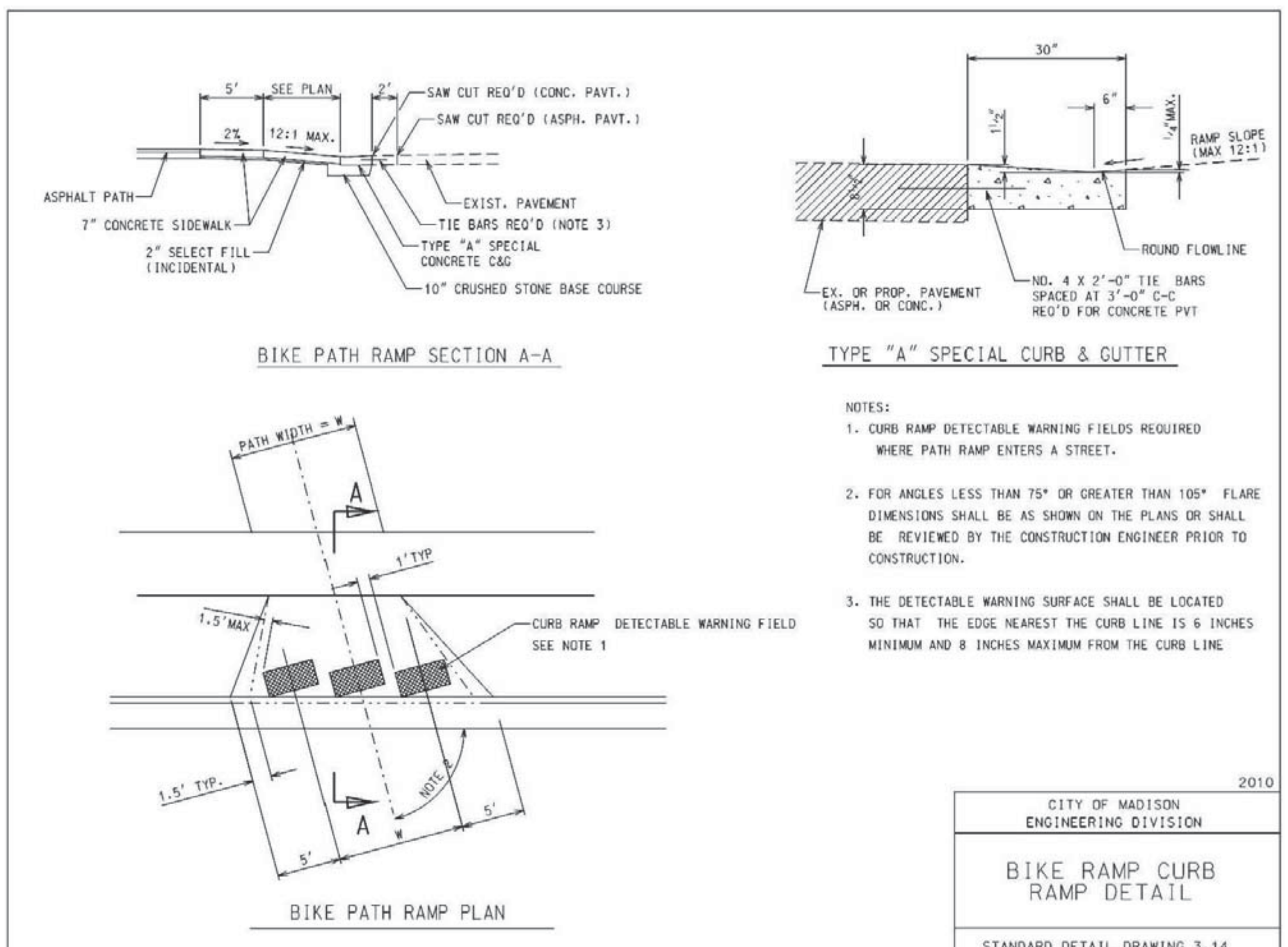
C902



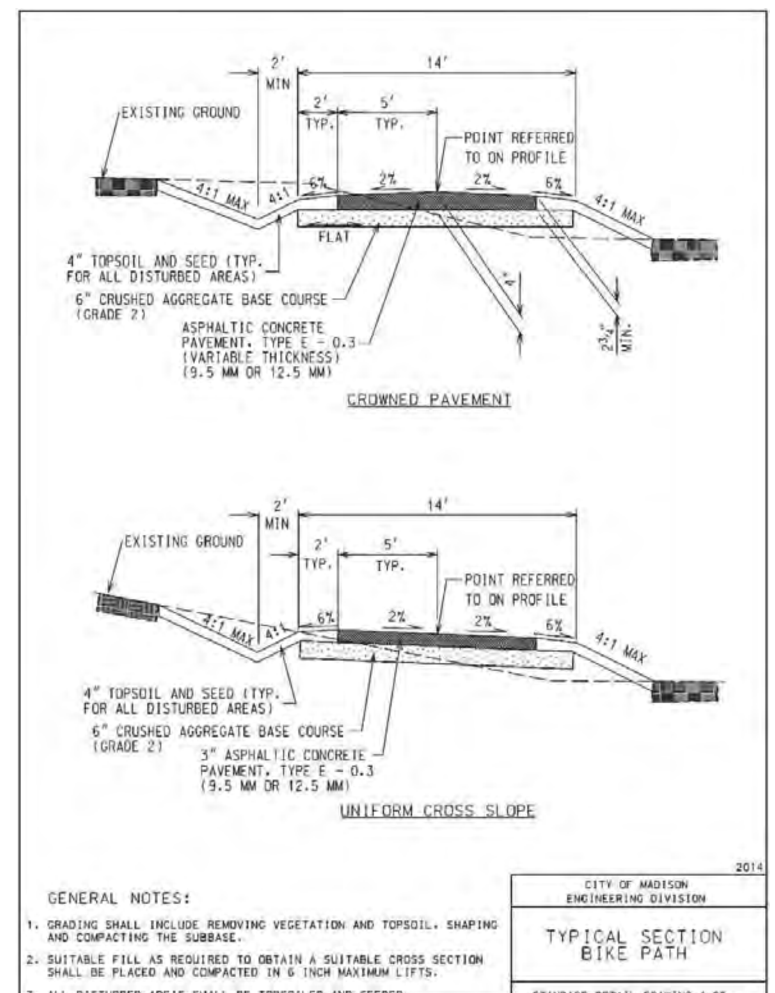
SILT SOCK
(NTS)
2" X 2" X 36" WOOD STAKES @ 10' O.C. (MIN.)
FLOW
8" OR 12" DIA. SOCK
2' OVERLAP MIN.
PLAN VIEW - FLOW 45 TO 90 DEG. TO SOCK
BACK-GROUT W/ SOCK FILLER MATERIAL
DRIVE STAKE 12" MIN.
SECTION VIEW
4' (MIN.) HOOK
PLAN VIEW - FLOW LESS THAN 45 DEG. TO SOCK
NARROW TEAR LONGER THAN 12"
EXISTING SILT SOCK
NEW FABRIC WRAPPED AROUND SOCK AND TIED AT DOWNSTREAM SIDE. EXTEND NEW FABRIC A MINIMUM OF 12 INCHES PAST EACH END OF THE TEAR
PLASTIC TIES OR STICHING
REPAIR DETAIL - TEAR GREATER THAN 12 INCHES
GENERAL NOTES:
1. SOCK MATERIAL PER STANDARD SPECIFICATIONS. SILT SOCK FILLER SHALL BE COMPOST OR WOOD CHIPS (2" MAX.)
2. WHEN SILT SOCK IS USED ON A PAVED SURFACE CONCRETE BLOCKS SHALL BE USED TO SECURE SILT SOCK IN PLACE OF STAKING
3. ACCUMULATED SEDIMENT SHALL BE REMOVED FROM BEHIND THE SILT SOCK WHEN IT HAS REACHED A HEIGHT EQUAL TO HALF OF THE SOCK HEIGHT.
4. SMALL HOLES OR NARROW RIPS LESS THAN 12' LONG MAY BE STICHED CLOSED USING PLASTIC ZIP TIES. LARGER RIPS SHALL BE FIXED PER THE REPAIR DETAIL. HEAVILY DAMAGED SECTIONS SHALL BE REPLACED ENTIRELY. MAINTAIN 2' MINIMUM OVERLAP AT EACH END.
5. 8" OR 12" DIAMETER SOCK AS SPECIFIED IN THE EROSION CONTROL PLAN OR AS DIRECTED BY THE CONSTRUCTION ENGINEER.
2012
CITY OF MADISON ENGINEERING DIVISION
SILT SOCK
STANDARD DETAIL DRAWING 1.09



PLAN VIEW TYPE 1 RAMP
PLAN VIEW TYPE 2 RAMP
VIEW A-A
NOTE: MATERIALS AND METHOD OF CONSTRUCTION FOR TRUNCATED DOMES SHALL BE SPECIFIED IN SPECIAL PROVISIONS OR AS REQUIRED BY THE CITY ENGINEER
GENERAL NOTES
LEGEND
2009
CITY OF MADISON ENGINEERING DIVISION
STANDARD CURB RAMPS TYPES 1 AND 2
STANDARD DETAIL DRAWING 3.03



5'
SEE PLAN
2'
SAW CUT REQ'D (CONC. PAVT.)
SAW CUT REQ'D (ASPH. PAVT.)
2%
12:1 MAX.
ASPHALT PATH
7" CONCRETE SIDEWALK
2" SELECT FILL (INCIDENTAL)
EXIST. PAVEMENT
TIE BARS REQ'D (NOTE 3)
TYPE "A" SPECIAL CONCRETE C&G
10" CRUSHED STONE BASE COURSE
BIKE PATH RAMP SECTION A-A
30"
6"
RAMP SLOPE (MAX 12:1)
ROUND FLOWLINE
EX. OR PROP. PAVEMENT (ASPH. OR CONC.)
NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" C-C REQ'D FOR CONCRETE PVT
TYPE "A" SPECIAL CURB & GUTTER
NOTES:
1. CURB RAMP DETECTABLE WARNING FIELDS REQUIRED WHERE PATH RAMP ENTERS A STREET.
2. FOR ANGLES LESS THAN 75° OR GREATER THAN 105° FLARE DIMENSIONS SHALL BE AS SHOWN ON THE PLANS OR SHALL BE REVIEWED BY THE CONSTRUCTION ENGINEER PRIOR TO CONSTRUCTION.
3. THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS 6 INCHES MINIMUM AND 8 INCHES MAXIMUM FROM THE CURB LINE
PATH WIDTH = W
A
1' TYP
1.5' MAX
CURB RAMP DETECTABLE WARNING FIELD SEE NOTE 1
1.5' TYP.
NOTE 2
5'
BIKE PATH RAMP PLAN
2010
CITY OF MADISON ENGINEERING DIVISION
BIKE RAMP CURB RAMP DETAIL
STANDARD DETAIL DRAWING 3.14



2' MIN
14'
2' TYP.
5' TYP.
EXISTING GROUND
POINT REFERRED TO ON PROFILE
4:1 MAX
6%
2%
FLAT
4" TOPSOIL AND SEED (TYP. FOR ALL DISTURBED AREAS)
6" CRUSHED AGGREGATE BASE COURSE (GRADE 2)
ASPHALTIC CONCRETE PAVEMENT, TYPE E - 0.3 (VARIABLE THICKNESS) (9.5 MM OR 12.5 MM)
CROWNED PAVEMENT
3" ASPHALTIC CONCRETE PAVEMENT, TYPE E - 0.3 (9.5 MM OR 12.5 MM)
UNIFORM CROSS SLOPE
GENERAL NOTES:
1. GRADING SHALL INCLUDE REMOVING VEGETATION AND TOPSOIL, SHAPING AND COMPACTING THE SUBBASE.
2. SUITABLE FILL AS REQUIRED TO OBTAIN A SUITABLE CROSS SECTION SHALL BE PLACED AND COMPACTED IN 6 INCH MAXIMUM LIFTS.
3. ALL DISTURBED AREAS SHALL BE TOPSOILED AND SEEDED.
2014
CITY OF MADISON ENGINEERING DIVISION
TYPICAL SECTION BIKE PATH
STANDARD DETAIL DRAWING 4.08

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MADISON, WI 53704

ID	DATE	DESCRIPTION

DATE	01/31/2014
PROJECT NO.	2013-2000.01
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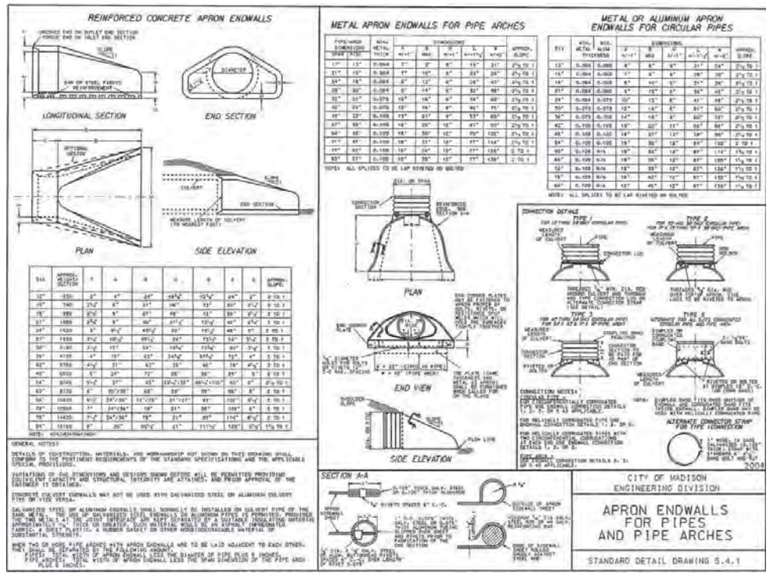
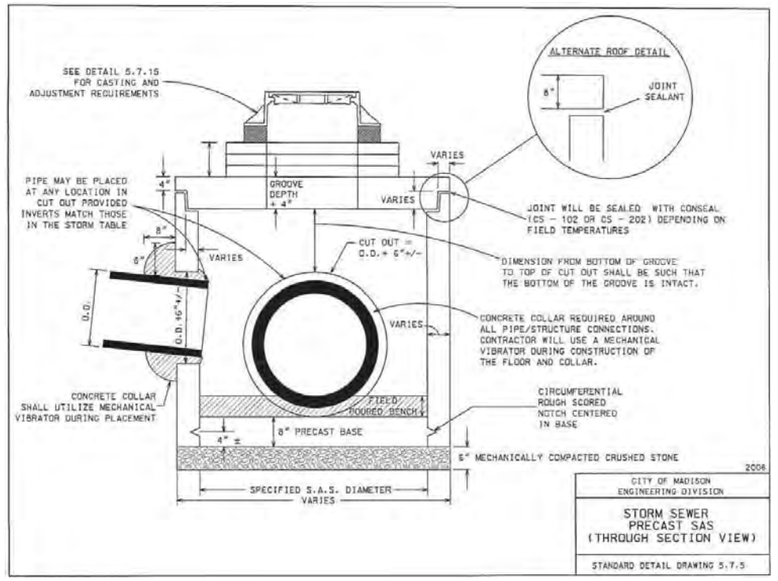
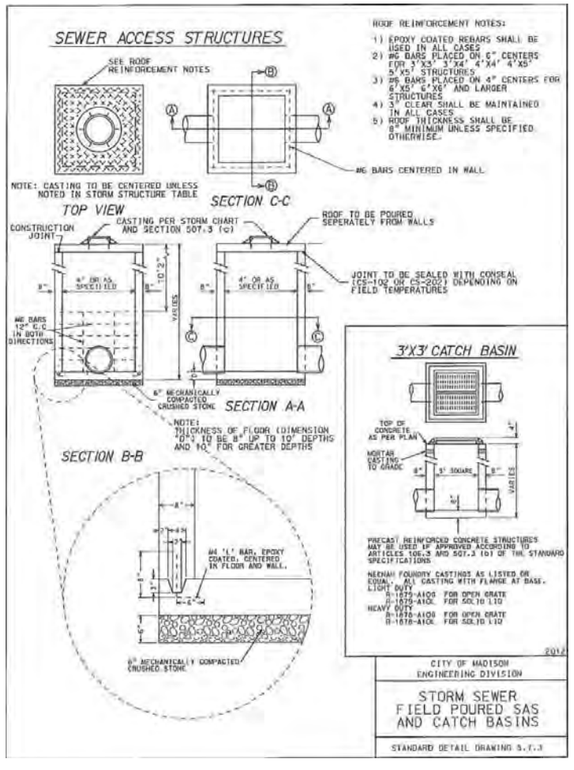
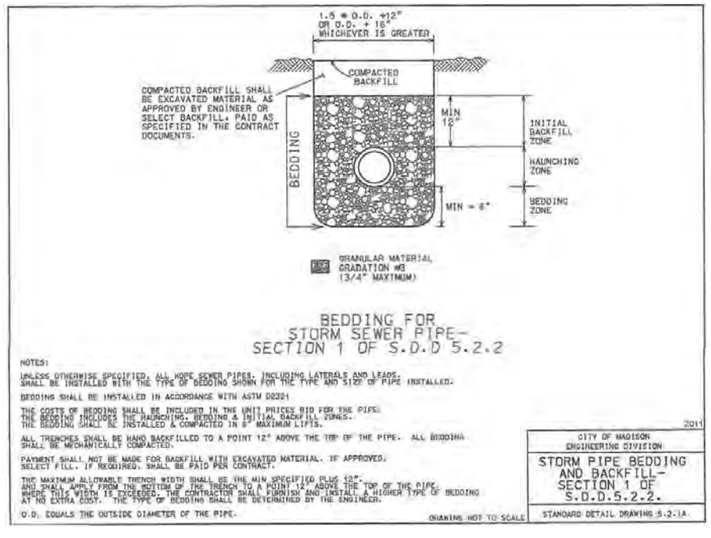
DETAILS

C903









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PHASE	BID DOCUMENTS

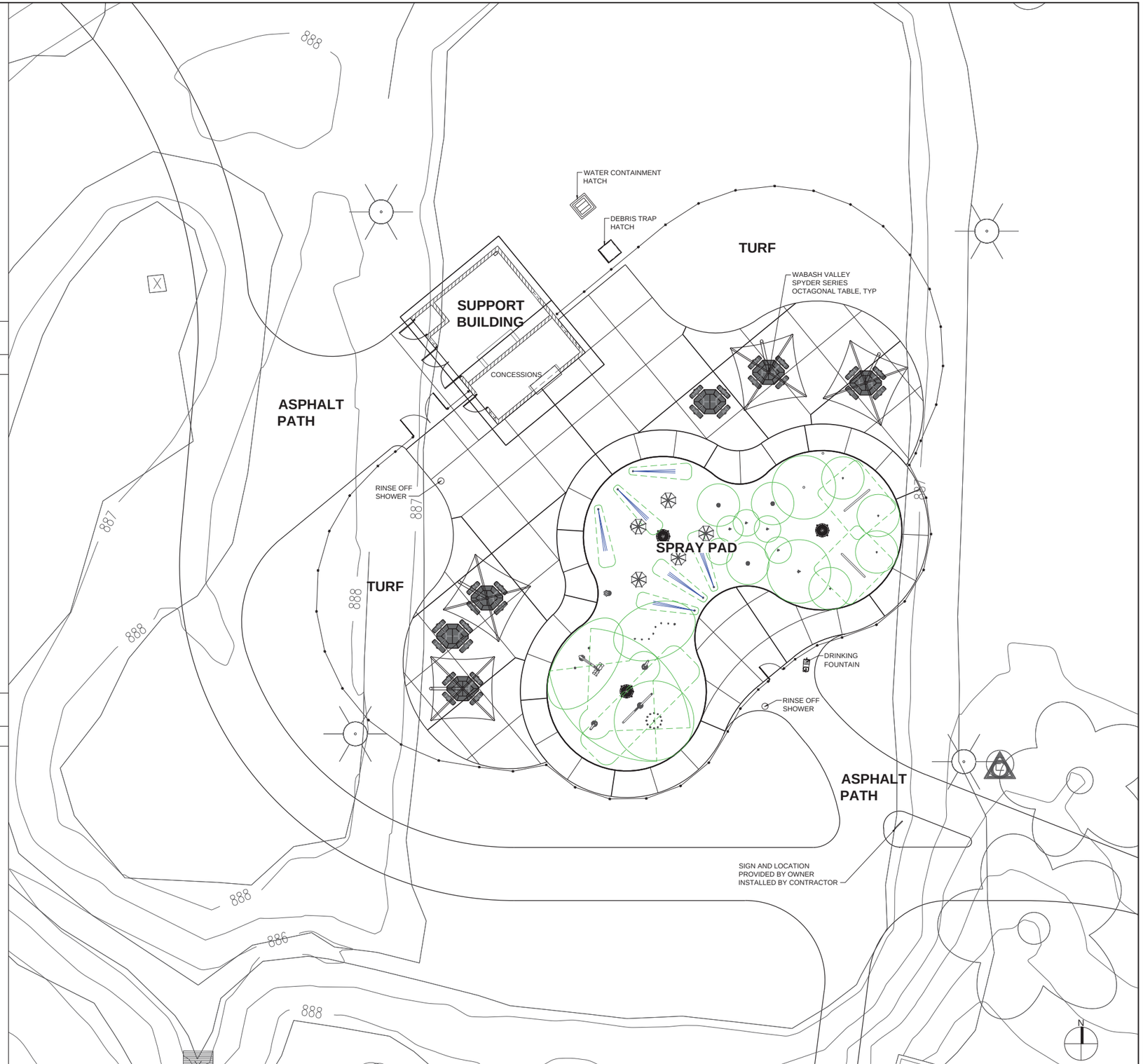
DETAILS - STORM SEWER

C904

THIS SPACE NOT USED	2
	NONE

THIS SPACE NOT USED	3
	NONE

THIS SPACE NOT USED	4
	NONE



OVERALL SITE PLAN | 1

1" = 10'-0"

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REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

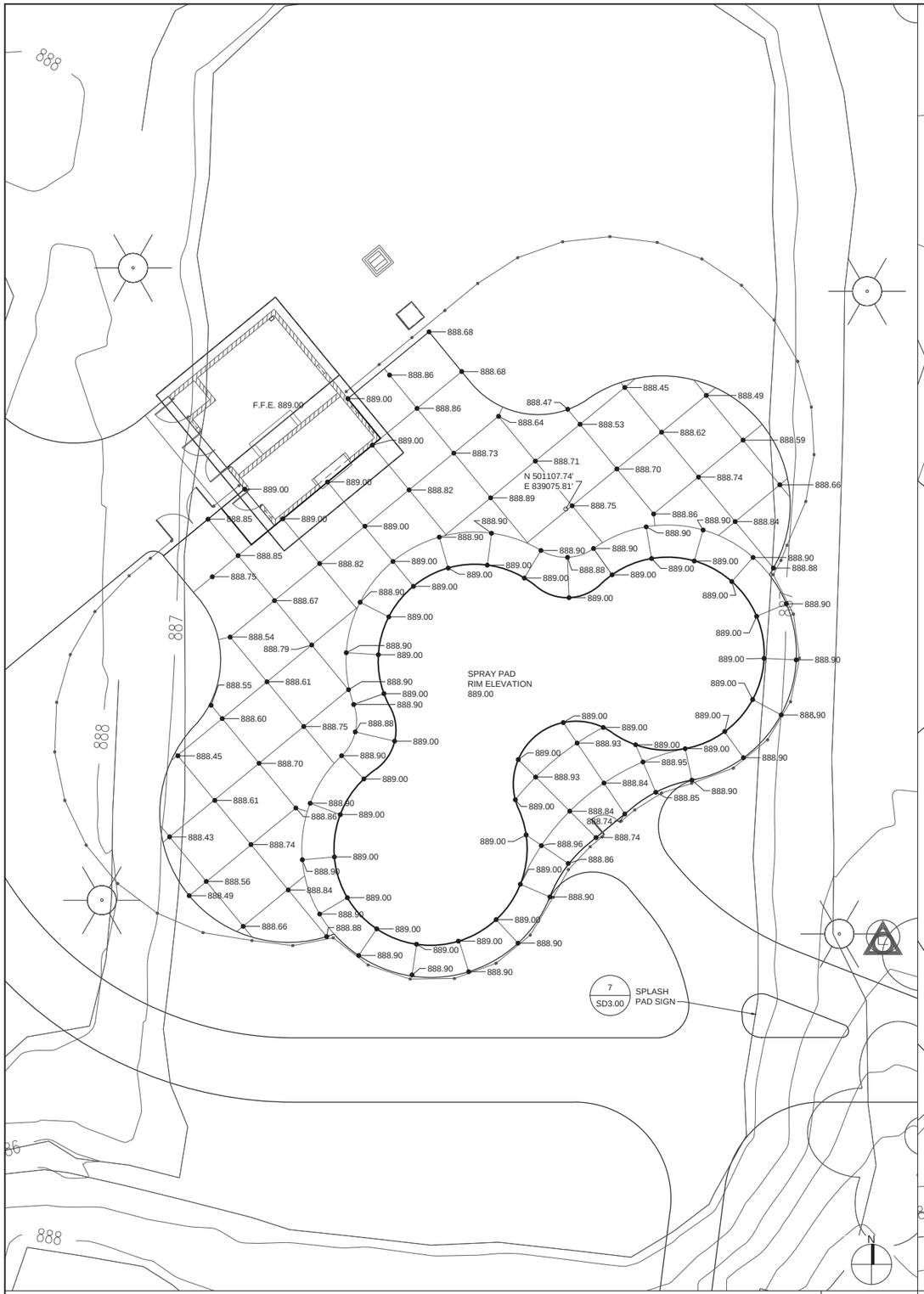
ID	DATE	DESCRIPTION

DATE	01/23/2014
PROJECT NO.	12408.01
DRAWN BY	---
CHECKED BY	DGM
PHASE	BID DOCUMENTS

OVERALL SITE PLAN

SD1.00

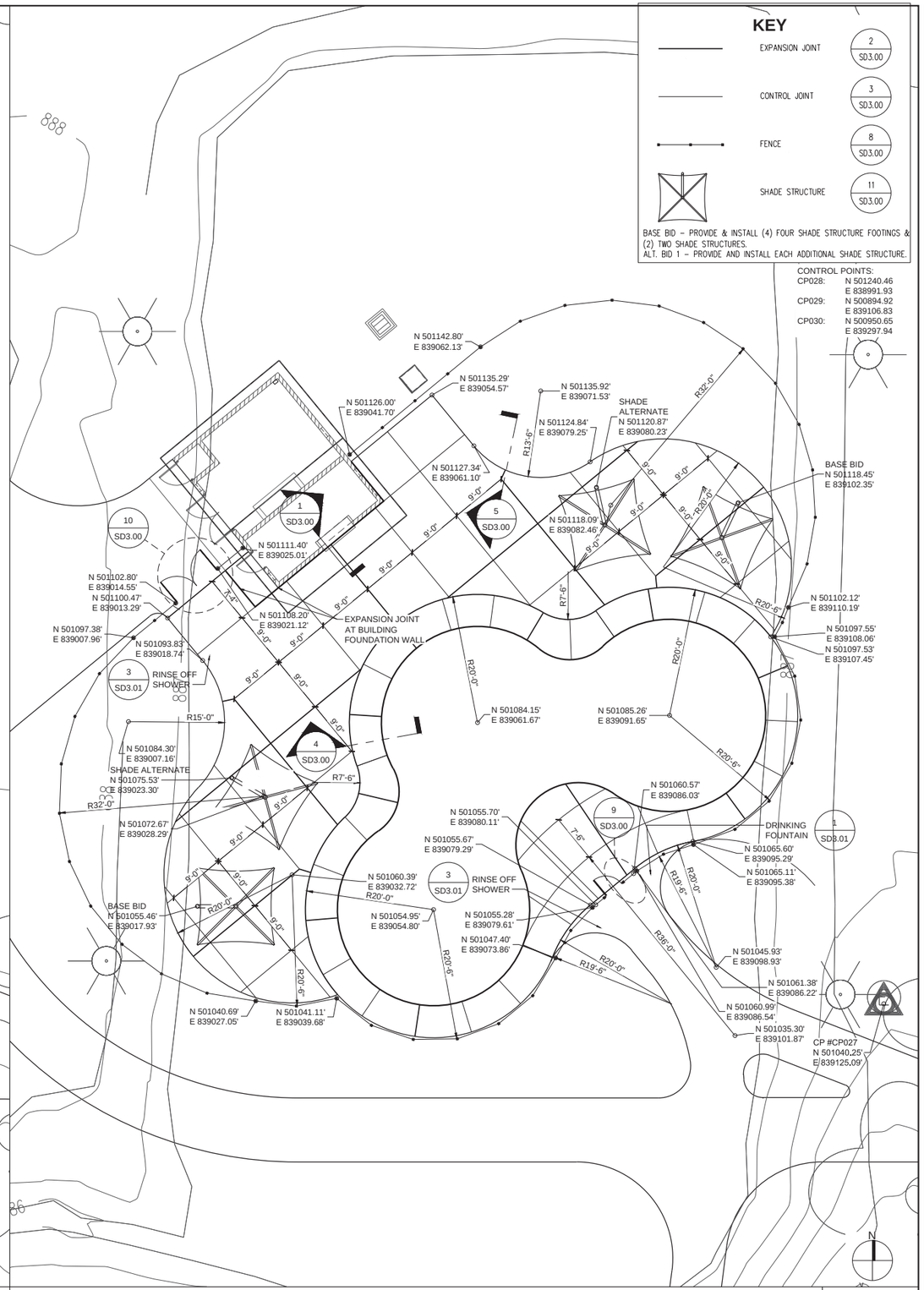
Date: Friday, January 24, 2014 Plotted by: Michael Schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408 SD100.dwg



GRADING PLAN

2

1" = 10'-0"



5" CONCRETE & FENCE LAYOUT

1

1" = 10'-0"

Date: Friday, January 24, 2014 Plotted by: Michael Schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408 sd200.dwg

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DATE	01/23/2014
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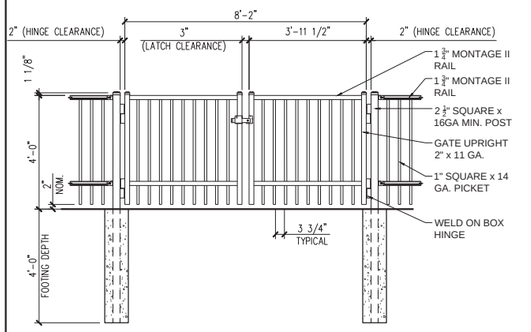
DRAWN BY	MLS
CHECKED BY	DGM
PHASE	BID DOCUMENTS

GRADING PLAN AND 5 INCH CONCRETE LAYOUT

SD2.00

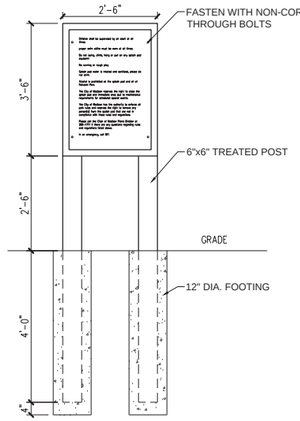


NOTE:
MONTAGE II IS MANUFACTURED BY AMERISTAR FENCE PRODUCTS.

VALUES SHOWN ARE NOMINAL AND NOT TO BE USED FOR INSTALLATION PURPOSES. SEE PRODUCT SPECIFICATION FOR INSTALLATION REQUIREMENTS.

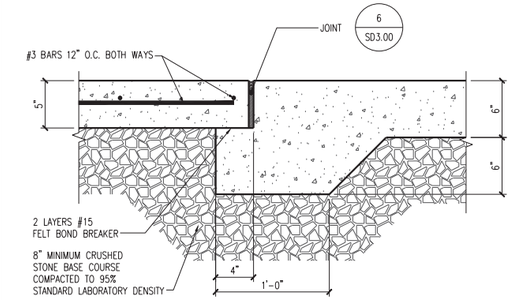
MONTAGE II DOUBLE GATE DETAIL — 10

NONE



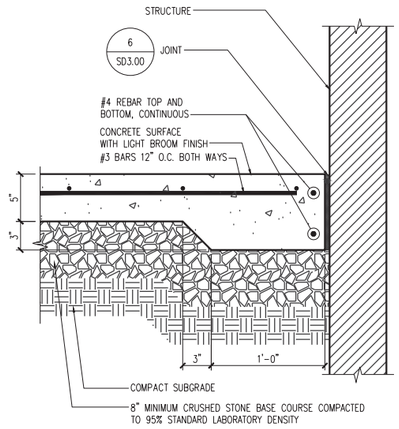
SPLASH PAD RULES SIGN DETAIL — 7

NONE



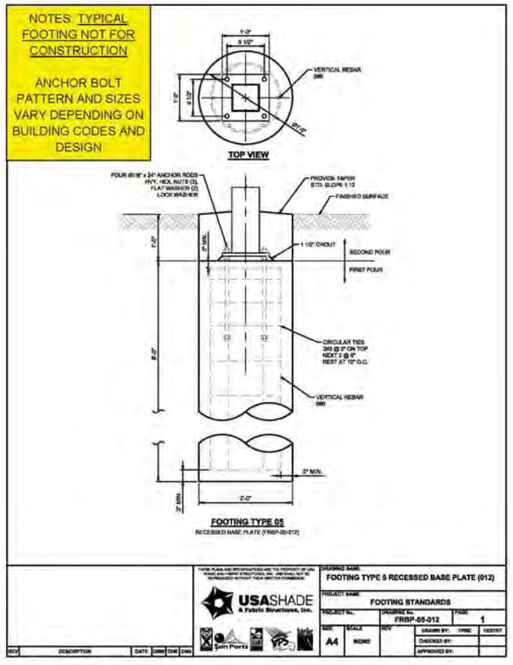
5" CONCRETE AT SPRAY PAD — 4

NONE



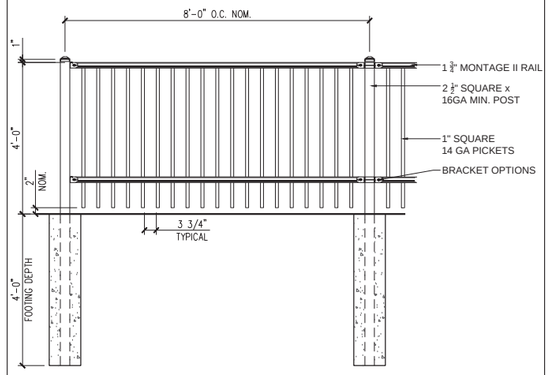
5" CONCRETE AT STRUCTURE — 1

NONE



SHADE FOOTING — 11

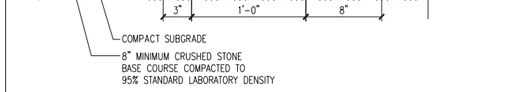
NONE



NOTE:
MONTAGE II FENCE IS MANUFACTURED BY AMERISTAR FENCE PRODUCTS.

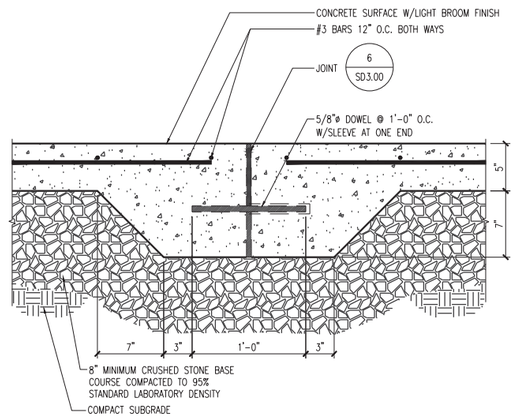
MONTAGE II FENCE DETAIL — 8

NONE



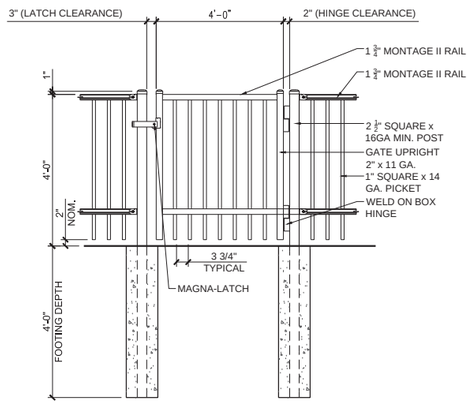
5" CONCRETE AT TURF EDGE — 5

NONE



5" CONCRETE EXPANSION JOINT — 2

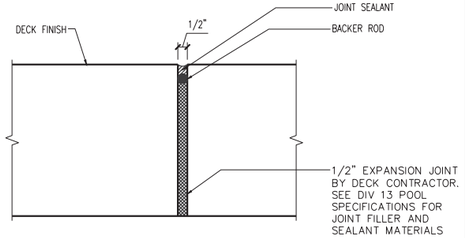
NONE



NOTE:
MONTAGE II FENCE IS MANUFACTURED BY AMERISTAR FENCE PRODUCTS.

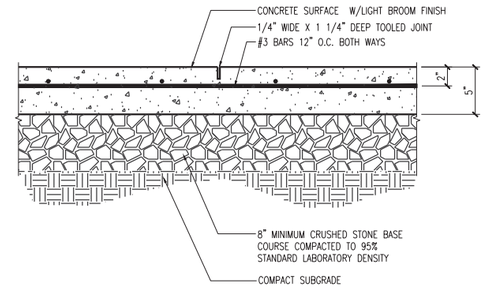
MONTAGE II SINGLE GATE DETAIL — 9

NONE



5" CONCRETE JOINT DETAIL — 6

NONE



NOTE:
CONTRACTOR TO PROVIDE SAMPLE OF FINISH FOR OWNERS APPROVAL

5" CONCRETE CONTROL JOINT — 3

NONE

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www.watertechnologyinc.com

REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

ID	DATE	DESCRIPTION

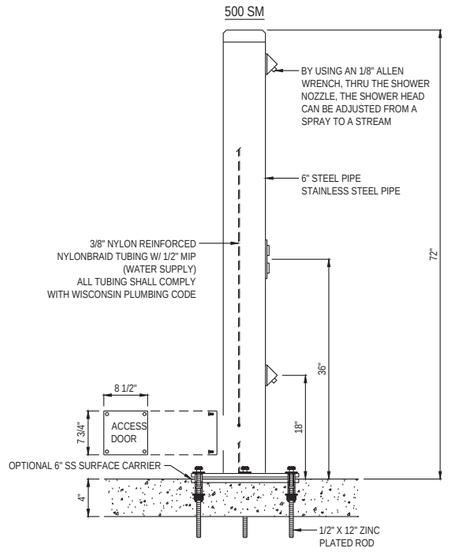
DATE	01/23/2014
PROJECT NO.	12408.01
DRAWN BY	MLS
CHECKED BY	DGM
PHASE	BID DOCUMENTS

SITE DETAILS

SD3.00

Date: Friday, January 24, 2014 Plotted by: Michael Schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408 sd300.dwg

MOST DEPENDABLE FOUNTAINS, INC.
5705 COMMANDER DR.
P.O. BOX 587
ARLINGTON, TN 38002-0587
TOLL FREE: 1-800-552-6331
PHONE: (901) 867-0039
FAX: (901) 867-0159
www.mostdependable.com



NOTES:
1. DO NOT SCALE DRAWINGS.
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. PROVIDE STAINLESS STEEL SURFACE CARRIER

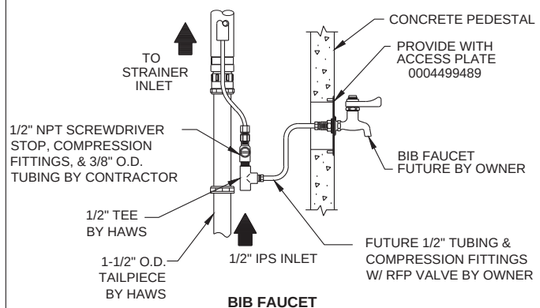
MODEL 500 SM
PROVIDE WITH 6" SS SURFACE CARRIER FOR SURFACE MOUNT (SM)

3354-10.1

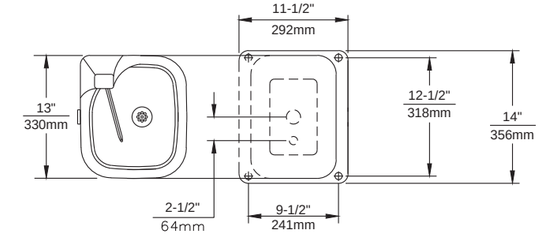
www.CADdetails.com

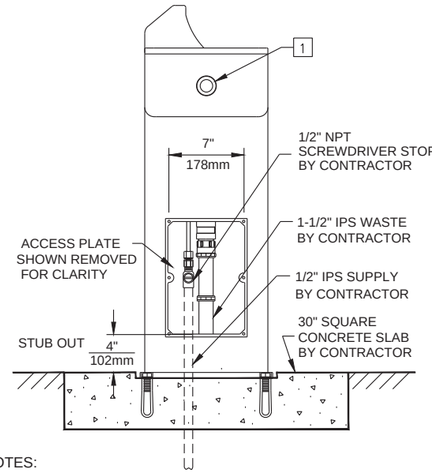
THIS DOCUMENT IS TRUE AND CORRECT AT TIME OF PUBLICATION. CONTINUED PRODUCT IMPROVEMENTS MAKE SPECIFICATIONS AND MEASUREMENTS SUBJECT TO CHANGE WITHOUT NOTICE.

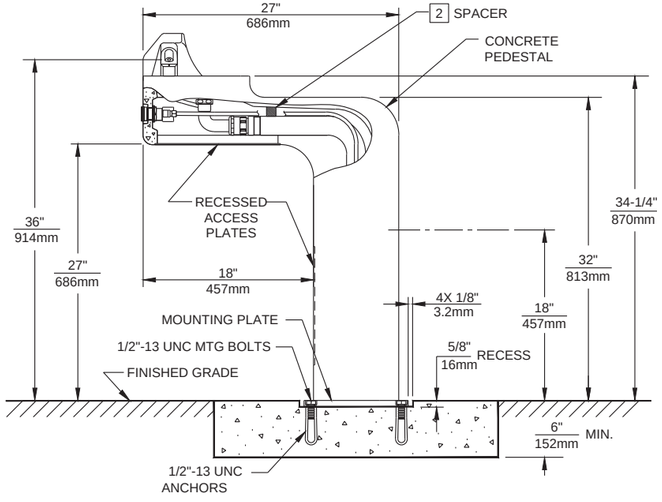
NOTE: OWNER TO PURCHASE, CONTRACTOR TO INSTALL.



BIB FAUCET DETAIL







NOTES:

1 REFER TO 5874/VRK5874 OPERATION AND MAINTENANCE MANUAL FOR PUSH BUTTON AND VALVE INSTALLATION/MAINTENANCE INSTRUCTIONS.

2 SPACER IS GLUED TO WALL OF PEDESTAL, BUT MAY BE KNOCKED OFF DURING WASTE ARM ASSEMBLY REMOVAL/REPAIR. ENSURE THAT SPACER IS REPLACED TO KEEP HOSE AND WASTE ARM ALIGNED PROPERLY.

Haws®
1455 KLEPPE LANE
SPARKS, NEVADA 89431
(775) 359-4712 FAX (755) 359-7424
E-MAIL: HAWS@HAWSCO.COM
WEBSITE: WWW.HAWSCO.COM

ECN NO.	REVISED PER ECN: 4646	BY: HM	MODEL(S) 3177	PART NUMBER 0002077324.D
DRAWN: STH	DATE: 06/95	CHK'D.:		DRAWING NO. 12018A00 REV 14
APPROVED:	DATE:		SCALE: 1:13 DRAWING TYPE: INSTALLATION	SIZE: A SHEET 1 OF 1

SHOWER TOWER	**3**	**DRINKING FOUNTAIN - BY OWNER**	**1**
	NONE		NONE
THIS SPACE NOT USED	**4**	**THIS SPACE NOT USED**	**2**
	NONE		NONE

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#12408.01

REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

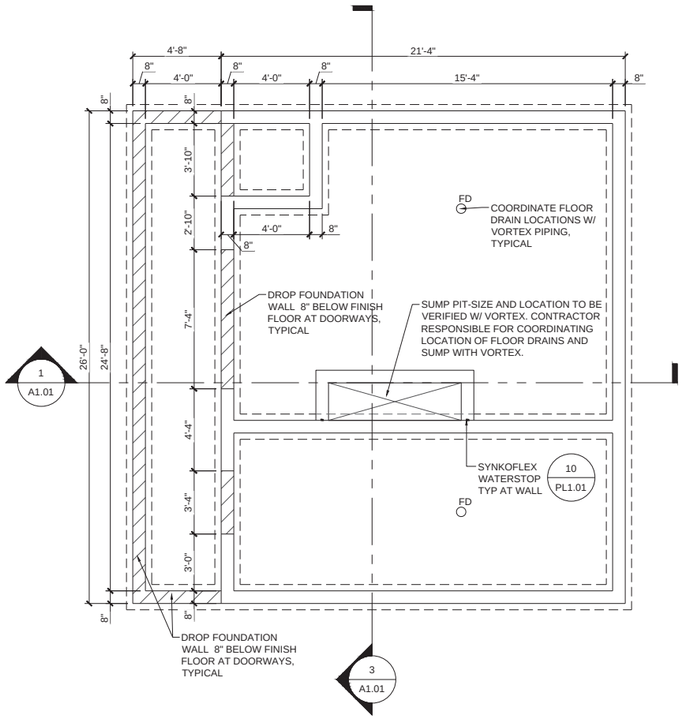
ID	DATE	DESCRIPTION

DATE	01/23/2014
PROJECT NO.	12408.01
DRAWN BY	MLS
CHECKED BY	DGM
PHASE	BID DOCUMENTS

SITE DETAILS

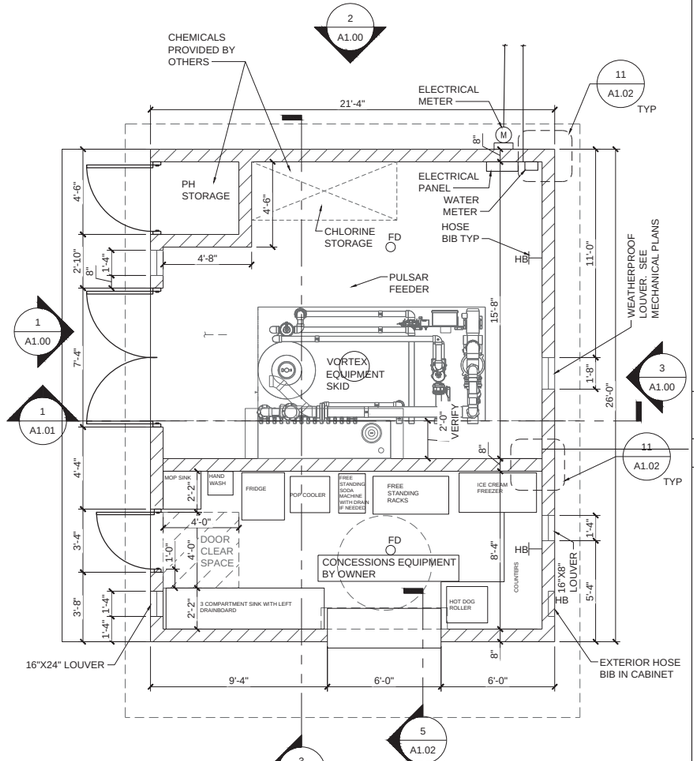
SD3.01

Date: Friday, January 24, 2014 Plotted by: Michael Schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408 sd301.dwg



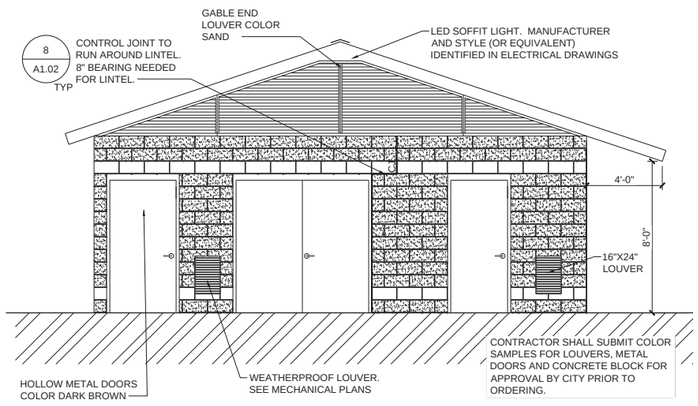
MECHANICAL BUILDING FOUNDATION PLAN — 6

1/4" = 1'-0"



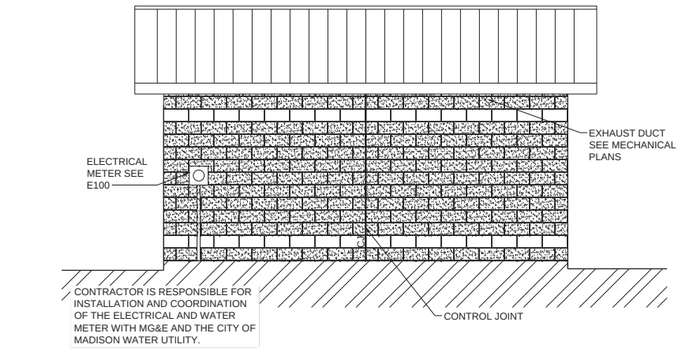
MECHANICAL BUILDING FLOOR PLAN — 4

1/4" = 1'-0"



SOUTH ELEVATION — 1

1/4" = 1'-0"



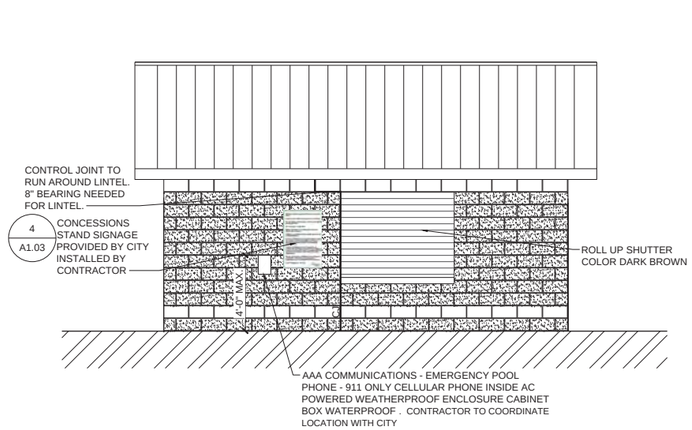
WEST ELEVATION — 2

1/4" = 1'-0"

GENERAL NOTES	
1	ALL DIMENSIONING IS TO CMU OR CONCRETE
2	DO NOT SCALE DRAWINGS. ID DIMENSION ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM THE ARCHITECT BEFORE CONTINUING WITH CONSTRUCTION.
3	THE CONTRACT DOCUMENTS CONSIST OF THE SPECIFICATION MANUAL AND DRAWINGS WHICH ARE INTENDED TO BE COMPLEMENTARY AND TO BE USED IN CONJUNCTION WITH ONE ANOTHER.
4	IF DISCREPANCIES OCCUR BETWEEN THE SPECIFICATION MANUAL AND THE DRAWINGS, NOTIFY THE ARCHITECT FOR A RESOLUTION
5	ALL EXTERIOR WALL OPENINGS BY ALL TRADES SHALL BE FLASHED AND CAULKED BY THE GC.
6	OPENINGS FOR PLUMBING, VENTILATION AND ELECTRICAL WORK IN WALLS, FLOORS, CEILING AND ROOF SHALL BE PROVIDED BY THE GC LOCATION AND SIZE SHALL BE THE RESPONSIBILITY OF THE RESPECTIVE CONTRACTORS.
7	SLOPE FLOOR SLAB TO FLOOR DRAINS. SEE FOUNDATION PLAN AND COORDINATE WITH PLUMBING. (MAX FLOOR SLOPE 1/4" PER FT.)
8	CONTRACTOR TO COORDINATE ARCHITECTURAL, POOL PLUMBING, MECHANICAL AND PLUMBING, PLANS FOR DETAILS, DIMENSIONS, ELEVATIONS, OPENINGS, INSERTS, ECT. NOTIFY ARCHITECT OF ANY VARIANCE BEFORE COMMENCING CONTRUCTION

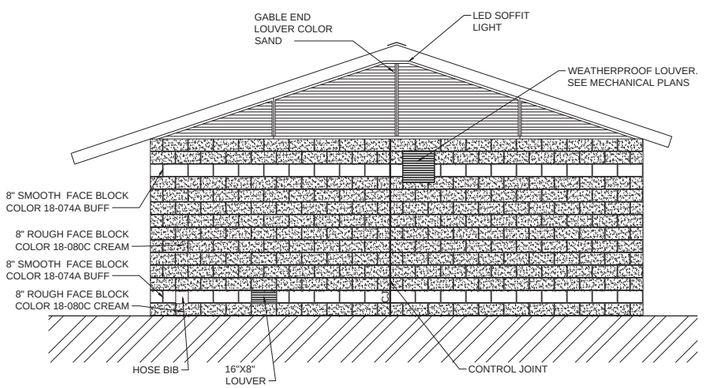
GENERAL NOTES — 7

1/4" = 1'-0"



EAST ELEVATION — 5

1/4" = 1'-0"



NORTH ELEVATION — 3

1/4" = 1'-0"

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www.watertechnologyinc.com

REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

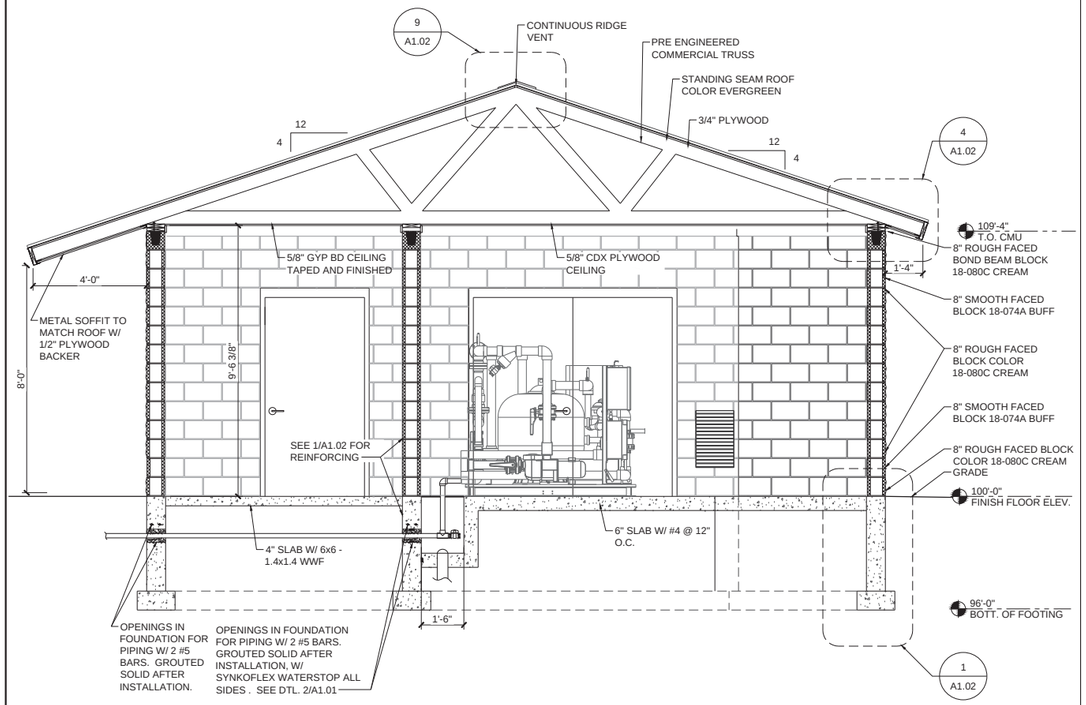
ID	DATE	DESCRIPTION

DATE	01/23/2014
PROJECT NO.	12408.01
DRAWN BY	MLS
CHECKED BY	DGM
PHASE	BID DOCUMENTS

BUILDING PLAN AND ELEVATIONS

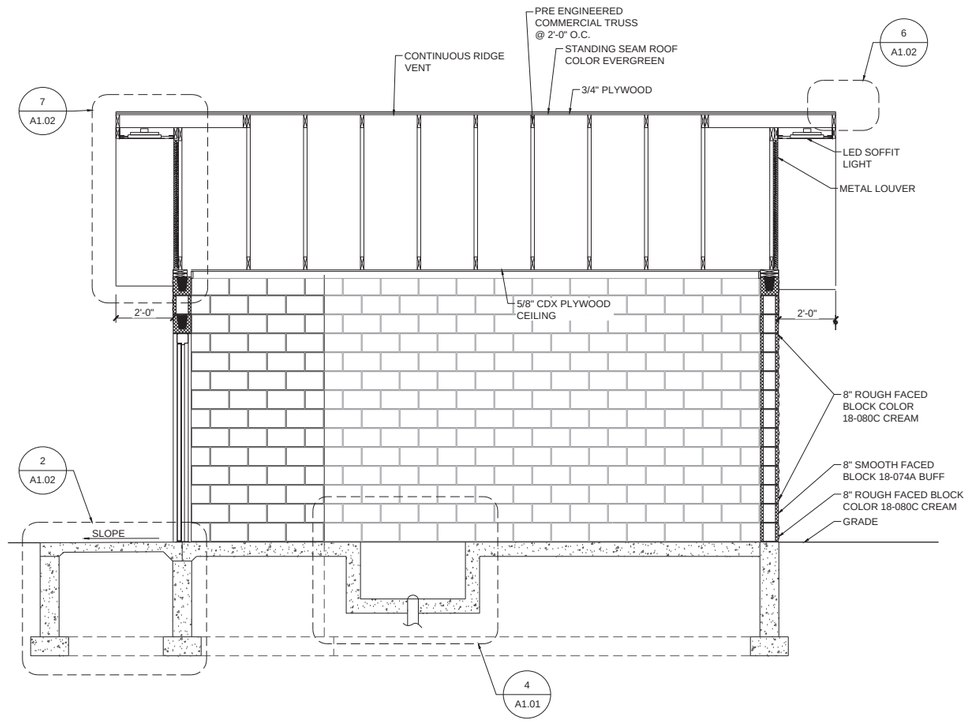
A1.00

Date: Friday, January 24, 2014 Plotted by: Michael Schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408.01 A100.dwg



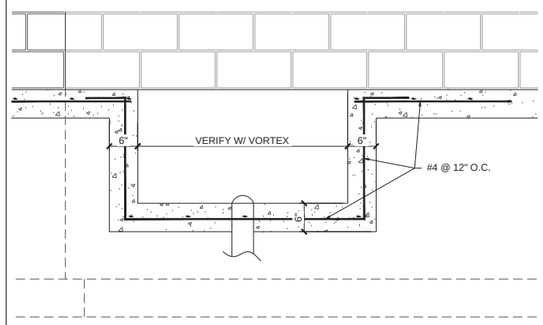
BUILDING SECTION — 3

3/8" = 1'-0"



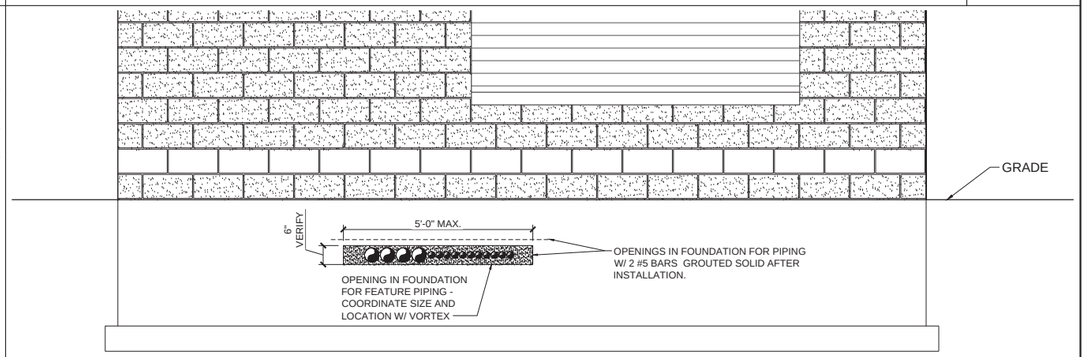
BUILDING SECTION — 1

3/8" = 1'-0"



SUMP PIT — 4

3/4" = 1'-0"



EAST FOUNDATION WALL DETAIL — 2

1/2" = 1'-0"

THIS SPACE NOT USED — 5

NONE

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ID	DATE	DESCRIPTION

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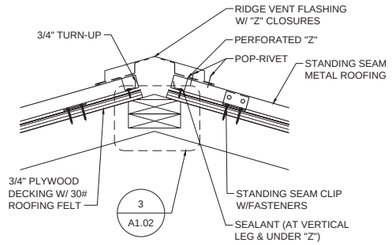
BUILDING SECTIONS AND DETAILS

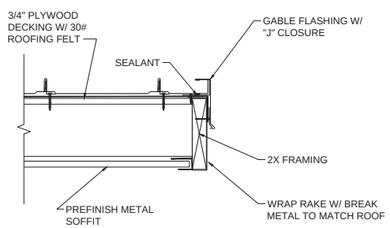
A1.01

Date: Friday, January 24, 2014 Plotted by: Michael Schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408.01 A101.dwg



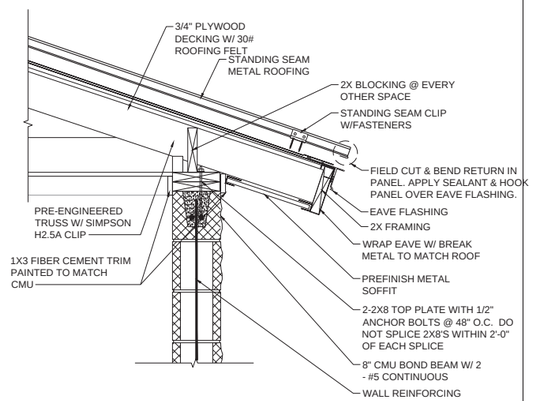
RIDGE DETAIL

9
NONE



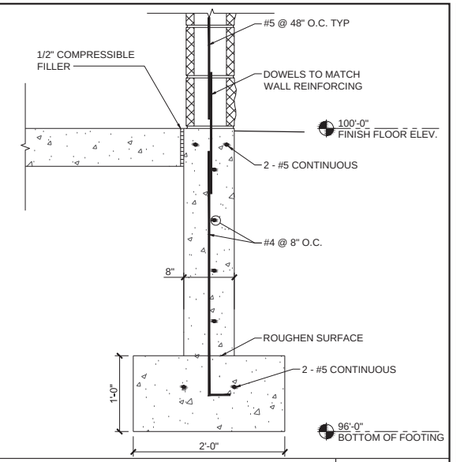
GABLE DETAIL

6
NONE



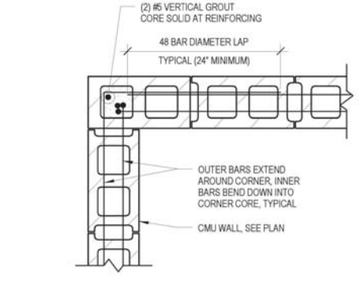
EAVE DETAIL

4
NONE



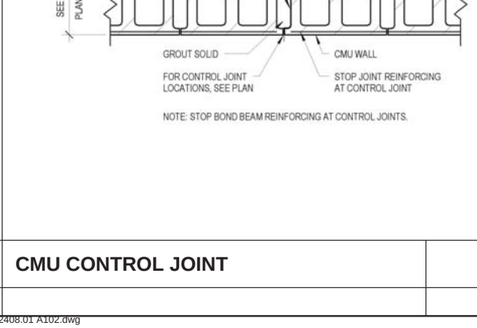
FOUNDATION DETAIL

1
NONE



CMU AT WALL INTERSECTION

10
NONE



LOUVER DETAIL

7
NONE

ROLLING SHUTTER

5
NONE

STOOP DETAIL

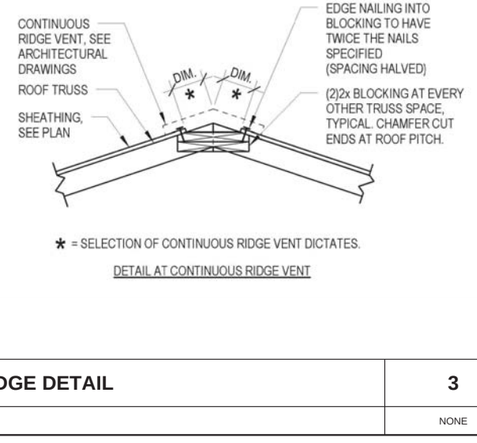
2
NONE

CMU AT WALL CORNER

11
NONE

CMU CONTROL JOINT

8
NONE



RIDGE DETAIL

3
NONE

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REINDAHL SPLASH PAD

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MADISON, WI 53704

ID	DATE	DESCRIPTION

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PHASE	BID DOCUMENTS

BUILDING DETAILS

A1.02

Date: Friday, January 24, 2014 Plotted by: Michael Schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408.01 A102.dwg

CONCESSIONS STAND SIGNAGE — 4

NONE

THIS SPACE NOT USED — 5

NONE

THIS SPACE NOT USED — 6

NONE

DESIGN SPECIFICATIONS

- DESIGN IS IN ACCORDANCE WITH THE STATE OF WISCONSIN AND THE 2009 INTERNATIONAL BUILDING CODE.
- MINIMUM 28 DAY CONCRETE CYLINDER STRENGTH SHALL BE:
  - FOOTINGS 4,000 PSI
  - SLABS ON GROUND 4,000 PSI
  - FOUNDATION WALLS 4,000 PSI
- REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60.M
- CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90 TYPE II NORMAL WEIGHT UNITS.
- MORTAR SHALL CONFORM TO ASTM C270 TYPE S.
- MASONRY GROUT SHALL CONFORM TO ASTM C476. MINIMUM COMPRESSIVE STRENGTH SHALL BE F'C = 3000 PSI.
- MINIMUM COMPRESSIVE STRENGTH OF UNREINFORCED CONCRETE MASONRY CONSTRUCTION SHALL BE F'M = 1500 PSI.
- MINIMUM COMPRESSIVE STRENGTH OF REINFORCED CONCRETE MASONRY CONSTRUCTION SHALL BE F'M = 1500 PSI.
- STRUCTURAL STEEL W-SHAPES SHALL CONFORM TO ASTM A992 GRADE 50.
- STRUCTURAL STEEL PLATES, ANGLES, CHANNELS, AND OTHER ROLLED MEMBERS SHALL CONFORM TO ASTM A36.
- RECTANGULAR OR SQUARE HSS MEMBERS SHALL CONFORM TO ASTM A500 GRADE B.
- ROUND HSS MEMBERS SHALL CONFORM TO ASTM A500 GRADE B.
- STEEL PIPE SHALL CONFORM TO ASTM A53 GRADE B.
- ASSUMED BEARING CAPACITY FOR SPREAD FOOTINGS IS 1,500 PSF.
- DESIGN LOADS:FLOOR LIVE LOADS (IBC 2009)
- MECHANICAL ROOMS 150 PSF
  MINIMUM ROOF LIVE LOAD 20 PSF

  ROOF SNOW LOAD (ASCE 7-05)
  OCCUPANCY CATEGORY II
  IMPORTANCE FACTOR IS = 1.0
  GROUND SNOW LOAD PG = 30 PSF
  SLOPED ROOF SNOW LOAD PS = 24 PSF
  EXPOSURE FACTOR CE = 1.0
  THERMAL FACTOR CT = 1.2

  WIND LOAD (ASCE 7-05) OCCUPANCY CATEGORY
  IMPORTANCE FACTOR IW = 1.0
  BASIC WIND SPEED V = 90 MPH
  EXPOSURE C
  INTERNAL PRESSURE COEFFICIENT GCPI = +/- 0.18

  SEISMIC LOAD (IBC 2009) OCCUPANCY CATEGORY
  IMPORTANCE FACTOR IE = SPECTRAL RESPONSE ACCELERATIONS SS = .084 G
  S1 = .046 G
  SPECTRAL RESPONSE COEFFICIENTS SDS = .09 G
  SD1 = .073 G
  SEISMIC RESPONSE COEFFICIENT CS = .01
  RESPONSE MODIFICATION FACTOR R = 2 SOIL SITE CLASS D
  SEISMIC DESIGN CATEGORY B
  BASIC SEISMIC FORCE RESISTING SYSTEM ORDINARY MASONRY SHEAR WALLS
  ANALYSIS PROCEDURE EQUIVALENT FORCE PROCEDURE
  DESIGN BASE SHEAR 2.4 KIPS

- RESISTANCE TO LATERAL LOADS ON STRUCTURE IS PROVIDED BY MASONRY SHEAR WALLS AND AND ROOF DIAPHRAGMS. CONTRACTOR SHALL PROVIDE SUFFICIENT TEMPORARY BRACING UNTIL ALL LATERAL SUPPORT SYSTEMS ARE IN PLACE AND FUNCTIONAL.
- ALL STRUCTURAL FRAMING AND CONNECTIONS HAVE BEEN DESIGNED FOR THE FINAL COMPLETED CONDITION AND HAVE NOT BEEN INVESTIGATED FOR POTENTIAL LOADINGS ENCOUNTERED DURING STEEL ERECTION AND CONSTRUCTION. ANY INVESTIGATION OF THE STRUCTURAL FRAMING AND CONNECTIONS FOR ADEQUACY DURING THE STEEL ERECTION AND CONSTRUCTION PROCESS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- CONTRACTOR IS RESPONSIBLE FOR ALL MEANS AND METHODS OF CONSTRUCTION AND ALL JOB SITE SAFETY.

DESIGN NOTES — 2

NONE

THIS SPACE NOT USED — 3

NONE

GENERAL NOTES — 1

NONE

GENERAL NOTES

EARTHWORK

- FOOTINGS SHALL BE CAST ON UNDISTURBED SUBSOIL. IF DESIGN CAPACITY IS NOT ENCOUNTERED AT THE ELEVATIONS SHOWN, FOOTINGS MUST BE LOWERED. CONSULT ARCHITECT BEFORE PROCEEDING.
- NO HOLES, TRENCHES OR DISTURBANCES OF THE SOIL SHALL BE ALLOWED WITHIN THE VOLUME DESCRIBED BY 45 DEGREE LINES SLOPING FROM THE BOTTOM EDGE OF THE FOOTING. IF SUCH ARE REQUIRED, FOOTINGS MUST BE LOWERED.
- BACKFILL EVENLY ON EACH SIDE OF FOUNDATION WALLS AND RETAINING WALLS.
- TOPSOIL AND FILL BELOW SLABS ON GROUND SHALL BE REMOVED. AGGREGATE BASE COURSE UNDER SLABS ON GROUND SHALL BE BANKRUN GRAVEL COMPACTED TO 6-INCH LAYERS.
- BACKFILL AGAINST INTERIOR FOUNDATION WALLS SHALL BE BANKRUN GRAVEL COMPACTED TO MAXIMUM 6-INCH LAYERS.
- BACKFILL AGAINST EXTERIOR FOUNDATION WALLS SHALL BE BANKRUN GRAVEL COMPACTED TO MAXIMUM 6-INCH LAYERS.
- PROVIDE MINIMUM 24 INCHES OF FREE DRAINING AGGREGATE OVER ALL DRAIN TILES AND 4 INCHES BELOW.

CONCRETE

- FORMWORK SHALL BE DESIGNED IN ACCORDANCE WITH THE ACI "MANUAL OF CONCRETE PRACTICE", LATEST EDITION.
- REINFORCING STEEL SHALL BE DETAILED AND PLACED IN ACCORDANCE WITH THE ACI "MANUAL OF CONCRETE PRACTICE", LATEST EDITION, UNLESS OTHERWISE NOTED
- LAP ALL WALL BARS 30 DIAMETERS UNLESS OTHERWISE DETAILED. LAP WELDED WIRE MESS 6 INCHES.
- PROVIDE COLUMN AND WALL DOWELS OF THE SAME SIZE AND NUMBER AS THE RESPECTIVE COLUMN AND WALL REINFORCING UNLESS OTHERWISE DETAILED.
- PROVIDE TWO #4 BARS AS STIRRUP CARRY BARS WHERE NO TOP STEEL IS AVAILABLE TO HOLD STIRRUPS.
- CONCRETE PROTECTION FOR REINFORCING BARS SHALL BE IN ACCORDANCE WITH THE "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE", ACI 318-08.
- SLABS ON GRADE SHALL BE CAST ALLOWING A SUFFICIENT NUMBER OF JOINTS TO ADEQUATELY CONTROL SHRINKAGE CRACKING. SAWCUTTING SHALL BE DONE AS SOON AS SAWCUT WILL NOT RAVEL CONCRETE OR WITHIN 24 HOURS MAXIMUM OF INITIAL POURING OPERATION. MAXIMUM SIZE OF PANELS SHALL BE 15 FEET BY 15 FEET. GENERALLY, JOINTS SHALL OCCUR ON COLUMN CENTERLINES.
- ALLOW AT LEAST 24 HOURS BEFORE POURING ADJACENT WALL SECTIONS BETWEEN CONSTRUCTION JOINTS. MAXIMUM LENGTH OF POUR TO BE 40 FEET, UNLESS CRACK INDUCERS ARE USED AS DETAILED ON THE DRAWINGS.
- CONTRACTOR SHALL NOTIFY THE ARCHITECT AT LEAST 24 HOURS PRIOR TO PLACING CONCRETE.
- DO NOT PLACE OR CUT HOLES IN CONCRETE SLABS, BEAMS, WALLS OR COLUMNS WITHOUT PRIOR APPROVAL OF THE ENGINEER.
- EXTERIOR EXPOSED CONCRETE SHALL BE AIR-ENTRAINED. AIR CONTENT SHALL BE 6 PERCENT (+/-1 1/2 PERCENT).
- PIPES AND CONDUITS EMBEDDED IN OR PASSING THROUGH STRUCTURAL MEMBERS MUST BE APPROVED BY THE STRUCTURAL ENGINEER. PIPE AND CONDUITS EMBEDDED IN CONCRETE SHALL NOT BE LARGER THAN 2 INCHES IN OUTSIDE DIAMETER AT THEIR WIDEST POINT OR FITTING OR 1/3 OF THE THICKNESS OF THE SLAB, BEAM OR WALL.
- ELECTRICAL CONDUIT OR PIPES EMBEDDED IN OR PASSING THROUGH SLABS, BEAMS OR WALLS SHALL BE LOCATED AND PLACED SO THAT:
  1. THEY ARE NOT CLOSER THAN THREE DIAMETERS ON CENTER.
  2. THE CONCRETE COVER IS NOT LESS THAN 2 INCHES.
  3. THEY RUN BETWEEN REINFORCING AND DO NOT DISPLACE IT IN ANY MANNER.
- ALUMINUM CONDUITS SHALL NOT BE PLACED IN CONCRETE.
- CHAMFER ALL EXPOSED CONCRETE CORNERS.
- CONCRETE SHALL BE TESTED BY THE CONTRACTOR.
- PROPER CURING PROCEDURES SHALL BE USED FOR SLAB ON GRADE TO PREVENT CURLING.
- CALCIUM CHLORIDE SHALL NOT BE USED IN CONCRETE MIXES.

CONCRETE MASONRY

- PRODUCTION AND CONSTRUCTION OF CONCRETE MASONRY SHALL BE IN ACCORDANCE WITH THE "BUILDING CODE REQUIREMENTS FOR CONCRETE MASONRY STRUCTURES", ACI 530-08, AND THE NCMA "TEK MANUAL FOR CONCRETE MASONRY DESIGN AND CONSTRUCTION", LATEST EDITION.
- COLD WEATHER CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE IMIAC "RECOMMENDED PRACTICES AND GUIDE SPECIFICATIONS FOR COLD WEATHER MASONRY AND CONSTRUCTION", LATEST EDITION.
- CALCIUM CHLORIDE OR ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL NOT BE USED.
- MASONRY WALLS SHALL BE ADEQUATELY BRACED TO RESIST WIND FORCES UNTIL PERMANENT DESIGN SUPPORTS ARE IN PLACE AND FUNCTIONAL. BRACING SHALL BE DESIGNED BY THE CONTRACTOR.
- PROVIDE DOWELS INTO FOUNDATION THE SAME SIZE AND NUMBER AS WALL REINFORCING.
- LAP REINFORCING BARS 48 DIAMETERS.
- CONCRETE MASONRY WALLS SHALL BE REINFORCED AT EVERY OTHER BED JOINT WITH 3/16-INCH TRUSS TYPE JOINT REINFORCEMENT.
- VERTICAL BARS SHOWN ON THE DESIGN DRAWINGS SHALL BE PLACED IN A CONTINUOUS UNOBSTRUCTED CELL OF NOT LESS THAN 3 INCHES BY 4 INCHES.
- ALL BOND BEAMS AND PILASTERS SHALL BE REINFORCED AS SHOWN ON THE DESIGN DRAWINGS AND FILLED WITH GROUT.
- ALL DOOR AND WINDOW JAMBS SHALL BE GROUTED SOLID 8 INCHES WIDE UNLESS SHOWN OTHERWISE. PROVIDE 1-#5 VERTICAL FULL HEIGHT ON EACH SIDE OF OPENING. OPENINGS WITH CONTROL JOINTS AT LINTEL SHALL LOCATE REINFORCING OUTSIDE OF CONTROL JOINT. GROUT SOLID FULL WIDTH OF JAMB TO INCLUDE REINFORCING.
- WHERE NOT SHOWN OTHERWISE, MINIMUM SOLID GROUTED MASONRY BELOW BEAM REACTIONS SHALL BE 16 INCHES DEEP BY 32 INCHES LONG.
- WHERE NOT SHOWN OTHERWISE, MINIMUM SOLID GROUTED MASONRY BELOW LINTEL REACTIONS SHALL BE 16 INCHES DEEP BY 16 INCHES LONG.

WOOD FRAMING

- ERECTION OF ALL WOOD FRAMING SHALL CONFORM TO THE NATIONAL FOREST PRODUCTS ASSOCIATION DESIGN SPECIFICATIONS, AMERICAN PLYWOOD ASSOCIATION, AND THE STATE OF WISCONSIN BUILDING CODE, LATEST EDITIONS.
- THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE DRAWINGS OF ALL OTHER DISCIPLINES AND THE SPECIFICATIONS. THE CONTRACTOR SHALL VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO SLEEVES, CHASES, HANGERS, INSERTS, ANCHORS, HOLES, AND OTHER ITEMS TO BE PLACED OR SET IN THE STRUCTURAL WORK.
- DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO APPROVAL BY THE ARCHITECT.
- ALL STRUCTURAL SYSTEMS RELATING TO WOOD FRAMING WHICH ARE TO BE COMPOSED OF COMPONENTS TO BE FIELD ERECTED SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING, DELIVERY, HANDLING, STORAGE, AND ERECTION IN ACCORDANCE WITH THE SUPPLIER'S INSTRUCTIONS AND REQUIREMENTS.
- LOADING APPLIED TO THE STRUCTURE DURING THE PROCESS OF CONSTRUCTION SHALL NOT EXCEED THE SAFE LOAD-CARRYING CAPACITY OF THE STRUCTURAL MEMBERS. THE LIVE LOADS USED IN THE DESIGN OF THIS STRUCTURE ARE INDICATED IN THE "DESIGN SPECIFICATIONS". DO NOT APPLY ANY CONSTRUCTION LOADS UNTIL STRUCTURAL FRAMING IS PROPERLY CONNECTED TOGETHER AND UNTIL ALL TEMPORARY BRACING IS IN PLACE.

- ROOF DECK SHALL BE 3/4-INCH APA RATED SHEATHING, EXPOSURE 1. NAILING OF WALL SHEATHING AND SOFFIT SHEATHING SHALL BE 8D AT 6 INCHES ON CENTER AT PANEL EDGES AND 8D AT 12 INCHES ON CENTER AT INTERMEDIATE FRAMING MEMBERS.
- WALL AND SOFFIT SHEATHING SHALL BE 1/2-INCH APA RATED SHEATHING, EXPOSURE 2. NAILING OF WALL SHEATING AND SOFFIT SHEATING SHALL BE 8D AT 6 INCHES ON CENTER AT PANEL EDGES AND 8D AT 12 INCHES ON CENTER AT INTERMEDIATE FRAMING MEMBERS.
- INSTALL ALL SHEATHING WITH THE LONG DIMENSIONS OF THE PANEL ACROSS SUPPORTS AND WITH PANEL CONTINUOUS OVER TWO OR MORE SPANS. STAGGER PANEL END JOINTS. ALLOW 1/8-INCH SPACING AT PANEL ENDS AND EDGES UNLESS OTHERWISE RECOMMENDED BY THE SHEATHING MANUFACTURER.
- ALL NAILING SHALL BE CAREFULLY DRIVEN AND NOT OVERDRIVEN. THE USE OF STAPLES IS PROHIBITED.
- WALL AND ROOF SHEATHING NAILS SHALL BE HOT-DIPPED GALVANIZED.
- NAILING OF WOOD FRAMING MEMBERS SHALL CONFORM TO THE MINIMUM NAILING SCHEDULE PER TABLE 2304.9.1 OF THE IBC.
- ALL FRAMING EXPOSED TO THE WEATHER OR IN CONTACT WITH MASONRY OR CONCRETE SHALL BE PRESSURE-TREATED IN ACCORDANCE WITH THE AMERICAN WOOD PRESERVERS ASSOCIATION SPECIFICATIONS. WHERE POSSIBLE, ALL CUTS AND HOLES SHOULD BE COMPLETED BEFORE TREATMENT. CUTS AND HOLES DUE TO THE ON-SITE FABRICATION SHALL BE BRUSHED WITH 2 COATS OF COPPER NAPHTHENATE SOLUTION CONTAINING A MINIMUM OF 2% METALLIC COPPER IN SOLUTION (PER AWPA STANDARD M4).
- PREFABRICATED METAL JOIST HANGERS, HURRICANE CLIPS, HOLD-DOWN ANCHORS, AND OTHER ACCESSORIES SHALL BE AS MANUFACTURED BY "SIMPSON STRONG-TIE COMPANY" OR APPROVED EQUAL. INSTALL ALL ACCESSORIES PER THE MANUFACTURER'S REQUIREMENTS. ALL STEEL SHALL HAVE A MINIMUM THICKNESS OF 0.04 INCHES (PER ASTM A653) AND BE GALVANIZED (G60 COATING).

WOOD TRUSSES

- WOOD PLATE CONNECTED TRUSSES SHALL BE DESIGNED, MANUFACTURED, AND ERECTED IN ACCORDANCE WITH THE STATE OF WISCONSIN BUILDING CODE AND THE TRUSS PLATE INSTITUTE.
- SHOP DRAWINGS AND OTHER ITEMS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW PRIOR TO FABRICATION. ALL SHOP DRAWINGS SHALL BE REVIEWED AND STAMPED BY THE GENERAL CONTRACTOR BEFORE SUBMITTAL TO THE ARCHITECT. THE ARCHITECT'S REVIEW WILL BE BASED ON THE CONTRACT DOCUMENTS. THE ARCHITECT'S REVIEW DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY TO REVIEW, CHECK, AND COORDINATE THE SHOP DRAWINGS PRIOR TO SUBMISSION. THE CONTRACTOR REMAINS SOLEY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS, DIMENSIONS, ETC.
- TRUSS MANUFACTURER SHALL PROVIDE ALL TRUSS-TO-TRUSS CONNECTIONS.
- ALL ROOF TRUSSES SHALL BE SECURED TO THE TOP PLATES WITH SIMPSON TYPE H2.5A UPLIFT CONNECTORS PROVIDED BY THE TRUSS SUPPLIER.
- CONTRACTOR SHALL PROVIDE AND ERECT ALL BRACING, BRIDGING, AND BLOCKING REQUIRED BY THE MANUFACTURER AND THE TRUSS PLATE INSTITUTE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY BRACING OF TRUSSES UNTIL PERMANENT BRACING IS IN PLACE.
- DOUBLE 2 X 4 CONTINUOUS BLOCKING SHALL BE PROVIDED AT THE PEAK OF THE RIDGE.
- WOOD TRUSSES SHALL BE DESIGNED BY THE MANUFACTURER TO SUPPORT THE FOLLOWING LOADS:
  - TOP CHORD LOADING
    LIVE LOAD - 30 PSF (ON THE HORIZOTAL PROJECTION)
    DEAD LOAD - 15 PSF (ON THE SURFACE AREA)
    - ADDITIONAL 5 PSF AT TRUSSES SUPPORTING INFILL FRAMING AT EXTENSIONS OF ADJOINING ROOFS
  - BOTTOM CHORD LOADING
    LIVE LOAD = 300# LOADING AT ANY LOCATION
    DEAD LOAD = 20 PSF
  - WIND LOADING CASE AT TRUSSES SUPPORTING INFILL FRAMING AT ADJOINING
  - ROOFS. SEE "DESIGN SPECIFICATIONS" FOR WIND LOADING CRITERIA. NET UPLIFT=30 PSF

- THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY AND PERMANENT BRACING AS REQUIRED FOR SAFE ERECTION AND PERFORMANCE OF THE TRUSSES, THE GUIDELINES SET FORTH BY THE TRUSS PLACE INSTITUTE PUBLICATION "HIB-91 COMMENTARY AND RECOMMENDATIONS FOR HANDLING, INSTALLING AND BRACING METAL PLATE CONNECTED WOOD TRUSSES" SHALL BE A MINIMUM REQUIREMENT.

- TRUSS MEMBERS AND COMPONENTS SHALL NOT BE CUT, NOTCHED, DRILLED OR OTHERWISE ALTERED IN ANY WAY WITHOUT THE WRITTEN APPROVAL OF THE TRUSS MANUFACTURER.

MISCELLANEOUS

- DIMENSIONS OF EXISTING CONSTRUCTION OR CONSTRUCTION IN PROGRESS SHALL BE VERIFIED AND COORDINATED PRIOR TO FABRICATION OF STRUCTURAL COMPONENTS.
- VERIFY AND COORDINATE, WITH ALL CONTRACTORS, THE LOCATION OF ALL ARCHITECTURAL AND MECHANICAL APPURTENANCES AND OPENINGS.
- EXPANSION ANCHORS SHALL BE HILTI KWIK BOLT TZ.
- ADHESIVE ANCHORS SHALL BE HILTI HIT HY150.
- CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR THE FOLLOWING ITEMS PRIOR TO FABRICATION: CONCRETE REINFORCING AND WOOD TRUSS

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#12408.01

REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

ID	DATE	DESCRIPTION

DATE	01/23/2014
PROJECT NO.	12408.01
DRAWN BY	MLS
CHECKED BY	DGM
PHASE	BID DOCUMENTS

GENERAL NOTES AND DETAILS

A1.03

Date: Friday, January 24, 2014 Plotted by: Michael Schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408.01 A103.dwg

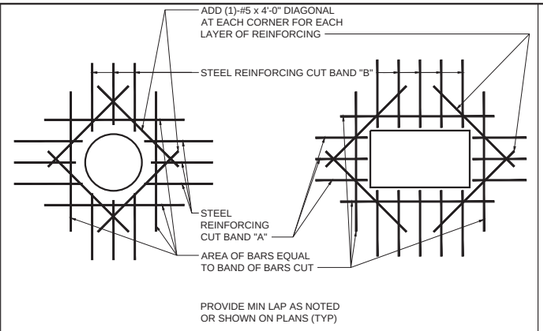
THIS SPACE NOT USED — 10

NONE

THIS SPACE NOT USED — 7

NONE

REINFORCEMENT AT OPENINGS — 4

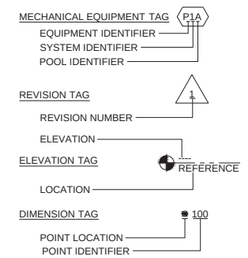


NOTES:

1. TYP FOR ALL OPENINGS IN CONCRETE WALLS AND SLABS INCLUDING DRAINS UNLESS INDICATED OTHERWISE ON PLANS.
2. DO NOT WELD REINFORCEMENT TO PIPE SLEEVES AND INSERTS.
3. ALL OPENINGS THROUGH WATERTIGHT TANK REQUIRE WATERSTOPS.

NONE

TAG DESCRIPTIONS AND ABBREVIATIONS — 1



ABBREVIATIONS

TYP - TYPICAL	NPS - NOMINAL PIPE SIZE
EJ - EXPANSION JOINT	ID - INSIDE DIAMETER
CJ - CONTROL JOINT	OD - OUTSIDE DIAMETER
ELEVATION	MIN - MINIMUM
FFE - FINISH FLO0R ELEVATION	MAX - MAXIMUM
OC - ON CENTER	SCH - SCHEDULE
EW - EACH WAY	
DIA - DIAMETER	
SS - STAINLESS STEEL	

NONE

THIS SPACE NOT USED — 11

NONE

THIS SPACE NOT USED — 8

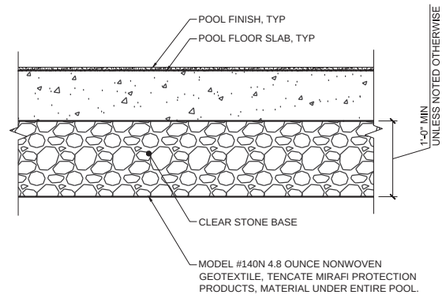
NONE

THIS SPACE NOT USED — 5

NONE

POOL BASE — 2

MATERIAL NOTE:
3/4" TO 1" CLEAR GRANULAR STONE WITH NO FINES PLACED IN MAX 6" THICK LIFTS.



NONE

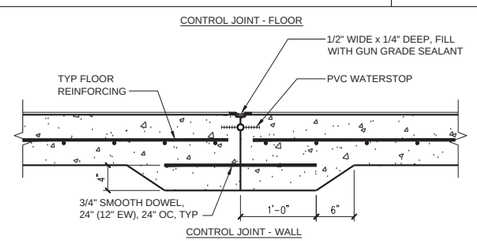
THIS SPACE NOT USED — 12

NONE

THIS SPACE NOT USED — 9

NONE

SPLASH PAD CONTROL JOINT — 6



NONE

STRUCTURAL REINFORCEMENT NOTE — 3

STRUCTURAL NOTES:

1. UNLESS OTHERWISE INDICATED, CONCRETE WALLS AND SLABS SHALL BE REINFORCED AS FOLLOWS: #4's @ 8" EACH WAY CENTER OF 8" SECTIONS; #4's @ 12" EACH WAY, EACH FACE OF 12" SECTIONS. SINGLE MAT REINFORCEMENT SHALL BE AT CENTER OF SECTION, UNLESS OTHERWISE INDICATED.
2. MIN CLEARANCE FOR REINFORCEMENT BARS, UNLESS OTHERWISE INDICATED, SHALL BE 3" WHEN PLACED ON GROUND; FOR SURFACES EXPOSED TO WATER, EARTH OR WEATHER - 1 1/2" CLEARANCE FOR #5 BARS OR SMALLER AND 2" CLEARANCE FOR LARGER THAN #5's; INTERIOR SLABS- 3/4" CLEARANCE, INTERIOR BEAMS 1 1/2" CLEARANCE. 2" AROUND ALL PIPES, LIGHT NICHES, AND OTHER EMBEDDED ITEMS.
3. REFER TO WALL CORNER AND WALL INTERSECTION REINFORCING DETAIL IN GENERAL, THE WALL CORNER REINFORCING SIZES AND SPACINGS SHALL BE CALLED OUT ON THE PLANS AND REFERENCED TO THESE DETAILS AND THE TYP HORIZONTAL WALL REINFORCING SHALL LAP WITH CORNER AND INTERSECTION REINFORCING.
4. UNLESS OTHERWISE INDICATED, ALL WALL REINFORCEMENT BARS SHALL BE CONTINUOUS AROUND CORNERS. REINFORCEMENT SHALL BE EXTENDED INTO CONNECTING WALLS. UNLESS OTHERWISE INDICATED, CONTRACTOR MAY SPLICE CONTINUOUS SLAB BARS AT LOCATIONS OF THERE CHOOSING, EXCEPT THAT TOP BAR SPLICES SHALL BE LOCATED AT MIDSPAN AND BOTTOM BAR SPLICES SHALL BE LOCATED AT SUPPORTS. ALL REINFORCEMENT BENDS AND LAPS, UNLESS OTHERWISE INDICATED, SHALL SATISFY THE FOLLOWING MIN REQUIREMENTS SHOWN BELOW.
5. DETAILS OF STRUCTURAL REINFORCEMENT INDICATED FOR A MIN SOIL BEARING PRESSURE OF 2500 PSF.

REINFORCEMENT LAP LENGTHS - DESIGN STRENGTH: CONCRETE 4000 PSI / SHOTCRETE 5000 PSI									
BAR SIZE	#3	#4	#5	#6	#7	#8	#9	#10	#11
GR-60 TOP BAR	1'-7"	2'-1"	2'-7"	3'-1"	4'-6"	5'-2"	5'-10"	6'-7"	7'-3"
GR-60 OTHER BAR	1'-3"	1'-7"	2'-0"	2'-5"	3'-6"	4'-0"	4'-6"	5'-1"	5'-7"
STANDARD HOOK DIMENSION									
BAR SIZE	#3	#4	#5	#6	#7	#8	#9	#10	#11
HOOK LENGTH	0'-7"	0'-9"	1'-0"	1'-2"	1'-4"	1'-6"	1'-11"	2'-2"	2'-5"

NONE

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#12408.01

REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

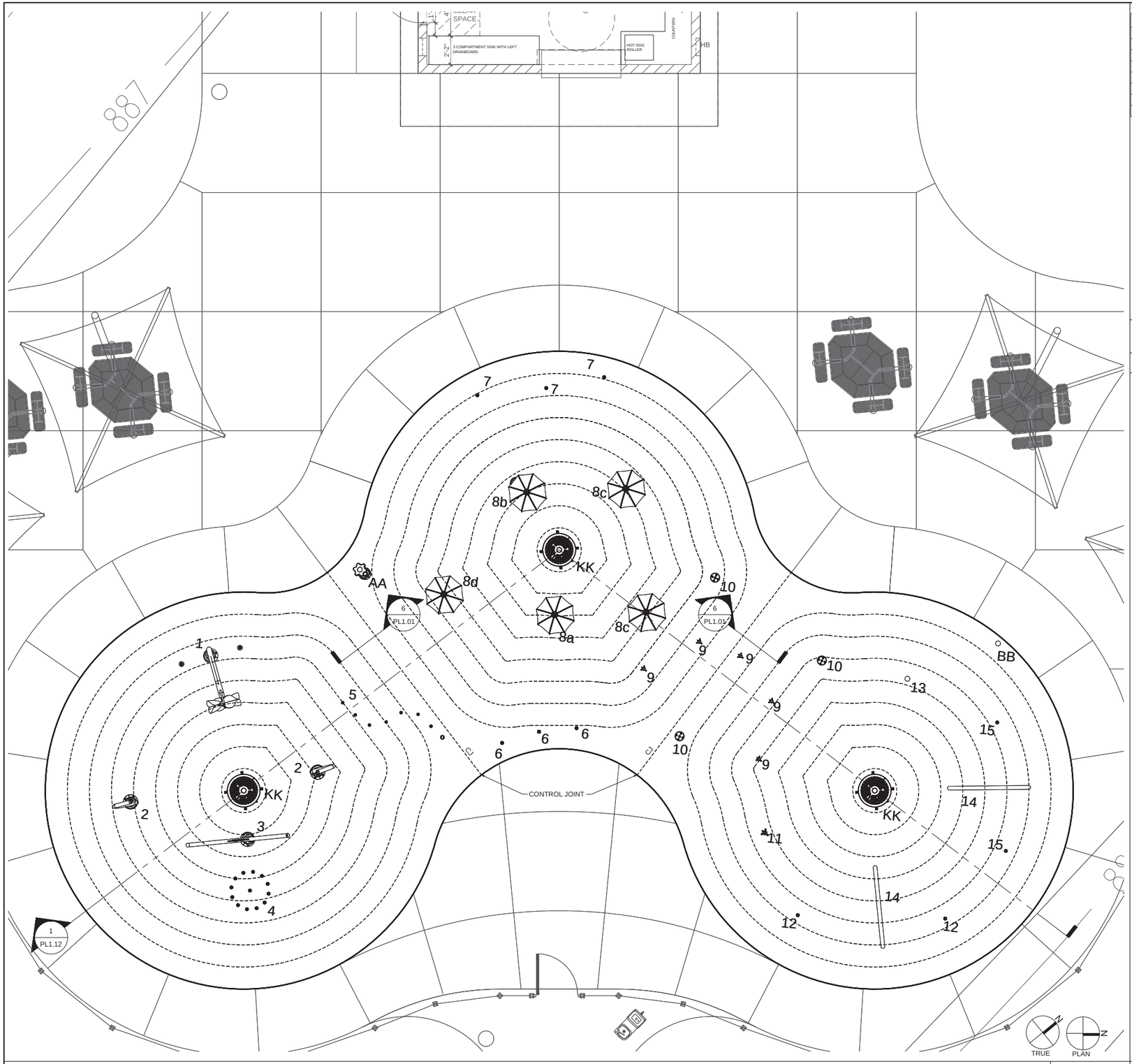
ID	DATE	DESCRIPTION

DATE	01/23/2014
PROJECT NO.	12408.01
DRAWN BY	MLS
CHECKED BY	DGM
PHASE	BID DOCUMENTS

GENERAL DETAILS AND SCHEDULES

PL1.01

Date: Friday, January 24, 2014 Plotted by: Michael Schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408.01 PL101.dwg



SPLASH PAD DATA		
DESCRIPTION	QTY	UNITS
SURFACE AREA	2,200	SQUARE FEET
WATER CONTAINMENT VOLUME	3,000	GALLONS
CIRCULATION RATE	100	GPM
TURNOVER	30	MINUTES
FILTRATION RATE	14.23	GPM/FT²
PATRON LOAD	146	PERSONS

SPLASH PAD DATA — **1**

NONE

LEGEND-1

LINE	PRODUCT	QTY	LINE SIZE	GPM	DETAIL
1	Aqualien Power Spinner VOR-7620	1	1 1/2"	18	1/PL1.13
2	Loop No1 VOR-7719	2	1 1/2"	15	4/PL1.13
3	Bamboo No10 VOR-7730	1	1 1/2"	10	7/PL1.13
4	Team Spray No2 VOR-8061	1	1 1/2"	34	10/PL1.13
5	Team Spray No1 VOR-7640	1	1 1/2"	18	2/PL1.13
6	Directional Water Jet VOR-305	3	1 1/2"	12	5/PL1.13
7	Directional Water Jet VOR-305	3	1 1/2"	12	5/PL1.13
8	8a Ombrello Twirl No1 VOR-7446	1	1 1/2"	6	8/PL1.13
	8b Ombrello Twirl No2 VOR-7447	1		6	11/PL1.13
	8c Ombrello No2 VOR-7440	2		12	3/PL1.13
	8d Ombrello No1 VOR-7445	1		6	6/PL1.13
9	Jet Stream VOR-7512	5	1 1/2"	13	9/PL1.13
10	Aqualien Flower No1 VOR-7388	3	1 1/2"	23	12/PL1.13
11	Fountain Spray VOR-7513	1	1 1/2"	5	1/PL1.14
12	Ground Geyser VOR-301	2	1 1/2"	15	4/PL1.14
13	Aqua Dome No1 VOR-555	1	1 1/2"	14	6/PL1.14
14	Spray Loop VOR-519	2	1 1/2"	25	2/PL1.14
15	Ground Geyser VOR-301	2	1 1/2"	15	4/PL1.14

LEGEND-2

CODE	PRODUCT	QTY	LINE SIZE	DETAIL
AA	Watergarden Activator No1 VOR-612	1		9/PL1.14
BB	Foot Activator VOR-606	1		7/PL1.14
KK	Playsafe Drain No1 vor-1001.4000	3	8"	3/PL1.12

POOL A SPLASH PAD - PLAN — **3**

1/8" = 1'-0"

PLAY FEATURES LEGEND — **2**

NONE

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REINDAHL SPLASH PAD

1818 PORTAGE ROAD
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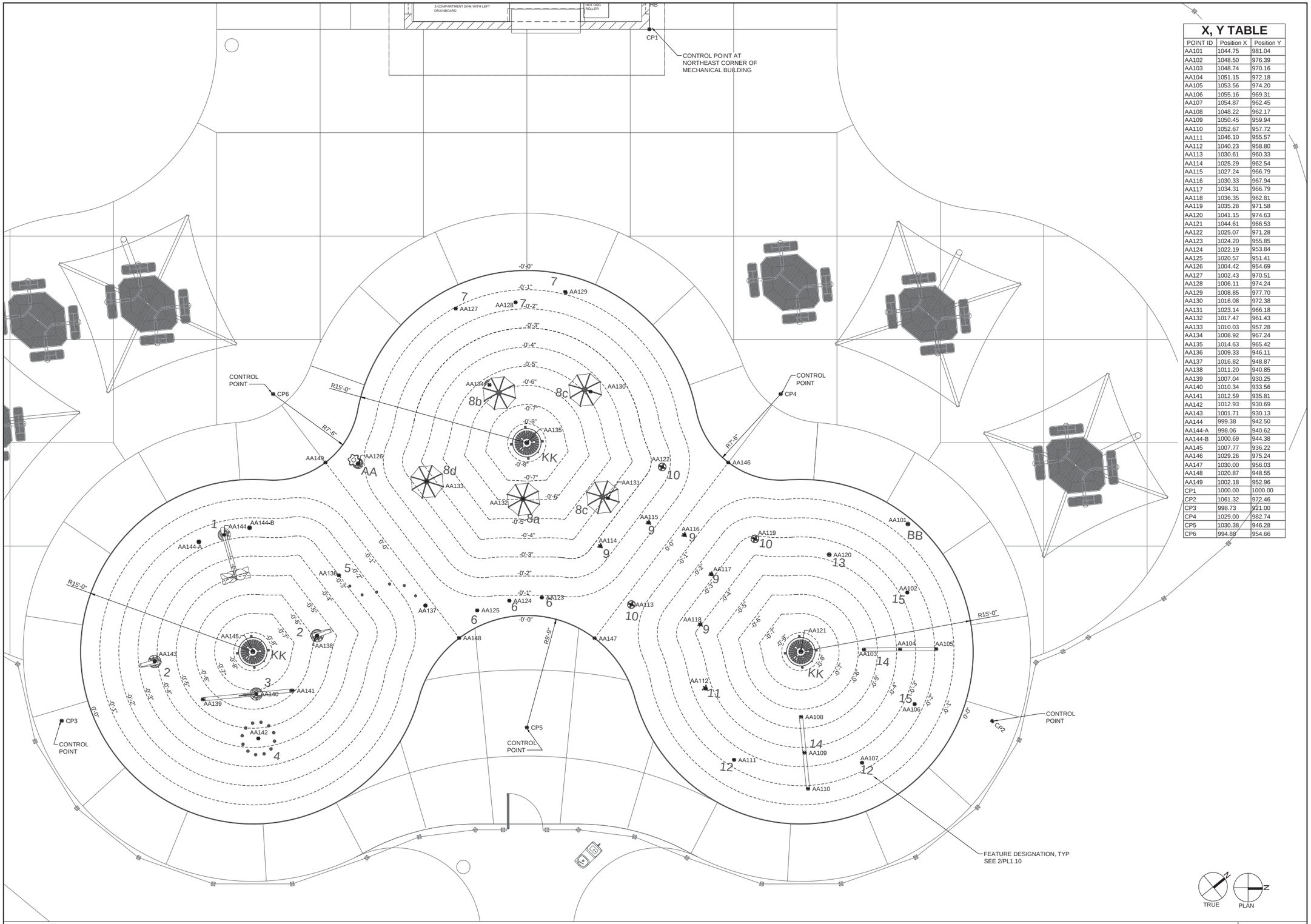
PHASE	BID DOCUMENTS

POOL A SPLASH PAD - PLAN

PL1.10

Date: Friday, January 24, 2014 Plotted by: Michael Schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408.01 PL110.dwg



X, Y TABLE

POINT ID	Position X	Position Y
AA101	1044.75	981.04
AA102	1048.50	976.39
AA103	1048.74	970.16
AA104	1051.15	972.18
AA105	1053.56	974.20
AA106	1055.16	969.31
AA107	1054.87	962.45
AA108	1048.22	962.17
AA109	1050.45	959.94
AA110	1052.67	957.72
AA111	1046.10	955.57
AA112	1040.23	958.80
AA113	1030.61	960.33
AA114	1025.29	962.54
AA115	1027.24	966.79
AA116	1030.33	967.94
AA117	1034.31	966.79
AA118	1036.35	962.81
AA119	1035.28	971.58
AA120	1041.15	974.63
AA121	1044.61	966.53
AA122	1025.07	971.28
AA123	1024.20	955.85
AA124	1022.19	953.84
AA125	1020.57	951.41
AA126	1004.42	954.69
AA127	1002.43	970.51
AA128	1006.11	974.24
AA129	1008.85	977.70
AA130	1016.08	972.38
AA131	1023.14	966.18
AA132	1017.47	961.43
AA133	1010.03	957.28
AA134	1008.92	967.24
AA135	1014.63	965.42
AA136	1009.33	946.11
AA137	1016.82	948.87
AA138	1011.20	940.85
AA139	1007.04	930.25
AA140	1010.34	933.56
AA141	1012.59	935.81
AA142	1012.93	930.69
AA143	1001.71	930.13
AA144	999.38	942.50
AA144-A	998.06	940.62
AA144-B	1000.69	944.38
AA145	1007.77	936.22
AA146	1029.26	975.24
AA147	1030.00	956.03
AA148	1020.87	948.55
AA149	1002.18	952.96
CP1	1000.00	1000.00
CP2	1061.32	972.46
CP3	998.73	921.00
CP4	1029.00	982.74
CP5	1030.38	946.28
CP6	994.88	954.66

POOL A - SPLASH PAD DIMENSION PLAN | 1

1/4" = 1'-0"

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REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

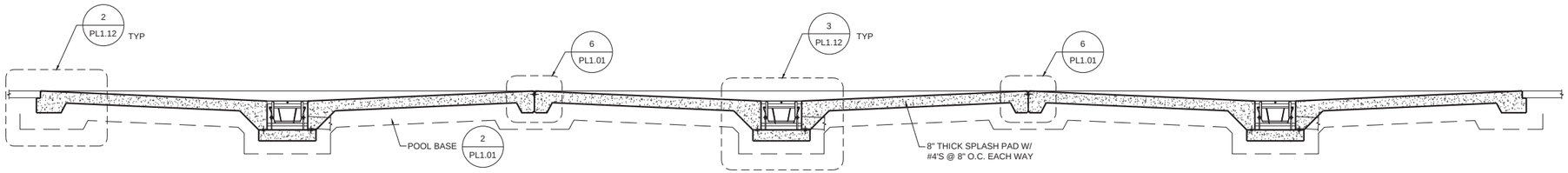
ID	DATE	DESCRIPTION

DATE	01/23/2014
PROJECT NO.	12408.01
DRAWN BY	MLS
CHECKED BY	DGM
PHASE	BID DOCUMENTS

POOL A - SPLASH PAD
DIMENSION PLAN

PL1.11

Date: Friday, January 24, 2014 Plotted by: Michael Schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408.01 PL11.dwg



POOL A - SECTION

1

NONE

THIS SPACE NOT USED

8

NONE

THIS SPACE NOT USED

6

NONE

THIS SPACE NOT USED

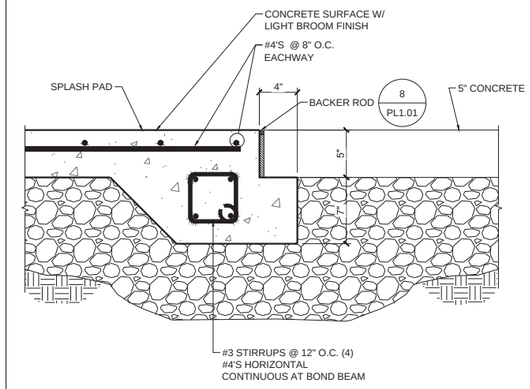
4

NONE

SPLASH PAD AT 5" CONCRETE DECK

2

NONE



THIS SPACE NOT USED

9

NONE

THIS SPACE NOT USED

7

NONE

THIS SPACE NOT USED

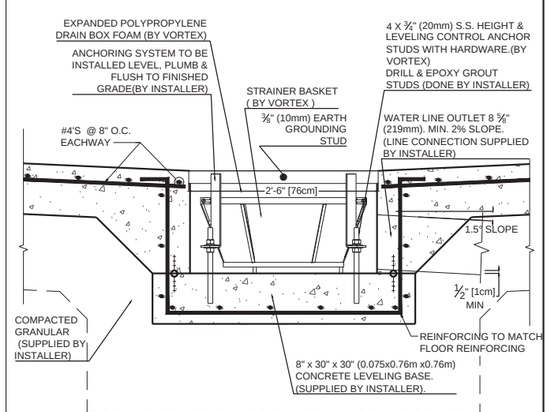
5

NONE

PLAYSAFE DRAIN

3

NONE



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REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

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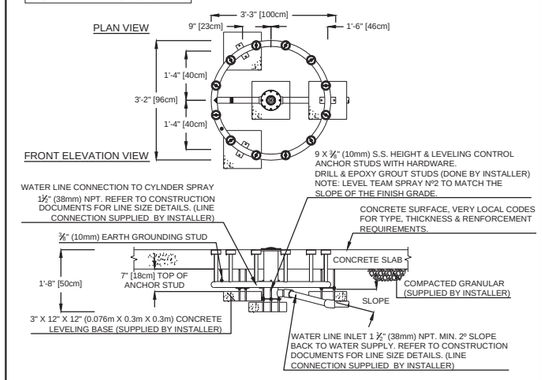
PHASE	BID DOCUMENTS

POOL A - SECTION, DETAILS

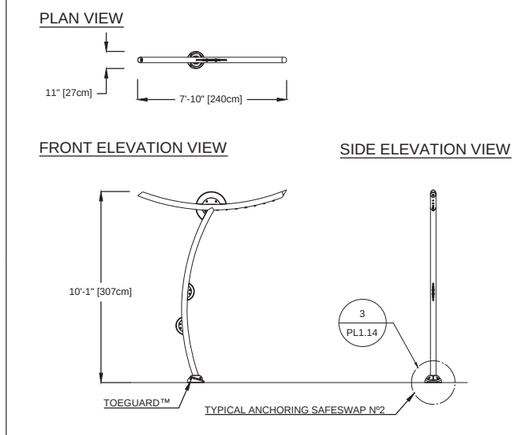
PL1.12

Date: Friday, January 24, 2014 Plotted by: Michael Schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408.01 PL112.dwg

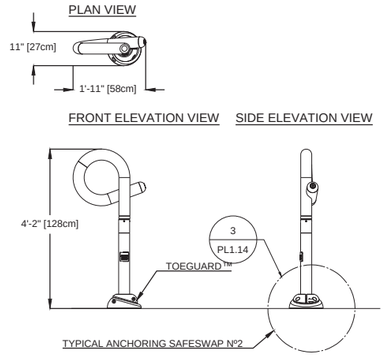
SYNKOFLEX WATERSTOP AT ALL DECK PENETRATIONS IS NOT PROVIDED BY MANUFACTURER



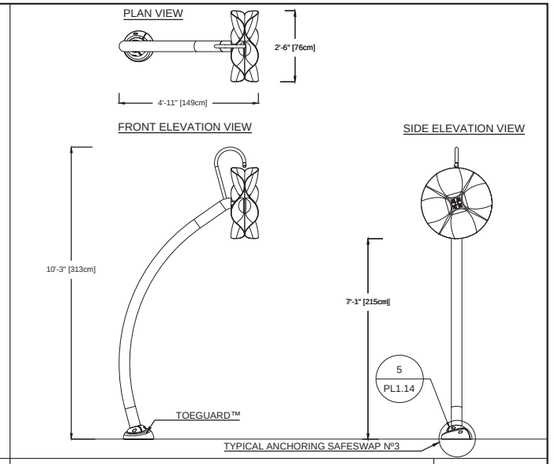
TEAM SPRAY #2	10
	NONE



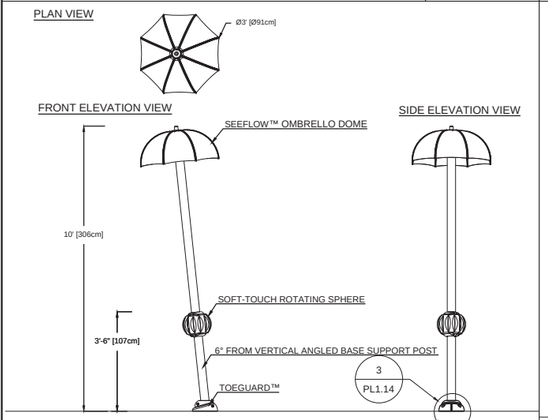
BAMBOO #10	7
	NONE



LOOP #1	4
	NONE

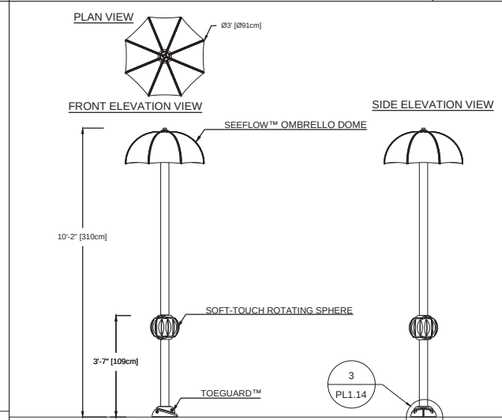


AQUILIEN POWER SPINNER	1
	NONE



VOR-7447.200X OMBRELLO TWIRL Nº2 (Construction Detail)

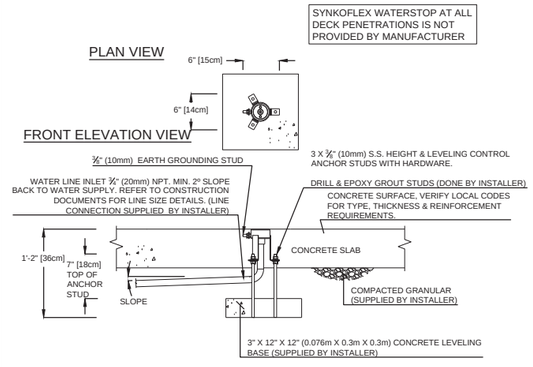
OMBRELLO TWIRL #2	11
	NONE



VOR-7446.200X OMBRELLO TWIRL Nº1 (Construction Detail)

OMBRELLO TWIRL #1	8
	NONE

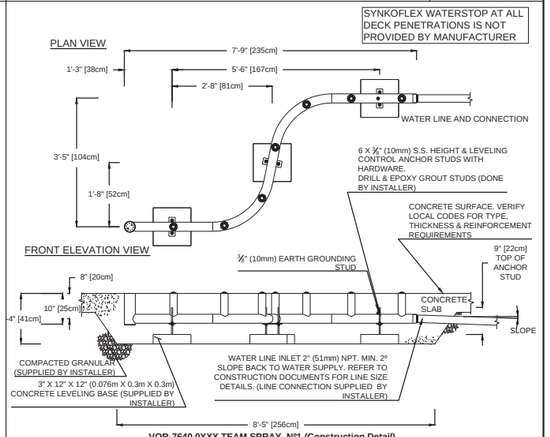
SYNKOFLEX WATERSTOP AT ALL DECK PENETRATIONS IS NOT PROVIDED BY MANUFACTURER



VOR-0305.4XXX DIRECTIONAL WATER JET (Construction Detail)

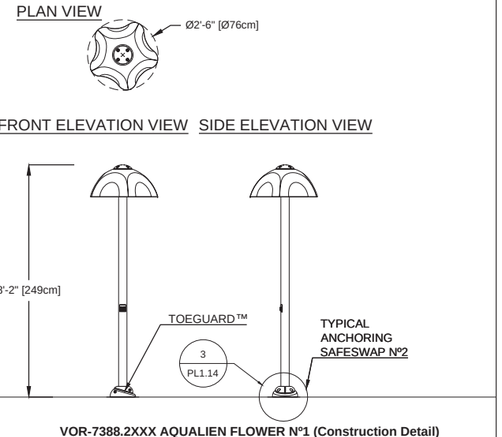
DIRECTIONAL WATER JET	5
	NONE

SYNKOFLEX WATERSTOP AT ALL DECK PENETRATIONS IS NOT PROVIDED BY MANUFACTURER



VOR-7640.0XXX TEAM SPRAY Nº1 (Construction Detail)

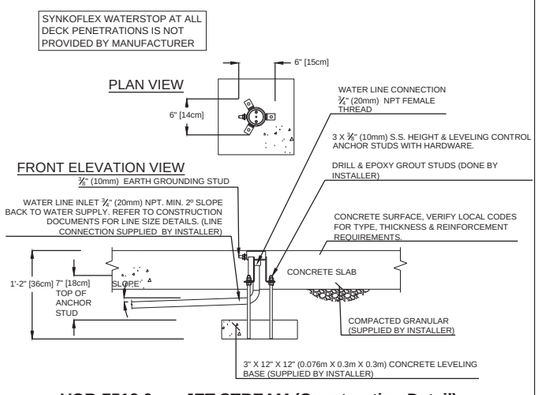
TEAM SPRAY #1	2
	NONE



VOR-7388.2XXX AQUALIEN FLOWER Nº1 (Construction Detail)

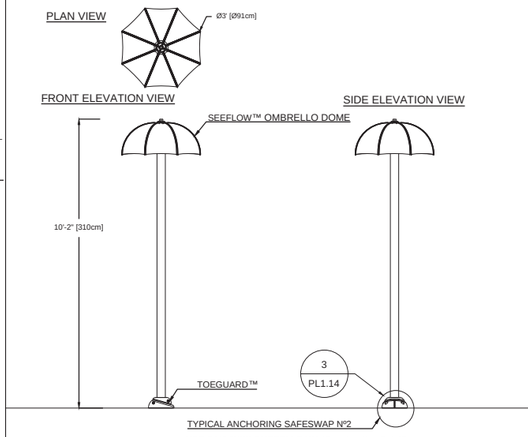
AQUILIEN FLOWER #1	12
	NONE

SYNKOFLEX WATERSTOP AT ALL DECK PENETRATIONS IS NOT PROVIDED BY MANUFACTURER



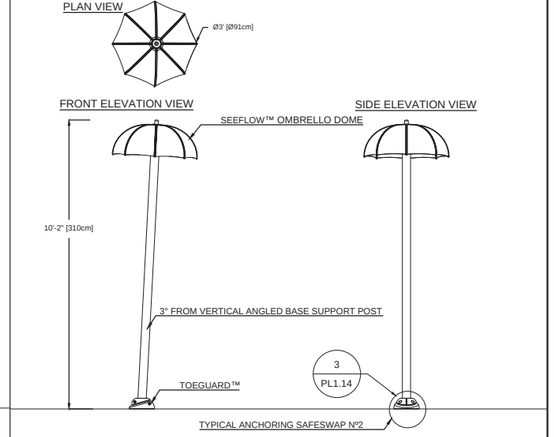
VOR-7512.0xxx JET STREAM (Construction Detail)

JET STREAM	9
	NONE



VOR-7445.2XXX OMBRELLO Nº1 (Construction Detail)

OMBRELLO #1	6
	NONE



VOR-7440.2XXX OMBRELLO Nº2 (Construction Detail)

OMBRELLO #2	3
	NONE

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#12408.01

REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

ID	DATE	DESCRIPTION

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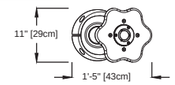
CHECKED BY	DGM
PHASE	BID DOCUMENTS

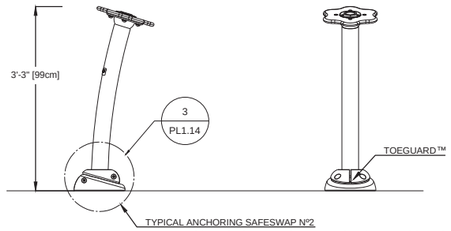
WATER FEATURE DETAILS

PL1.13

PLAN VIEW



FRONT ELEVATION VIEW



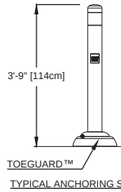
SIDE ELEVATION VIEW

WATER LINE CONNECTION REPLACED BY ELECTRICAL LINE CONNECTION. 14 AWG (2,5mm²)-2 WIRE CONDUCTOR TO BE USED FOR ELECTRICAL CONNECTION. (SUPPLIED BY INSTALLER)

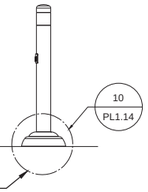
VOR-0612.2XXX WATER GARDEN ACTIVATOR N°1 (Construction Detail)

PLAN VIEW

FRONT ELEVATION VIEW



SIDE ELEVATION VIEW

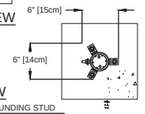


TYPICAL ANCHORING SAFESWAP N°1

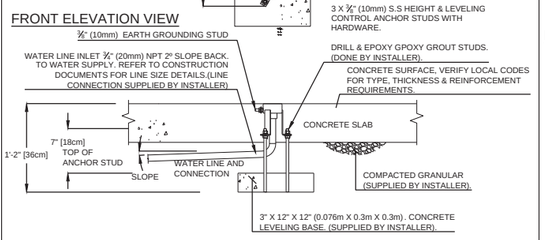
VOR-0555.2XXX AQUA DOME N°1 (Construction Detail)

SYNKOFLEX WATERSTOP AT ALL DECK PENETRATIONS IS NOT PROVIDED BY MANUFACTURER

PLAN VIEW



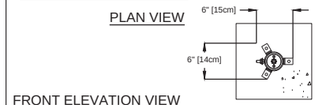
FRONT ELEVATION VIEW



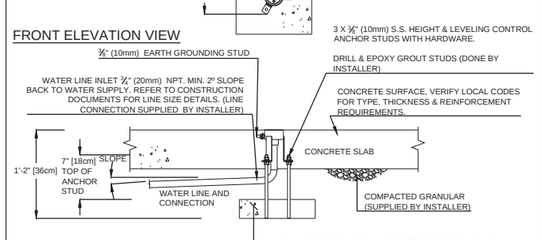
VOR-0301.4xxx GROUND GEYSER (Construction Detail)

SYNKOFLEX WATERSTOP AT ALL DECK PENETRATIONS IS NOT PROVIDED BY MANUFACTURER

PLAN VIEW



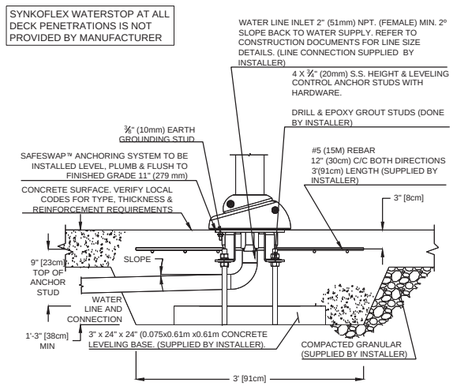
FRONT ELEVATION VIEW



VOR-7513.0XXX FOUNTAIN SPRAY (Construction Detail)

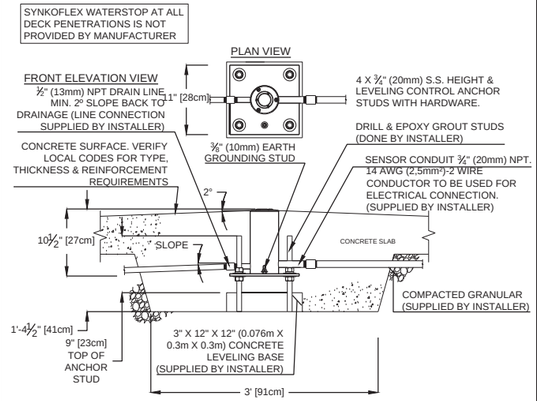
WATER GARDEN ACITVATOR #1	9	AQUA DOME	6	GROUND GEYSER	4	FOUNTAIN SPRAY	1
	NONE		NONE		NONE		NONE

SYNKOFLEX WATERSTOP AT ALL DECK PENETRATIONS IS NOT PROVIDED BY MANUFACTURER



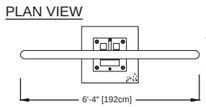
SAFESWAP N° 1 (Construction Detail) LARGE

SYNKOFLEX WATERSTOP AT ALL DECK PENETRATIONS IS NOT PROVIDED BY MANUFACTURER

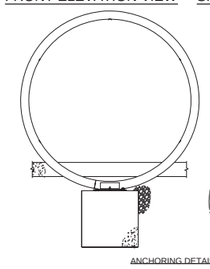


VOR-0606.0XXX FOOT ACTIVATOR (Construction Detail)

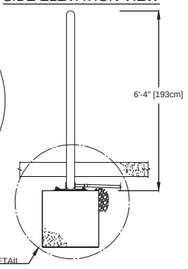
PLAN VIEW



FRONT ELEVATION VIEW

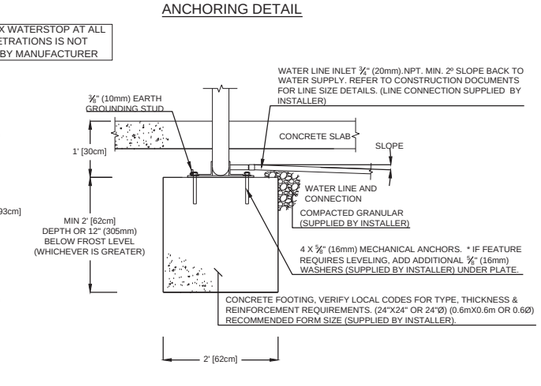


SIDE ELEVATION VIEW



ANCHORING DETAIL

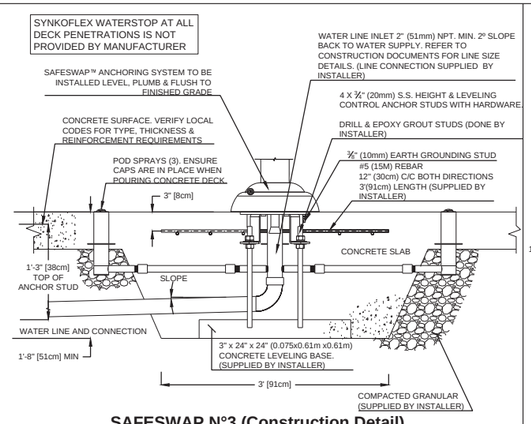
SYNKOFLEX WATERSTOP AT ALL DECK PENETRATIONS IS NOT PROVIDED BY MANUFACTURER



VOR-0519.0XXX SPRAY LOOP (Construction Detail)

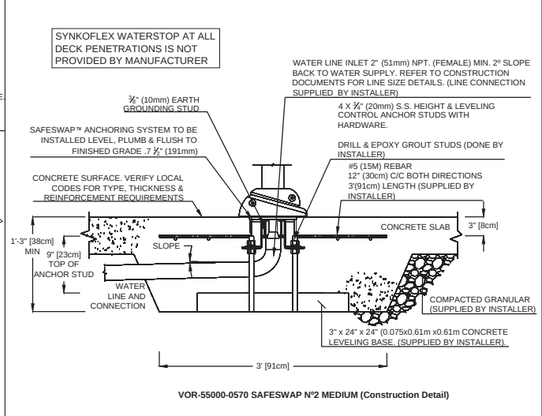
SAFE SWAP #1	10	FOOT ACTIVATOR	7	SPRAY LOOP	2
	NONE		NONE		NONE

SYNKOFLEX WATERSTOP AT ALL DECK PENETRATIONS IS NOT PROVIDED BY MANUFACTURER



SAFESWAP N°3 (Construction Detail)

SYNKOFLEX WATERSTOP AT ALL DECK PENETRATIONS IS NOT PROVIDED BY MANUFACTURER



VOR-55000-0570 SAFESWAP N°2 MEDIUM (Construction Detail)

THIS SPACE NOT USED	11	THIS SPACE NOT USED	8	SAFE SWAP #3	5	SAFE SWAP #2	3
	NONE		NONE		NONE		NONE

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#12408.01

REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

ID	DATE	DESCRIPTION

DATE	01/23/2014
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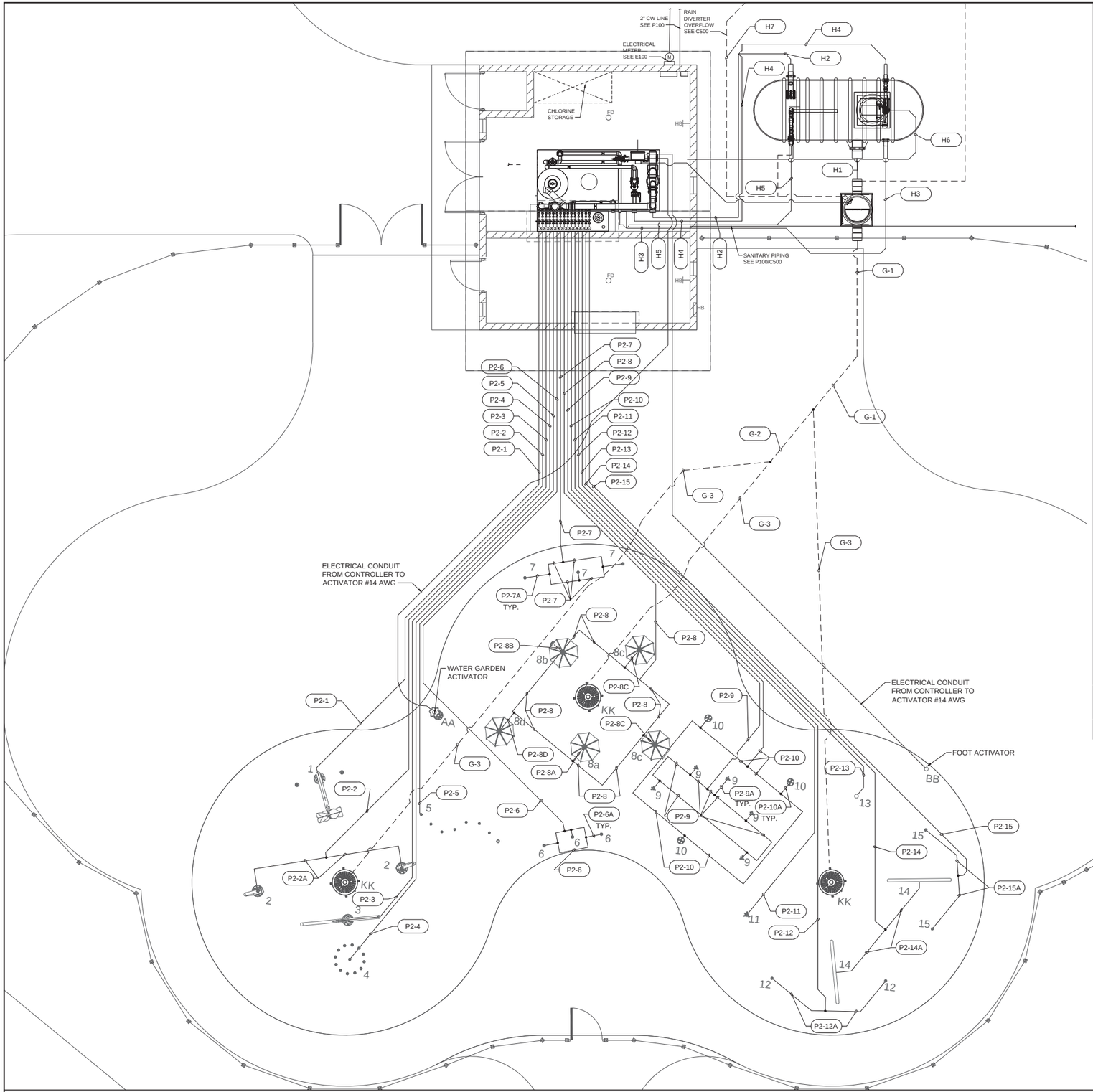
PHASE	BID DOCUMENTS

WATER FEATURE DETAILS

PL1.14

Date: Friday, January 24, 2014 Plotted by: Michael Schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408.01 PL114.dwg



SPRAY PAD - PIPING PLAN

2

3/16 = 1'-0"

POOL A PIPE SCHEDULE

PIPE ID	TYPE	NPS	FLOW	VELOCITY	DESCRIPTION
		(in)	(gpm)	(fps)	
G-1	PVC SCH 80	10	259	1.2	SPLASH PAD DRAIN
G-2	PVC SCH 80	8	173	1.2	SPLASH PAD DRAIN
G-3	PVC SCH 80	8	86	0.6	SPLASH PAD DRAIN
-	-	-	-	-	-
H1	PVC SCH 80	10	259	1.2	MAIN DRAIN RETURN
H2	PVC SCH 80	6	259	3.2	PLAY PRODUCT SUCTION OUTLET
H3	PVC SCH 80	3	158	7.9	BYPASS RETURN
H4	PVC SCH 80	4	101	2.9	FILTER PUMP SUCTION OUTLET
H5	PVC SCH 80	3	101	5.0	FILTER RETURN
H6	PVC SCH 80	1	0	0.0	FRESH WATER INLET
H7	PVC SCH 80	4	0	0.0	RAIN DIVERTER/OVERFLOW OUTLET - TERMINATE TO DAYLIGHT AT SOUTHERN TENNIS COURT DRAIN SWALE
L8	PVC SCH 80	3	105	5.2	FILTER BACKWASH
-	-	-	-	-	-
P2-1	PVC SCH 80	1.5	18	3.4	AQUALIEN POWER SPINNER
P2-2	PVC SCH 80	1.5	15	2.8	LOOP NO. 1
P2-2A	PVC SCH 80	1.5	8	1.4	LOOP NO. 1
P2-3	PVC SCH 80	1.5	10	1.9	BAMBOO NO. 10
P2-4	PVC SCH 80	1.5	34	6.4	TEAM SPRAY NO. 2 SUPPLY
P2-5	PVC SCH 80	1.5	18	3.4	TEAM SPRAY NO. 1 SUPPLY
P2-6	PVC SCH 80	1.5	12	2.2	DIRECTIONAL WATER JET SUPPLY
P2-6A	PVC SCH 80	1.5	4	0.7	DIRECTIONAL WATER JET SUPPLY
P2-7	PVC SCH 80	1.5	12	2.2	DIRECTIONAL WATER JET SUPPLY
P2-7A	PVC SCH 80	1.5	4	0.7	DIRECTIONAL WATER JET SUPPLY
P2-8	PVC SCH 80	1.5	30	5.6	OMBRELLA'S SUPPLY
P2-8A	PVC SCH 80	1.5	6	1.1	OMBRELLA TWIRL NO. 1 SUPPLY
P2-8B	PVC SCH 80	1.5	6	1.1	OMBRELLA TWIRL NO. 2 SUPPLY
P2-8C	PVC SCH 80	1.5	6	1.1	OMBRELLA NO. 2 SUPPLY
P2-8D	PVC SCH 80	1.5	6	1.1	OMBRELLA NO. 1 SUPPLY
P2-9	PVC SCH 80	1.5	13	2.4	JET STREAM SUPPLY
P2-9A	PVC SCH 80	1.5	3	0.5	JET STREAM SUPPLY
P2-10	PVC SCH 80	1.5	13	2.4	AQUALIEN FLOWER NO. 1
P2-10A	PVC SCH 80	1.5	3	0.5	AQUALIEN FLOWER NO. 1
P2-11	PVC SCH 80	1.5	5	0.9	FOUNTAIN SPRAY
P2-12	PVC SCH 80	1.5	15	2.8	GROUND GEYSER SUPPLY
P2-12A	PVC SCH 80	1.5	8	1.4	GROUND GEYSER SUPPLY
P2-13	PVC SCH 80	1.5	14	2.6	AQUA DOME NO.1
P2-14	PVC SCH 80	1.5	25	4.7	SPRAY LOOP SUPPLY
P2-14A	PVC SCH 80	1.5	13	2.3	SPRAY LOOP SUPPLY
P2-15	PVC SCH 80	1.5	15	2.8	GROUND GEYSER SUPPLY

POOL A PIPE SCHEDULE

1

NONE

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REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

ID	DATE	DESCRIPTION

DATE	01/23/2014
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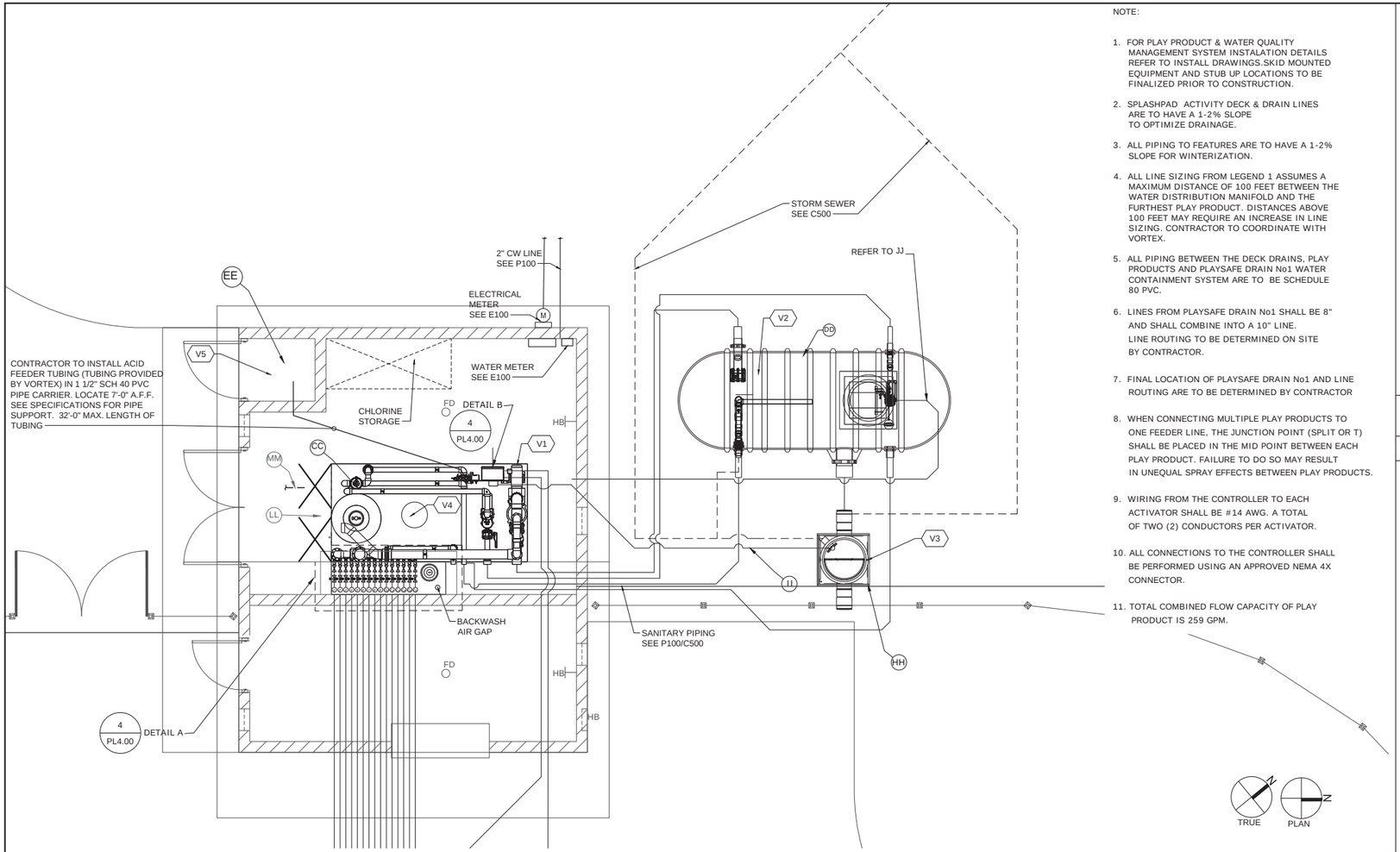
POOL A - PIPING AND DETAILS

PL3.00

Date: Friday, January 24, 2014 Plotted by: Michael Schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408.01 PL300.dwg



NOTE:

1. FOR PLAY PRODUCT & WATER QUALITY MANAGEMENT SYSTEM INSTALATION DETAILS REFER TO INSTALL DRAWINGS.SKID MOUNTED EQUIPMENT AND STUB UP LOCATIONS TO BE FINALIZED PRIOR TO CONSTRUCTION.
2. SPLASHPAD ACTIVITY DECK & DRAIN LINES ARE TO HAVE A 1-2% SLOPE TO OPTIMIZE DRAINAGE.
3. ALL PIPING TO FEATURES ARE TO HAVE A 1-2% SLOPE FOR WINTERIZATION.
4. ALL LINE SIZING FROM LEGEND 1 ASSUMES A MAXIMUM DISTANCE OF 100 FEET BETWEEN THE WATER DISTRIBUTION MANIFOLD AND THE FURTHEST PLAY PRODUCT. DISTANCES ABOVE 100 FEET MAY REQUIRE AN INCREASE IN LINE SIZING. CONTRACTOR TO COORDINATE WITH VORTEX.
5. ALL PIPING BETWEEN THE DECK DRAINS, PLAY PRODUCTS AND PLAYSAFE DRAIN No1 WATER CONTAINMENT SYSTEM ARE TO BE SCHEDULE 80 PVC.
6. LINES FROM PLAYSAFE DRAIN No1 SHALL BE 8" AND SHALL COMBINE INTO A 10" LINE. LINE ROUTING TO BE DETERMINED ON SITE BY CONTRACTOR.
7. FINAL LOCATION OF PLAYSAFE DRAIN No1 AND LINE ROUTING ARE TO BE DETERMINED BY CONTRACTOR
8. WHEN CONNECTING MULTIPLE PLAY PRODUCTS TO ONE FEEDER LINE, THE JUNCTION POINT (SPLIT OR T) SHALL BE PLACED IN THE MID POINT BETWEEN EACH PLAY PRODUCT. FAILURE TO DO SO MAY RESULT IN UNEQUAL SPRAY EFFECTS BETWEEN PLAY PRODUCTS.
9. WIRING FROM THE CONTROLLER TO EACH ACTIVATOR SHALL BE #14 AWG. A TOTAL OF TWO (2) CONDUCTORS PER ACTIVATOR.
10. ALL CONNECTIONS TO THE CONTROLLER SHALL BE PERFORMED USING AN APPROVED NEMA 4X CONNECTOR.
11. TOTAL COMBINED FLOW CAPACITY OF PLAY PRODUCT IS 259 GPM.

MECHANICAL PLAN — 3

1/4" = 1'-0"

MECHANICAL EQUIPMENT SCHEDULE

DRAWING	ID TAG	DESCRIPTION	QTY.	BASIS OF DESIGN
4/4	V1	FILTRATION	1	VORTEX WATER QUALITY MANAGEMENT SYSTEM
4/4	V2	WATER CONTAINMENT TANK	1	VORTEX WATER CONTAINMENT SYSTEM
4/4	V3	DEBRIS TRAP	1	VORTEX DEBRIS TRAP
4/4	V4	CHLORINE SYSTEM	1	VORTEX PULSAR SYSTEM
4/4	V5	PH SYSTEM	1	VORTEX ACID FEED SYSTEM

EQUIPMENT SCHEDULE — 1

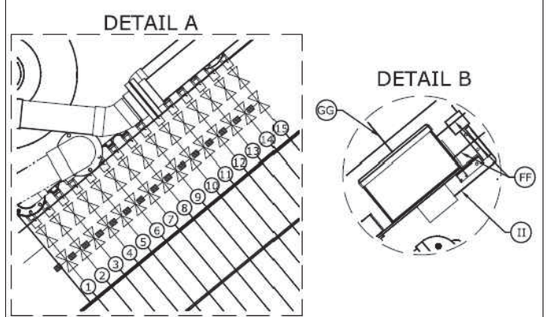
NONE

CODE	PRODUCT	QTY	PROVIDED BY
CC	Water Quality Management System VOR-2050765.5000		VORTEX
DD	Water Containment System (3000 GAL) VOR-5311.0000		VORTEX
EE	Chemical Reservoir	1	VORTEX
FF	Electrical Conduit from Controller to Activator; 2 Conductors#14 AWG	2	CONTRACTOR
GG	Main Power, 230 VAC Single Phase, 60Hz See WQMS Installation Drawing		CONTRACTOR
HH	Debris Trap with Rain Diverter VOR-5322		VORTEX
II	Electrical Conduit from Rain Diverter Junction Box to Rain Diverter; 4 Conductors#14 AWG		CONTRACTOR
JJ	Makeup Water Line		CONTRACTOR
⧖	Ball Valve	15	VORTEX
⧖	Solenoid Valve	15	VORTEX
⊼	Backflow Preventor		CONTRACTOR

THIS SPACE NOT USED — 5

NONE

MECHANICAL DETAILS — 4



NONE

EQUIPMENT LEGEND — 2

NONE

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REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

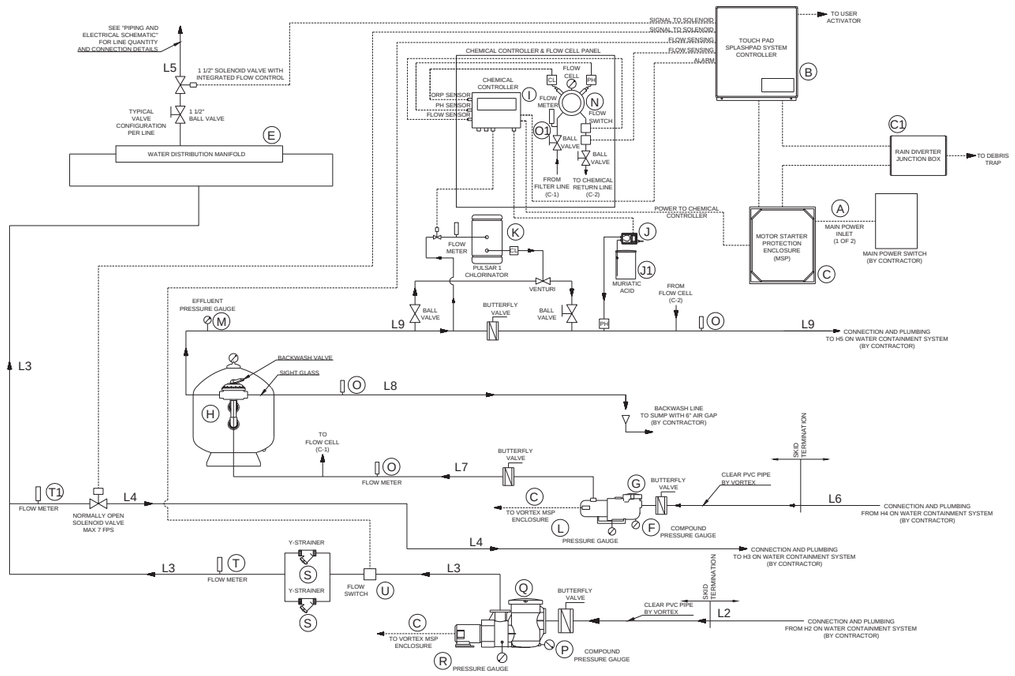
ID	DATE	DESCRIPTION

DATE	01/23/2014
PROJECT NO.	12408.01
DRAWN BY	MLS
CHECKED BY	DGM
PHASE	BID DOCUMENTS

MECHANICAL PLAN, EQUIPMENT LIST AND DETAILS

PL4.00

Date: Friday, January 24, 2014 Plotted by: Michael Schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408.01 PL400.dwg



VOR-2040765.5000R01 WATER QUALITY MANAGEMENT SYSTEM

WATER QUALITY MANAGEMENT SYSTEM	ALL EQUIPMENT SHOWN SHALL BE PROVIDED BY VORTEX ON THEIR EQUIPMENT SKID, UNLESS LISTED A BY CONTRACTOR. SKID INTALLATIONSHALL BE BY CONTRACTOR	3
		NONE

WATER QUALITY MANAGEMENT SYSTEM SPECIFICATIONS

ITEM	ITEM	PROVIDED BY	DESCRIPTION	QTY
	GENERAL			
A	MAIN ELECTRICAL POWER	CONTRACTOR	230 VAC, 45 AMPS, SINGLE PHASE, 60 Hz.	1
B	SPLASHPAD SYSTEM CONTROLLER	VORTEX	26 OUTPUT TOUCH SCREEN INTERFACE CONTROLLER, PREWIRED TO ALL SKID MOUNTED COMPONENTS. USER PROGRAMMABLE OPERATIONAL HOUR TIME CLOCK AND SPLASHPAD SPRAY SEQUENCES. INCLUDE FACTORY PRESET SPRAY SEQUENCE. EQUIPMENT AND ALARM FAILSAFES.	1
C	MOTOR STARTER PROTECTION ENCLOSURE	VORTEX	MOTOR STARTERS AND OVERLOAD RELAYS. INDIVIDUAL CONTROL FOR EACH PUMP.	1
C1	RAIN DIVERTER JUNCTION BOX	VORTEX	PREWIRED TO SYSTEM CONTROLLER & MOTOR STARTER PROTECTION ENCLOSURE. CONTROL VALVE FOR RAIN DIVERTER IN DEBRIS TRAP.	1
D	WQMS SKID BASE	VORTEX	FIBER REINFORCED POLYMER COMPOSITE 72" WIDE X 144" LONG.	1
E	WATER DISTRIBUTION MANIFOLD	VORTEX	15 VALVES DISTRIBUTION MANIFOLD, PREWIRED TO ALL SOLENOIDS. WITH BALL VALVES.	1
	FILTRATION AND CHEMICAL TREATMENT LOOP			
F	COMPOUND GAUGE	WINTER INSTRUMENTS *	COMPOUND GAUGE, 0-30" Hg / 0-60 PSI	1
G	FILTRATION PUMP	PENTAIR, WHISPERFLO, WFK-12 *	3 HP, SELF PRIMING PUMP, SINGLE PHASE 230V, 127 GPM @ 70 FT HD, 141 GPM @ 60 FT HD, 10.4 AMPS FLA @ 230V. NSF CERTIFIED.	1
H	SAND FILTER	PENTAIR, TRITON, TR-140C *	7.06 SQ. FT, 106 GPM @ 15 GPM/SQ. FT, 36" DIAMETER, BACKWASH VALVE INCLUDED. NSF CERTIFIED.	1
I	CHEMICAL CONTROLLER	BECS TECHNOLOGY, BECSYS3 *	ORP AND PH CONTROL WITH HIGH / LOW READING ALARM. NSF 50 CERTIFIED.	1
J	PERISTALTIC PUMP	BLUE-WHITE IND, A1N20A-ET **	UP TO 24GPD FEED CAPACITY, NSF CERTIFIED.	1
J1	CHEMICAL RESERVOIR	VORTEX **	DOUBLE WALL 50 GAL. POLYETHYLENE TANK. 26.5" DIA. x 38" H. 40 CFR CERTIFIED.	1
K	CHLORINE FEED SYSTEM	PULSAR 1 CHLORINATOR **	CALCIUM HYPOCHLORITE AUTOMATIC CHLORINATOR. NSF CERTIFIED.	1
L	PRESSURE GAUGE	WINTER INSTRUMENTS *	PRESSURE GAUGE, 0-60 PSI	1
M	EFFLUENT PRESSURE GAUGE	WINTER INSTRUMENTS *	PRESSURE GAUGE, 0-60 PSI	1
N	FLOW SWITCH	HARWILL *	FLOW SWITCH, 24V	2
O	FLOW METER	BLUE-WHITE IND, F-300 SERIES *	3" PIPE FLOW METER, 40-140 GPM READING	3
O1	FLOW METER	BLUE-WHITE IND, F-400 SERIES *	3/8" PIPE FLOW METER, 0.2-2 GPM READING	1
	PLAY PRODUCT LOOP			
P	COMPOUND GAUGE	WINTER INSTRUMENTS *	COMPOUND GAUGE, 0-30" Hg / 0-60 PSI	1
Q	PLAY PRODUCT PUMP	PENTAIR, EQ SERIES, EQK750 *	7.5 HP, SELF PRIMING PUMP, SINGLE PHASE 230V, 335 GPM @ 70 FT HD, 390 GPM @ 60 FT HD, 18.2 AMPS FLA @ 230V. NSF CERTIFIED.	1
R	PRESSURE GAUGE	WINTER INSTRUMENTS *	PRESSURE GAUGE, 0-60 PSI	1
S	Y-STRAINER	SPEARS *	4" PVC STRAINER WITH MESH BASKET	2
T	FLOW METER	BLUE-WHITE IND, F-300 SERIES *	6" PIPE FLOW METER, 250-1050 GPM READING	1
T1	FLOW METER	BLUE-WHITE IND, F-300 SERIES *	3" PIPE FLOW METER, 80-300 GPM READING	1
U	FLOW SWITCH	IFM EFECTOR *	FLOW SWITCH, 24V	1

LINE SIZE CONNECTION CHART

BY	FROM	TO	ITEM	SIZE
VORTEX	PLAY PRODUCT PUMP Q	WATER DISTRIBUTION MANIFOLD E	L3	6" / 4"(2)
VORTEX	FILTRATION PUMP G	SAND FILTER H	L7	3"
CONTRACTOR	WATER CONTAINMENT SYSTEM H2	PLAY PRODUCT PUMP Q	L2	6"
CONTRACTOR	LINE L3	WATER CONTAINMENT SYSTEM H3	L4	3"
CONTRACTOR	WATER DISTRIBUTION MANIFOLD E	PLAY PRODUCTS	L5	SEE SHEET 3
CONTRACTOR	WATER CONTAINMENT SYSTEM H4	FILTRATION PUMP G	L6	4"
CONTRACTOR	SAND FILTER H	SANITARY SEWER SYSTEM	L8	3"
CONTRACTOR	SAND FILTER H	WATER CONTAINMENT SYSTEM H5	L9	3"

NOTE: REFER TO VORTEX' WATER QUALITY MANGEMENT SYSTEM AND VORTEX' WATER CONTAINMENT SYSTEM FOR PIPE SIZES. BETWEEN THE TWO SYSTEMS, PUT THE LESSER OF THE TWO PIPE SIZE. IF THE WATER CONTAINMENT SYSTEM IS NOT BY VORTEX, REFER TO VORTEX' WATER QUALITY MANAGEMENT SYSTEM FOR PIPE SIZE.

NOTE: SPLASHPAD EQUIPMENT WILL BE DELIVERED BY THE MANUFACTURER TO THE SITE AT THE BEGINING OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR RECEIVING EQUIPMENT, SECURING EQUIPMENT, AND PROTECTING AGAINT VANDALISM.

ELECTRICAL NOTES

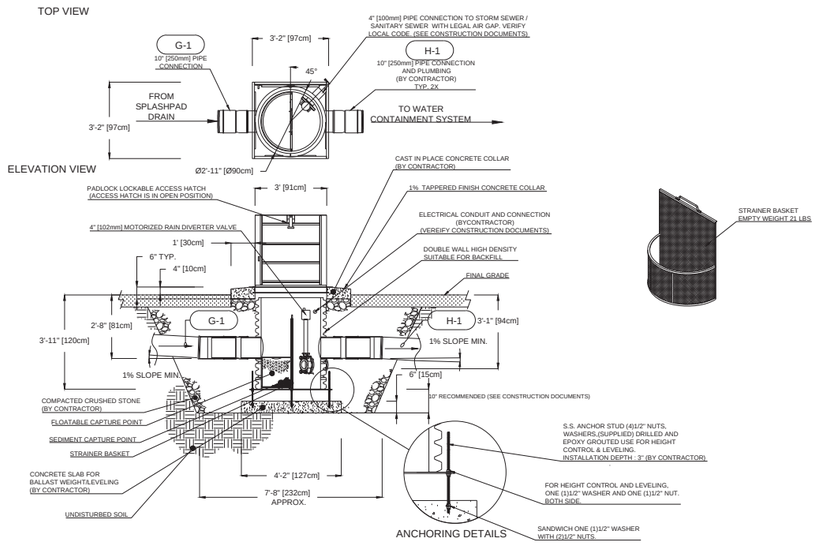
1. ALL WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE ARTICLE 680 (2011), STATE, AND LOCAL ELECTRICAL CODES.
2. THE SPLASH PAD SHALL BE GROUNDED ACCORDING TO NATIONAL ELECTRICAL CODE ARTICLE 680 (2011 EDITION).
3. THE SPLASH PAD SHALL BE BONDED ACCORDING TO NATIONAL ELECTRICAL CODE ARTICLE 680 (2011 EDITION).
4. THE CHEMICAL CONTROLLER, SHALL BE ELECTRICALLY INTERLOCKED WITH THE CORRESPONDING SPLASH PAD FILTRATION PUMP.
5. THE CHLORINE BOOSTER PUMP , SHALL BE ELECTRICALLY INTERLOCKED WITH THE CORRESPONDING SPLASH PAD FILTRATION PUMP.

* PROVIDED BY VORTEX AS PART OF THE WATER QUALITY MANAGEMENT SYSTEM. ALL EQUIPMENT IS PROVIDED ON A SKID., THE SKID SHALL BE INSTALLED BY CONTRACTOR.

** PROVIDED BY VORTEX AS A PART OF THE WATER QUALITY MANAGEMENT SYSTEM. INSTALLED BY VORTEX.

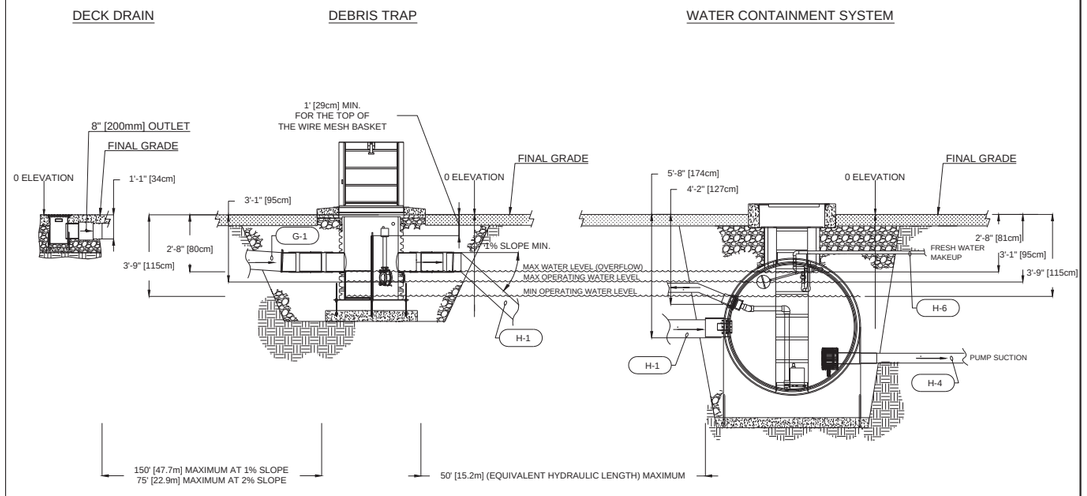
VOR-2040765.5000R01 WATER QUALITY MANAGEMENT SYSTEM

WATER QUALITY MANAGEMENT SYSTEM		4
		NONE



DEBRIS TRAP HDPE WITH RAIN DIVERTER

DEBRIS TRAP HDPE WITH RAIN DIVERTER	1
	NONE



NOTES:
1. ALL DRAINAGE LINES ARE GRAVITY FEED. 1% SLOPE MIN, 2% SUGGESTED.

DEBRIS TRAP HDPE WITH RAIN DIVERTER AND WATER CONTAINMENT SYSTEM	2
	NONE

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#12408.01

REINDAHL SPLASHPAD

1818 PORTAGE ROAD
MADISON, WI 53704

ID	DATE	DESCRIPTION
2	01/13/14	REBID

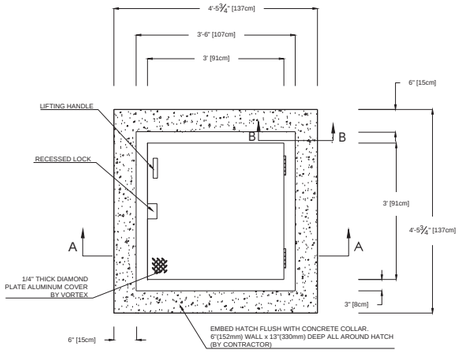
DATE	01/23/2014
PROJECT NO.	12408.01
DRAWN BY	MLS
CHECKED BY	DGM
PHASE	BID DOCUMENTS

REFERENCE DRAWINGS BY VORTEX

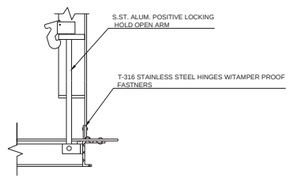
PL4.01

Date: Friday, January 24, 2014 Plotted by: Michael Schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408.01 PL401.dwg

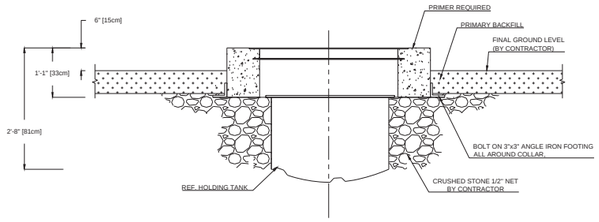
PLAN VIEW



NOTE: COVER SHOWN IN OPEN POSITION.



SECTION B-B



SECTION A-A

VOR-5311.0000R07 WATER CONTAINMENT SYSTEM 3000G

VOR-5311.0000R07 WATER CONTAINMENT SYSTEM 3000G

WATER CONTAINMENT SYSTEM 3000G

3

NONE

The 3000-gallon tank shall be a pre-fabricated unit designed to safely store the water used for the facility. The tank shall be pre-assembled at the factory and shall include the following connections: one 10" inlet for main drain, one 6" feature pump suction outlet , one 3" return inlet from feature pump, one 4" filter pump suction outlet, one 3" filtration return inlet, one 1" inlet for freshwater and one 4" outlet for overflow/discharge. The tank shall also include a water level detection system and one access hatch with ladder. It shall include the following:

Tank
- 3000 gallon capacity
- Fiberglass
- Single wall
- Ø 73", ~193" long
- Fiberglass ladder included

Anchor
- Anchoring straps with hardware
- U-bolt type embedded in concrete

Access hatch
- Aluminum access hatch
- Hinged and pad-locked, with aluminum frame and SS hardware

Level control
- Float valve connected to make up water line
- Polypropylene anti corrosion valve
- Inlet size 1", outlet size 1"
- Maximum working pressure 100 psi

Inlets
- 10" inlet for main drain
- 3" inlet for feature return
- 3" inlet for filtration return
- 1" inlet for freshwater

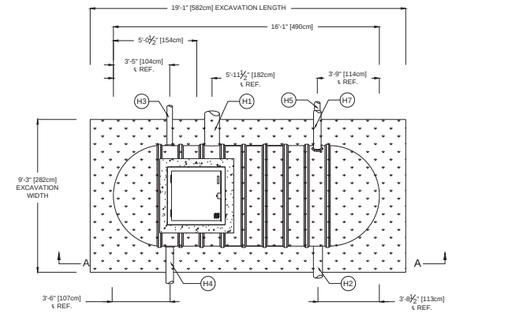
Outlets
- 6" outlet for play product pump
- 4" outlet for filter pump
- 4" outlet for overflow / discharge

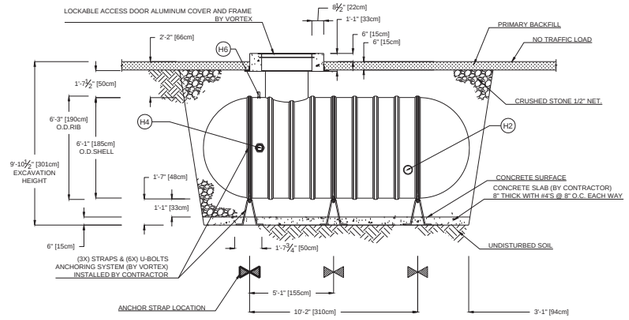
VOR-5311.0000R07 WATER CONTAINMENT SYSTEM 3000G

WATER CONTAINMENT SYSTEM 3000G -PROVIDED YB VRTEX INSTALLED BY CONTRACTOR

4

NONE





SECTION A-A

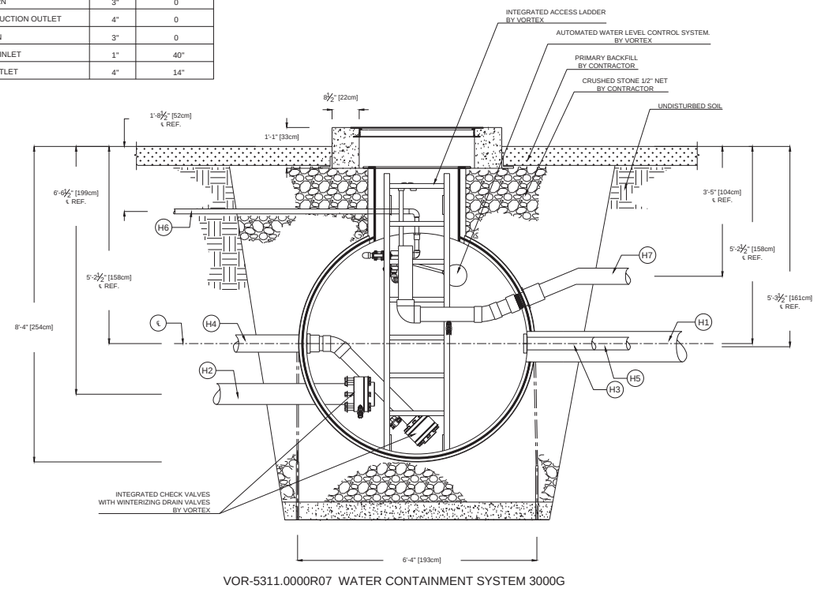
VOR-5311.0000R07 WATER CONTAINMENT SYSTEM 3000G

WATER CONTAINMENT SYSTEM 3000G -PROVIDED YB VRTEX INSTALLED BY CONTRACTOR

1

NONE

LINE	DESCRIPTION	SIZE	HEIGHT FROM C/L
H 1	MAIN DRAIN RETURN	10"	-1"
H 2	PLAY PRODUCT SUCTION OUTLET	6"	-16"
H 3	BYPASS RETURN	3"	0
H 4	FILTER PUMP SUCTION OUTLET	4"	0
H 5	FILTER RETURN	3"	0
H 6	FRESH WATER INLET	1"	40"
H 7	OVERFLOW OUTLET	4"	14"



VOR-5311.0000R07 WATER CONTAINMENT SYSTEM 3000G

WATER CONTAINMENT SYSTEM 3000G -PROVIDED YB VRTEX INSTALLED BY CONTRACTOR

2

NONE

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#12408.01

REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI 53704

ID	DATE	DESCRIPTION

DATE	01/23/2014
PROJECT NO.	12408.01
DRAWN BY	MLS
CHECKED BY	DGM
PHASE	BID DOCUMENTS

REFERENCE DRAWING BY VORTEX

PL4.02

Date: Friday, January 24, 2014 Plotted by: Michael Schommer Drawing location: p:\2012\12408.01 wi madison\Drawings\12408.01 PL402.dwg

PLUMBING SYMBOLS, ABBREVIATIONS, SCHEDULES & SHEET INDEX

NOTE: NOT ALL SYMBOLS AND ABBREVIATIONS INDICATED HERE ARE USED IN THE DRAWINGS AND MAY NOT APPLY TO THIS PROJECT. ADDITIONAL SYMBOLS MAY BE INDICATED IN THE DRAWINGS.

PLUMBING ABBREVIATIONS

A	-	AIR	LAV	-	LAVATORY
AFF	-	ABOVE FINISHED FLOOR	LBS,	-	POUNDS
AFG	-	ABOVE FINISHED GRADE	LB/HR	-	POUNDS PER HOUR
ALT	-	ALTERNATE			
AP	-	ACCESS PANEL	MAX	-	MAXIMUM
APPROX.	-	APPROXIMATELY	MB	-	MOP BASIN
ARCH	-	ARCHITECTURAL	MBH	-	THOUSANDS OF BTU PER HOUR
AVG	-	AVERAGE	MC	-	MECHANICAL CONTRACTOR
AW	-	ACID WASTE	MEP	-	MECHANICAL, ELECTRICAL AND PIPING
			MER	-	MECHANICAL EQUIPMENT ROOM
BFF	-	BELOW FINISHED FLOOR	MEZZ	-	MEZZANINE
BLDG	-	BUILDING	MFR	-	MANUFACTURER
BOT	-	BOTTOM	MH	-	MANHOLE
BOP	-	BOTTOM OF PIPE	MIN.	-	MINIMUM
BT	-	BATHTUB	MISC	-	MISCELLANEOUS
BTU	-	BRITISH THERMAL UNITS	MTD	-	MOUNTED
BTUH	-	BRITISH THERMAL UNITS PER HOUR	MTG	-	MOUNTING
BV	-	BALANCING VALVE			
			NA	-	NOT APPLICABLE
CAP	-	CEILING ACCESS PANEL	NIC	-	NOT IN CONTRACT
CC	-	CAPPED CONNECTION	NO	-	NUMBER
CFH	-	CUBIC FEET PER MINUTE	NPS	-	NOMINAL PIPE SIZE
CFM	-	CUBIC FEET PER HOUR	NTS	-	NOT TO SCALE
CL	-	CENTERLINE			
CLG	-	CEILING	OC	-	ON CENTER
CLV	-	CLEAR WATER VENT	OD	-	OUTSIDE DIAMETER
CLW	-	CLEAR WATER WASTE	OFCI	-	OWNER FURNISHED, CONTRACTOR INSTALLED
CO	-	CLEANOUT	OFOI	-	OWNER FURNISHED, OWNER INSTALLED
COND	-	CONDUCTOR			
CONT	-	CONTRACTOR	P	-	PUMP
CTR	-	CENTER	PC	-	PLUMBING CONTRACTOR
CU	-	COPPER	PCF	-	POUNDS PER CUBIC FOOT
CV	-	CHECK VALVE	PD	-	PRESSURE DROP
CW	-	COLD WATER	PH	-	PHASE
CWFU	-	COLD WATER FIXTURE UNITS	PLBG	-	PLUMBING
CWS	-	COLD WATER SOFT	POC	-	POINT OF CONNECTION
			PP	-	POLYPROPYLENE
DD	-	DRAIN DECK	PPH	-	POUNDS PER HOUR
DET	-	DETAIL	PRV	-	PRESSURE RELIEF VALVE
DFU	-	DRAINAGE FIXTURE UNITS	PSF	-	POUNDS PER SQUARE FOOT
DIA	-	DIAMETER	PSI	-	POUNDS PER SQUARE INCH
DIM	-	DIMENSION	PSIA	-	POUNDS PER SQUARE INCH ABSOLUTE
DN	-	DOWN	PSIG	-	POUNDS PER SQUARE INCH GAUGE
DS	-	DOWNSPOUT	PVC	-	POLYVINYL CHLORIDE
DT	-	DRAIN TILE			
DTR	-	DRAIN TILE RECEIVER	RD	-	ROOF DRAIN
DWG,	-	DRAWING	REC	-	RECESSED
DW	-	DISH WASHER	RF	-	ROOF
			RI	-	ROUGH-IN
E	-	EXISTING	RPZ	-	REDUCED PRESSURE ZONE VALVE
EEW	-	EMERGENCY EYEWASH	RV	-	RELIEF VALVE
ELEV	-	ELEVATION			
EM	-	EMERGENCY	S	-	SLOPE
EQUIP	-	EQUIPMENT	SCH	-	SCHEDULE
ES	-	EMERGENCY SHOWER	SH	-	SHOWER
ET	-	EXPANSION TANK	SHT	-	SHEET
ETR	-	EXISTING TO REMAIN	SOG	-	SLAB ON GRADE
EWC	-	ELECTRIC WATER COOLER	SPEC	-	SPECIFICATION
EWH	-	ELECTRIC WATER HEATER	SQ	-	SQUARE
EXST	-	EXISTING	SS	-	SERVICE SINK
			S/S	-	STAINLESS STEEL
F	-	FUTURE	STD	-	STANDARD
FCO	-	FLOOR CLEANOUT			
FD	-	FLOOR DRAIN	T&P	-	TEMPERATURE AND PRESSURE
FFE	-	FINISHED FLOOR ELEVATION	TBR	-	TO BE REMOVED
FLR	-	FLOOR	TD	-	TRENCH DRAIN
FP	-	FIREPROOF	TDFU	-	TOTAL DRAIN FIXTURE UNITS
FPM	-	FEET PER MINUTE	TEMP	-	TEMPERATURE
FPS	-	FEET PER SECOND	TOP	-	TOP OF PIPE
FS	-	FLOOR SINK	TOS	-	TOP OF SLAB
F&T	-	FLOAT AND THERMOSTATIC	T STAT	-	THERMOSTAT
FT	-	FEET	TWFU	-	TOTAL WATER FIXTURE UNITS
FTG	-	FOOTING	TYP	-	TYPICAL
FU	-	FIXTURE UNITS			
			UNO	-	UNLESS OTHERWISE NOTED
G	-	GAS			
GAL	-	GALLON	V	-	VENT
GC	-	GENERAL CONTRACTOR	VB	-	VACCUM BREAKER
GPM	-	GALLONS PER MINUTE	VB	-	VALVE IN BOX
GPH	-	GALLONS PER HOUR	VTR	-	VENT THRU ROOF
HB	-	HOSE BIBB	W	-	WASTE
HD	-	HUB DRAIN	W/	-	WITH
HP	-	HORSE POWER	W/O	-	WITHOUT
HVAC	-	HEATING, VENTILATING & AIR CONDITIONING	WHA	-	WATER HAMMER ARRESTOR
HW	-	HOT WATER	WCO	-	WALL CLEANOUT
HWFU	-	HOT WATER FIXTURE UNITS	WC	-	WATER CLOSET
HWR	-	HOT WATER RETURN	WF	-	WASH FOUNTAIN
			WH	-	WATER HEATER
ID	-	INSIDE DIAMETER	WM	-	WASHING MACHINE
IE	-	INVERT ELEVATION	WSFU	-	WATER SUPPLY FIXTURE UNITS
IN	-	INCHES	WG	-	WATER GAUGE
KO	-	KNOCK-OUT	YCO	-	YARD CLEAN OUT

PIPE FITTINGS

- FLANGE
- UNION
- ANCHOR
- PIPE GUIDE
- TEE BRANCH
- LINE CONTINUATION BREAK
- PLUMBING FIXTURE STOPS
- PIPELINE STRAINER
- ELBOW DOWN
- ELBOW UP
- TEE DOWN
- TEE UP
- PIPE CAP
- VALVE IN VERTICAL
- DOUBLE WYE
- WYE
- WYE WITH VENT UP

PIPING SYSTEM LABELS

WATER PIPING SYSTEMS:

- COLD WATER
- HOT WATER
- HOT WATER RETURN
- NP — NON-POTABLE WATER
- F — FIRE PROTECTION

WASTE AND VENT SYSTEMS:

- CWV — CLEARWATER VENT
- CWW — CLEARWATER WASTE
- OD — OVERFLOW DRAIN LINE
- ST — STORM
- SSD — SUBSOIL DRAIN LINE
- UNDERFLOOR FOR WASTE OR SOIL, SUBSOIL, STORM & FORCE MAIN
- SANITARY VENT
- SAN — WASTE OR SOIL LINE

SITE PIPING SYSTEMS:

- SAN — SANITARY SEWER
- ST — STORM SEWER
- W — WATER LINE

DENTAL PIPING SYSTEMS:

- CA — COMPRESSED AIR
- VAC — VACUUM

NOTE:
(X) PRIOR TO SYSTEM TYPE DENOTES EXISTING PIPING
(F) PRIOR TO SYSTEM TYPE DENOTES FUTURE PIPING

DRAINS AND CLEANOUTS

- FLOOR DRAIN
- FLOOR SINK
- ROOF DRAIN
- HUB DRAIN
- FIXTURE WASTE TRAP
- CO — CLEANOUT
- FCO — FLOOR CLEANOUT

PIPE VALVES AND SPECIALTIES

- ANGLE VALVE
- BALANCING VALVE
- BALL VALVE
- BUTTERFLY VALVE
- CHECK VALVE
- DRAIN VALVE
- GAS SHUTOFF VALVE
- GATE VALVE
- BACKFLOW PREVENTER
- PRESSURE GAUGE
- THERMOMETER
- HB — HOSE BIBB AND WALL HYDRANT
- WATER HAMMER ARRESTOR
- PRESSURE RELIEF VALVE
- SOLENOID VALVE

REFERENCE SYMBOLS

- 1 / P200 — DETAIL REFERENCE. TOP DESIGNATES DETAIL NUMBER BOTTOM DESIGNATES SHEET NUMBER
- 1 / P200 — SECTION REFERENCE. TOP DESIGNATES SECTION NUMBER BOTTOM DESIGNATES SHEET NUMBER
- ELEVATION SYMBOL
- VP / 1 — EQUIPMENT NAME AND NUMBER
- 1 — PLAN NOTE NUMBER
- 1 — REVISION NUMBER
- POINT OF CONNECTION

PLUMBING DRAIN AND CLEANOUT SCHEDULE

TAG	MANUFACTURER	MODEL NO.	REMARKS
FD-1	ZURN	Z415-B	CAST IRON BODY, ADJUSTABLE STRAINER HEAD, COMBINATION INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH SQUARE NICKEL BRONZE TOP.
FS-1	ZURN	Z415-B	CAST IRON BODY, ADJUSTABLE STRAINER HEAD, COMBINATION INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH SQUARE NICKEL BRONZE TOP.
FCO	ZURN	Z1400-BP	CAST IRON BODY, ADJUSTABLE FLOOR CLEANOUT WITH NICKEL BRONZE TOP AND GAS AND WATER-TIGHT ABS TAPERED BRONZE PLUG (USE IN FINISHED AREAS).
YCO	ZURN	Z1440-BP	CAST IRON BODY FERRULE WITH BRONZE PLUG. PROVIDE WITH FROST SLEEVE AND HEAVY DUTY WATER TIGHT TOP.
WCO	ZURN	Z1468	ROUND STAINLESS STEEL WALL ACCESS COVER WITH SECURING SCREW, BRONZE RAISED HEX HEAD PLUG.
CO	ZURN	Z1440-BP	CAST IRON BODY FERRULE WITH BRONZE PLUG.

PLUMBING EQUIPMENT SCHEDULE

TAG	MANUFACTURER	MODEL NO.	REMARKS
WH-1	A.O. SMITH	DEL-30	30 GALLON ELECTRIC WATER HEATER. 2 ELEMENT SIMULTANEOUS OPERATION, 4500/4500 WATT ELEMENT, 240 VOLT, SINGLE PHASE. MOUNT ON WALL ABOVE MOP BASIN.
RPZ-1	WATTS	009	2" REDUCED PRESSURE ZONE BACKFLOW PREVENTOR, CAST BRASS CONSTRUCTION, REPLACEABLE POLYMER CHECK SEATS, REMOVABLE STAINLESS STEEL RELIEF VALVE SEATS. PIPE DISCHARGE TO DRAIN PIT.

PLUMBING FIXTURE SCHEDULE

TAG	MANUFACTURER	MODEL NO.	REMARKS
SK-1	ELKAY	CHBSB1716C	WALL HUNG, TYPE 304 STAINLESS STEEL, 16"X17" WITH BACKSPLASH, COMPLETE WITH LKB400 CHROME PLATED GOOSENECK FAUCET WITH AERATOR
SK-2	ELKAY	WNSF8345L WELDBILT TRIPLE COMPARTMENT SCULLERY SINK	#14 GUAGE, TYPE 304 STAINLESS STEEL, 3-COMPARTMENT SCULLERY SINK, FULL 8" HIGH BACKSPLASH, INTEGRATED DRAIN BOARDS ON LEFT, EXPOSED SURFACED POLISHED TO A SATIN FINISH. SINK SUPPORTED ON (4) LK251 STAINLESS STEEL LEGS, 1-5/8" O.D, TUBULAR LEGS, #16 GUAGE WALL THICKNESS.
	T&S BRASS	B-3940	3-1/2" SINK OPENING, 2" DRAIN OUTLET WITH TWIST DRAIN, CAST BRONZE BODY,
	ELKAY	LK940HA10T6H	TWO HOLE, DUAL HANDLE, WALL MOUNT FAUCET, ½" INLETS, SOLID BRASS CONSTRUCTION, CHROME FINISH, 2.2 GPM VR AERATOR, SWING SPOUT WIT 6" WRIST BLADE HANDLES
HB-1	WOODFORD	MODEL 67	EXTERIOR FREEZLESS WALL HYDRANT, AUTOMATIC DRAINING, BACKFLOW PROTECTION, WITH INTEGRAL VACUUM BREAKER, 3/4" HOSE THREAD NOZZLE AND LOOSE TEE KEY.
HB-2	WOODFORD	MODEL 25	EXTERIOR FREEZLESS WALL HYDRANT, AUTOMATIC DRAINING, BACKFLOW PROTECTION, WITH INTEGRAL VACUUM BREAKER, 3/4" HOSE THREAD NOZZLE AND METAL HANDLE.
EEW/SH-1	ACORN	S1310	PEDESTAL MOUNTED COMBINATION SHOWER/EYEWASH STATION, PLASTIC BOWL, STAY-OPEN 1/2" BALL VALVE WITH PUSH HANDLE, PLASTIC SHOWERHEAD AND 1" STAY-OPEN BALL VALVE WITH PULL ROD. 20 GPM SHOWERHEAD.
MB-1	CRANE/FIAT	MSB-2424	MOLDED STONE 24" x 24" x 10" HIGH MOP SERVICE BASIN AND 3" INTEGRAL DRAIN.
		1453-BB	FLAT STAINLESS STEEL STRAINER.
		E-77-AA	VINYL BUMPER GUARDS ON ALL EXPOSED SIDES.
		830-AA	POLISHED CHROME SERVICE SINK FAUCET WITH INTEGRAL STOPS.
		E27	SPOUT OUTLET VACUUM BREAKER.

PLUMBING EQUIPMENT SCHEDULE

TAG	MANUFACTURER	MODEL NO.	REMARKS
GT-1	ROCKFORD	GF-2420-M	PROVIDE ALL WELDED, STEEL CONSTRUCTION, EPOXY COATED, OR WITH 30 GPM FLOW CAPACITY, 31 GALLON LIQUID CAPACITY. FURNISH WITH STANDARD 3" OUTLET LOCATION AND FLOW RESTRICTORS, ½" NON-SKID DIAMOND TREAD-PLATE COVER FOR FLUSH IN FLOOR INSTALLATION SUITABLE FOR PEDESTRIAN TRAFFIC, HEAVY DUTY LEAK PROOF GASKET..

CALCULATIONS FOR GREASE INTERCEPTORS
GT-1: GREASE INTERCEPTOR CALCULATION -
3- COMPARTMENT SINK

(3) COMPARTMENT:
COMPARTMENT SIZES 24" x 15" x 14"

$\frac{L \times W \times D}{231} \times .75 = \frac{3[24" \times 15" \times 14"]}{231} \times .75 = 49.1$

CAPACITY OF GREASE INTERCEPTOR SIZED AT 28"X21"X14".
INTERCEPTOR CAN HANDLE A 31 GALLON STATIC CAPACITY
WITH A MAXIMUM FLOW RATE 25 GPM LIQUID CAPACITY.
MAX GREASE CAPACITY - 90 LBS

WATER SUPPLY CALCULATION

USING THE FORMULA, FIND THE PRESSURE AVAILABLE FOR UNIFORM LOSS (PSI/100' OF PIPE)

$$A = \frac{B-(C+D+E)X100}{F}$$

WHERE:

A. 32.6 PRESSURE AVAILABLE FOR UNIFORM LOSS (PSI/100' OF PIPE)

B. 56.0 AVAILABLE PRESSURE AT THE CONTROL VALVE.

C. 15.0 PRESSURE NEEDED AT CONTROLLING FIXTURE.

D. 2.60 DIFFERENCE IN ELEVATION BETWEEN WATER METER AND CONTROLLING FIXTURE IN FEET 6 X .434 PSI/FT

E. 12.0 PRESSURE LOSS DUE TO WATER SOFTENERS, WATER TREATMENT DEVICES, INSTANTANEOUS WATER HEATERS, AND BACKFLOW PREVENTORS. CONVENTIONAL WATER HEATERS USUALLY DO NOT HAVE A PRESSURE LOSS.

F. 81 DEVELOPED LENGTH FROM WATER METER TO CONTROLLING FIXTURE IN FEET 54 X 1.5.

WITH PRESSURE AVAILABLE FOR UNIFORM LOSS, GO TO APPLICABLE TABLE FOR DISTRIBUTION SIZING.

PLUMBING SHEET INDEX

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#12408.01

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608 / 242 0787 fax

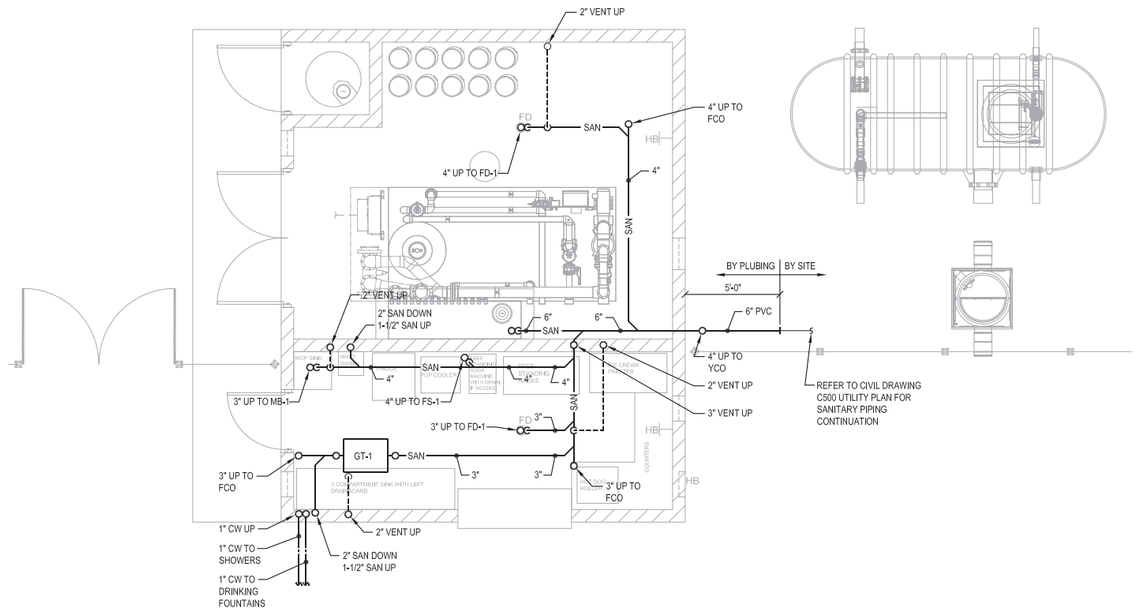
REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI

ID	DATE	DESCRIPTION
2	01/13/14	REBID
DATE		01/31/2014
PROJECT NO.		2013-2000.01
DRAWN BY		MHS
CHECKED BY		RAK
PHASE		BID DOCUMENTS

PLUMBING SYMBOLS, ABBREVIATIONS, SCHEDULES AND SHEET INDEX

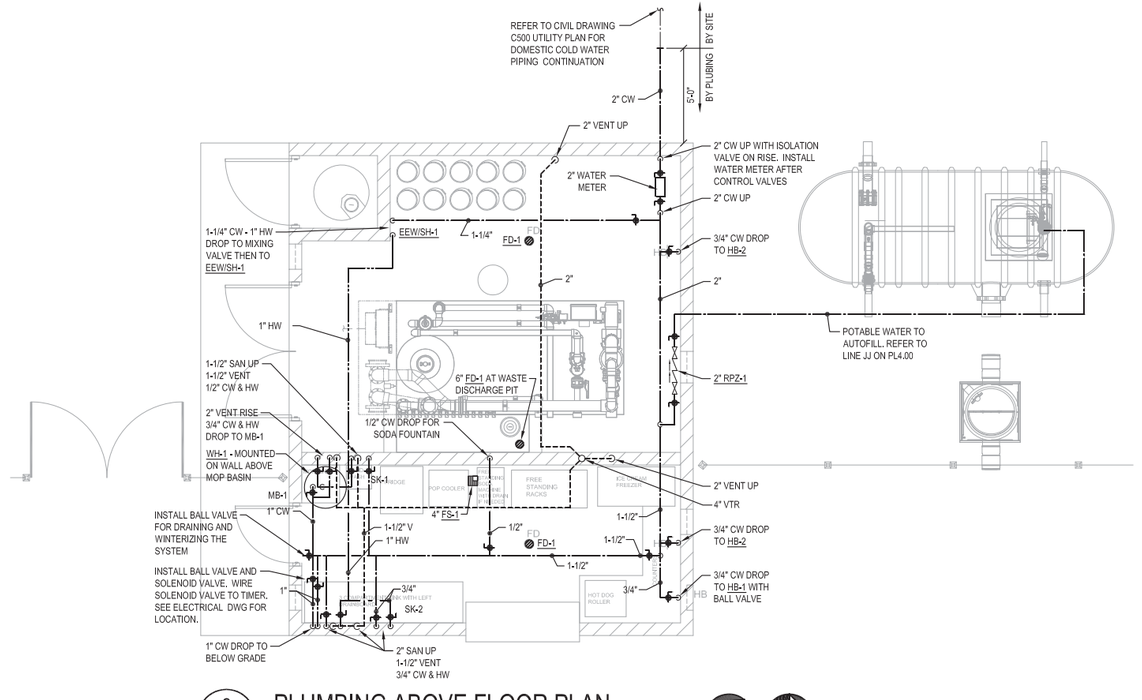
P000



1 P100 **PLUMBING BELOW FLOOR PLAN**

SCALE: 1/4"=1'-0"

TRUE NORTH PLAN NORTH



2 P100 **PLUMBING ABOVE FLOOR PLAN**

SCALE: 1/4"=1'-0"

TRUE NORTH PLAN NORTH

NOTES:

1. ALL UNDERGROUND PIPING TO BE INSTALLED PER PLANS.

2. RUN ABOVE GROUND LINES TO ALL FIXTURES WITHIN WALLS AND STUB OUT AND CAP FOR FUTURE CONNECTIONS. DOMESTIC WATER TO HAVE ALL WALL SHUT-OFF VALVES INSTALLED. (PROVIDE ALTERNATE PRICING FOR FIXTURES INSTALLATION)

3. PLUMBING FIXTURES TO BE SUPPLIED BY CLIENT (PROVIDE ALTERNATE PRICING FOR P.C. TO PURCHASE FIXTURES, TRAPS, FAUCETS AND ASSOCIATED MATERIALS TO COMPLETE CONNECTIONS TO STUB-OUTS DESCRIBED ABOVE)

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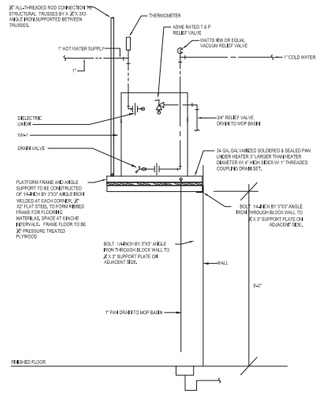
PLUMBING FLOOR PLAN AND DETAILS

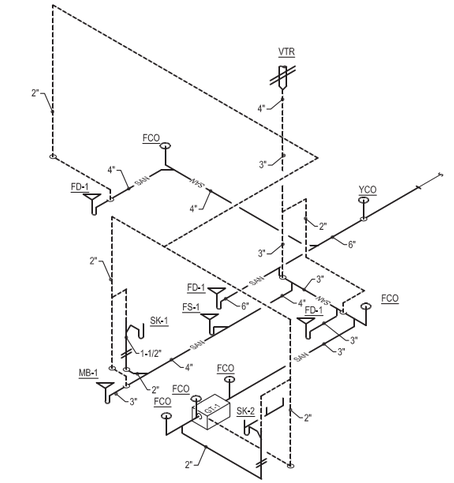
P100

Date: Friday, January 24, 2014 Plotted by: Cusimano, Liza Drawing location: L:\Jobs2013\20132000-01\CAD\Plumbing\dgn\00\P100.dwg



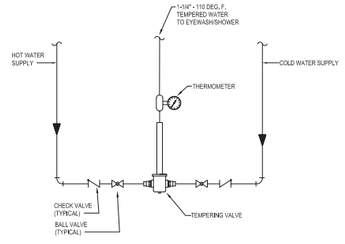
3 P200 **WATER HEATER WALL FRAME DETAIL**

SCALE: NONE



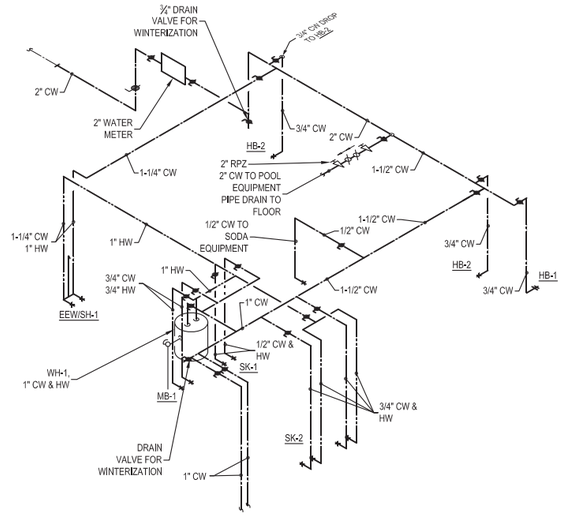
1 P200 **SANITARY WASTE AND VENT RISER DIAGRAM**

SCALE: NONE



4 P200 **MIXING VALVE DETAIL**

SCALE: NONE



2 P200 **DOMESTIC WATER RISER DIAGRAM**

SCALE:

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PLUMBING RISER DIAGRAMS

P200

Date: Friday, January 24, 2014 Plotted by: Cusimano, Liza Drawing location: L:\Jobs2013\20132000-01\CAD\Plumbing\dgn\00\P200.dwg

UTILITY TRENCH EXCAVATION, BACKFILL AND COMPACTION

PART 1 - GENERAL

REFERENCES
ASTM International (American Society for Testing and Materials)
ASTM C518 - Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
ASTM C578 - Specification for Rigid, Cellular Polystyrene Thermal Insulation.
ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort 12,400 ft.-lbf/ft3.

PART 2 - PRODUCTS

BEDDING AND BACKFILL MATERIALS
Crushed Stone Backfill: Type A1.
Site Excavated Material (Spoil) Backfill: Type S1.
Verify fill materials to be reused are acceptable.

PART 3 - EXECUTION

SITE VERIFICATION AND FIELD MEASUREMENTS
Verify that survey benchmark and intended elevations for the Work are as shown on Drawings.

SAWING AND BREAKING PAVEMENT
Saw concrete pavement, slabs, or bases to a minimum 1/2 of depth of existing pavement, slab, or base prior to removal.
Saw Cut full depth before removal.
Cut pavements evenly along edges of excavation prior to their removal in such a way as to avoid excessive removal or ragged, uneven edges.
Contractor shall be solely responsible for any damage caused thereby.

PREPARATION
Maintain and protect existing utilities remaining, which pass through work area.
Protect above and below grade utilities that are to remain.
Cut out soft areas of subgrade not capable of in situ compaction. Backfill with Type A9 fill and compact to density equal to or greater than requirements for subsequent backfill material.

TRENCH EXCAVATION
Excavate subsoil required for installation of utility.
Excavate trenches at top of pipe to a maximum width based on dimension of outside diameter of pipe plus 24 inches to enable installation of pipe and to allow inspection.
Width at top of pipe may be increased with prior approval of Engineer/Architect to allow for stringers and sheathing when required.
Provide pipe laid in open-cut trench with 6-inch minimum clearance between outside face of pipe barrel and face of sheathing or sidewall of trench.
Maximum width of trench at ground surface shall not exceed width of trench at top of pipe by more than 2 feet without prior request to Engineer/Architect, unless it is specifically allowed on Drawings.
Place excavated material stored along trench excavation a minimum distance back from edge of trench. Determine distance by angle of repose of trench material to prevent surcharging of trench wall material leading to potential shearing of trench wall and collapse of trench.
Contractor shall immediately remove and dispose of excavated material which is not to be used as trench backfill, unless directed otherwise by Contract Documents.
Contractor shall maintain all finished excavations free of water or sewage during Work.
Hand trim excavation. Remove loose matter.
Correct unauthorized excavation and over-excavated areas at no cost to Owner.

TRENCH BEDDING
Keep trench bottom free of water prior to placement of bedding and laying of pipe.
Place and shape bedding material to pipe, to a minimum depth of three inches under bell and four inches under spigot and compact to 95 percent modified Proctor density.
Support pipe during placement and compaction of bedding material.
Bring bedding and cover material over top of pipe to a minimum compacted depth of 12 inches, compact to specified density.
Where sand is used for cover material, compact sand with portable plate compactor to a depth of twelve inches in two lifts of six inches each for initial cover over pipe.

TRENCH BACKFILLING
Backfill trenches with materials and to contours and elevations shown on Drawings.
Place specified backfill in loose lift layers. Use compaction equipment that will achieve desired compaction requirements.
Systematically backfill to allow for natural settlement. Do not backfill over porous, wet, frozen, or spongy subgrade surfaces.
Employ a placement method that does not disturb or damage pipe in trench.
Maintain optimum moisture content of backfill materials to attain required compaction density.
Remove surplus backfill materials from site.
Leave fill material stockpile areas completely free of excess fill materials.

MECHANICAL COMPACTION
Mechanically compact backfill by means of a tamping roller, sheepsfoot roller, pneumatic tire roller, vibrating roller, or other mechanical tampers. Impact, free-fall, or "stomping" type compaction equipment shall not be allowed.
Flooding or jetting of backfill for compaction purposes shall not be allowed.
Place material for mechanically compacted backfill in lifts, which, prior to compaction, shall not exceed thickness specified below for type of compaction equipment used:
Vibratory equipment including vibratory plate, vibratory smooth-wheel rollers, and vibratory pneumatic-tired rollers: maximum lift thickness two (2) feet.
Rolling equipment, including sheepsfoot (both vibratory and non-vibratory), grid, smooth-wheel (non-vibratory), pneumatic-tired (non-vibratory), and segmented wheels: maximum lift thickness one (1) foot.
Hand-directed mechanical tampers: maximum lift thickness of six (6) inches.

TOLERANCES
Top Surface of Backfill: Plus or minus one inch from required elevations.

PLUMBING SYSTEM OUTLINE SPECIFICATION

PART 1 - GENERAL

SCOPE
Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to work of this Section.

Plumbing includes interior sanitary waste and vent, storm/clearwater drainage, subsoil/foundation drain, and domestic water supply. This section includes the following topics:

PART 1 - GENERAL
- Scope
- General Provisions
- Unit Prices
- Asbestos Abatement
- Demolition
- Occupancy Requirements
- Design Criteria
- System Descriptions

PART 2 - PRODUCTS
- Sanitary Drain and Vent
- Domestic Water Distribution
- Insulation
- Plumbing Fixtures
- Plumbing Equipment

PART 3 - EXECUTION
- General
- Sanitary and Vent Systems Installation
- Water Piping System Installation

The contractor shall follow Architectural plans and scope documents for type of systems, materials and equipment to use.

The scope documents, along with local regulations and codes, shall be the basis for the plumbing design and construction.

The contractor shall calculate, size and select systems as defined by the scope documents. This shall include coordination with other trade contractors.

GENERAL PROVISIONS
The plumbing systems shall be designed and installed in conformance with Illinois Plumbing Code and Local Requirements.

Fees, permits and inspections shall be obtained and paid for. Included are fees for water and sanitary sewer utilities. Impact fees shall be coordinated with and be paid for by the Owner.

Submit the quantity of shop drawings as specified by Architect. Include wiring diagrams of electrically powered equipment.

Submit shop drawings for materials and equipment prior to ordering/purchasing any materials. Allow ample time for review and coordination with other divisions of work.

Submit materials, fixtures, and equipment for record purposes and for operation and maintenance manual preparation. Provide the Owner with (2) hard cover ring type binders entitled "Operating and Maintenance Manual" for materials, fixtures, and equipment used on the project.

At the completion of the project, the contract drawings shall be adjusted to become accurate as-built drawings. Tracings and AutoCAD files of the as-built drawings shall be turned over to the Owner's representative.

Verify the location and size of existing plumbing services which are relevant to the installation of new services.

Bear costs to cut and patch walls, floors, roof, and ceiling affected by new plumbing work.

Work shall be warranted for one year after date of acceptance.

Coordinate electrical connections and power and control wiring requirements.

Keep premises free from waste materials.

Pipe sleeves or openings shall be set for pipes passing through new masonry or concrete walls and floors. Sleeves for piping at exterior penetrations above and below grade shall be Schedule 40 black steel pipe and shall extend through the construction. Provide flanges for supporting sleeves through existing construction as applicable.

The annular space between drilled or sleeved holes and pipes passing through exterior walls or below grade foundation walls shall be sealed with a "Link_Seal" as manufactured by the Thunderline Corporation. "Link_Seal" shall consist of ASTM D2000 EPDM rubber compound interlocking links, Delvin pressure plates and corrosion resistant fasteners. Provide schedule 40 pipe sleeve with anchor collar at wall penetration.

Coordinate the location of sleeves, openings, chases, and furred spaces with the other Contractors. Provide sleeves, hangers and inserts that are to be built into the structure during the progress of construction.

Sleeves shall extend 1 inch above the finished floor. In mechanical rooms and other areas where water may accumulate, sleeves shall extend 2 inches above the finished floor.

Grout openings through concrete or masonry, including space between sleeves and walls of floors, with Dow 8640 or 8641 sealant.

Piping penetrating smoke or fire separations shall not violate the integrity of the separation. Where penetrations occur through fire rated walls or floors, "Link_Seal Pyro_Pac" shall be used, which is rated for 3 hour fire resistance by ASTM E_119_76. "Pyro-Pac" shall consist of two individual sealing units consisting of fire_resistant silicon links, steel pressure plates, and corrosion resistant fasteners.

The space above suspended ceilings may be return plenum to move air to the Air Handling Units. Properly protect plastic and other combustible materials installed in the plenum space.

Provide pipe hangers or strut connected to structural elements to support piping.

Identify piping systems with labels or stencils. Include valve tags for shutoff valves.

Excavate trenches for installation of piping.

Provide 6 inches of sand or pea gravel for pipe bedding. Backfill around pipe to 12 inches above pipe with sand or pea gravel.

Refer to to Utility Trench Excavation, Backfill and Compaction spec section. Backfill trenches with sand or gravel to rough grade elevation under paved surfaces. Backfill trenches with common excavation material for areas with grass.

When trenching extends beyond construction limit lines, restore surface to original condition.

When replacing concrete, install dowels using #5 rebar in all areas where concrete demolition has occurred.

UNIT PRICES
When submitting costs for the project, provide a list of man hour rates. These rate prices shall reflect the cost the contractor shall either add or deduct from his base price. The Owner shall decide to install or delete plumbing fixtures or equipment and their associated piping on an individual basis.

ASBESTOS ABATEMENT
Asbestos abatement shall be by the GC. If asbestos is encountered, the Contractor shall notify the GC. The GC shall properly remove the asbestos material so the Contractor can continue his work.

DEMOLITION
Where piping is removed and not reconnected with new work, ends of existing services shall be capped as if they were new work.

Plumbing contractor shall identify piping, fixtures, and equipment for removal by demolition contractor. Pipe, fixtures, equipment, and associated insulation and similar items demolished, abandoned, or deactivated shall be removed from the site except as noted otherwise by the Owner. Designated equipment shall be turned over to the Owner for their use at a place and time so designated. The condition of material, fixtures, and equipment that is to be reused shall be maintained to that existing before work began.

OCCUPANCY REQUIREMENTS
Verify the planned occupancy and phasing of the building prior to design and construction. Pricing shall reflect these requirements to the extent that plumbing systems must be installed, located, segregated, operational, or planned to reflect phasing and partial occupancy requirements.

DESIGN CRITERIA

SANITARY DRAIN AND VENT

Minimum Slope: 1/4 in/ft (through 2 inch pipe)
1/8 in/ft (3 inch and greater pipe) Minimum Velocity: 2 feet/sec

DOMESTIC WATER

Uniform Pressure Loss Method of Sizing.
Maximum Velocity: 8 ft/sec
Maximum Pressure: 80 lb/in2
Hot Water System Temperature: 120°F

SYSTEM DESCRIPTIONS

SANITARY DRAIN AND VENT
Provide a gravity drainage system for waste discharge from plumbing fixtures and floor drains. The various fixture drains shall collect in the existing building drain that slopes the south corner exterior wall out of the building to connect with the sanitary lateral from the municipal sanitary sewer in the street.

Provide a sanitary vent system to protect the traps. The vents shall connect to a header pipe and terminate through the roof at various locations and connect into existing header pipes at various locations.

WATER DISTRIBUTION
Connect a domestic line to the existing 2" domestic cold water service ran within the building at various locations. Distribute domestic cold water using a horizontal distribution system at the ceiling structural joists. Connect cold water to water heaters, plumbing fixtures, and equipment. Provide cross connection prevention devices for each connection.

Hot water shall be generated in electric water heaters on each level. The water heater shall be located in the Janitor's Closet. Distribute hot water to the lavatories and janitor receptor sink.

PART 2 - PRODUCTS

SANITARY DRAIN AND VENT

PIPE AND FITTINGS
Cast iron, soil or no-hub, service weight, ASTM A74 or CISPI 301, with rubber gasket ASTM C564.

PVC, Schedule 40, ASTM D-1784 or cellular core, ASTM F-891 with PVC_DWV socket fittings, ASTM D_2665 with PVC solvent cement, ASTM D-2564, (NOTE:PVC is not allowed in return air plenums - follow local building code for use above floor)

DRAINS AND CLEANOUTS
By Josam, J.R. Smith, Sioux Chief, Wade, Watts, or Zurn. Refer to Plumbing Equipment Schedule on drawings for specific items.

TESTING
Hydrostatic test sanitary piping to 10 feet water column with no leaks.

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PLUMBING SPECIFICATIONS

P900

DOMESTIC WATER DISTRIBUTION

PIPE AND FITTINGS

WATER SERVICE
Ductile iron pipe, mechanical or push on joint, thickness class 53 conforming to AWWA C-151 with standard thickness cement mortar lining AWWA C-104; ductile iron or gray iron mechanical joint cement mortar lined fittings, Class 250, AWWA C110; ductile iron restrained joint compact fittings, class 350, AWWA C-153; rubber gasket joints with non-toxic gasket lubricant, AWWA C-111. Joints shall have ASTM A506 steel clamps and straps for restraints with ASTM A307 steel bolts and ASTM A575 steel rods.

Cast iron water pipe conforming to AWWA C106_75 with cast iron fittings conforming to AWWA C110_77 standards.

PVC plastic pipe, Class 100 (DR 25) conforming to AWWA C900. Provide Class 150 (DR 18) or Class 200 (DR 14) as dictated by municipal water supplies.

Optional Material for Piping 2-inch and Smaller:
Seamless copper water tube, (ASTM B88), Type K, annealed (soft) with cast brass flared fittings (ASTM B62).

Valves For Water Service:
Valves for water service and street main shall have ends suited or adaptors shall be provided for proper installation in the lines.
Valves shall meet local municipal standards or in the absence of standards the following requirements:

Valves three_inches and larger shall be iron body, bronze mounted, double disc, gate valves conforming to FS WW_V_58B Type I, Class I, or AWWA C500. They shall open in the same direction as those used by the local water department. Valve stems shall terminate in 2-inch wrench nuts. Furnish two keys.

Service Valve Box:
Valve boxes shall meet local standards or in the absence of local standards shall comply with the following requirements. Boxes shall be approved "Buffalo Pattern", cast iron (ASTM A48, Class 20), adjustable shaft type, finished with two coats of coal_tar mastic. The lids of boxes shall bear the work "Water" or the letter "W". Furnish two keys for bolt in service box lids.

Pipe Covering:
Cover ferrous pipe, fittings and valves with loose covering of 8-mil thick, black polyethylene film, ASTM C105, Class C, secured with polyethylene tape.

Interior Above Ground:
Copper tube, Type L, hard temper, ASTM Specification B88, Wrought copper sweat fittings and 95/5 solder joints tin_antimony, or other lead free solder.

Wrought copper or cast bronze fittings, grooved ends, joined with mechanical couplings, rubber gasket seal, Victaulic style 606.

Copper press fittings, ASTM B16.18 or ASTM B16.22, EPDM O-ring by Viega.

COMPRESSED AIR AND VACUUM PIPING
Copper tube, Type L, hard temper, ASTM Specification B88, Wrought copper sweat fittings and 95/5 solder joints tin_antimony, or other lead free solder.

SHUTOFF VALVES
Ball valve, bronze body, two piece, conventional port, Nibco, Series 585.

BALANCING VALVES
Bell & Gossett "Circuit Setter" bronze body balancing valve with sweat or threaded ends, calibrated brass orifice, integral adjustment knob with calibrated scale, memory stop indicator, drain tapping and differential pressure metering connections.

CHECK VALVES
Swing check, bronze body, resilient seat, Nibco, Series 413.

WATER PRESSURE REDUCING VALVES
Bronze body, diaphragm operated, with an integral thermal expansion bypass valve, inlet union, stainless steel strainer, renewable monel or stainless steel seat, and adjustable reduced pressure range, 300 psig at 160 degrees F. Pre-set for scheduled pressure.

A. W. Cash, Conbraco, Watts, Wilkins Or Substitutions to be approved before submitting bids.

TESTING
Test water piping before connecting fixtures with hydrostatic pressure of 100 psi without loss of pressure for at least two hours.

DISINFECTING
Provide chlorine disinfecting. Test for presence of disinfecting agent at remote locations to ensure the disinfecting agent has reached throughout the domestic water systems. Other disinfecting methods may be used with prior approval of the Architect and local authorities.

Test for bacteria after disinfecting and domestic water system is flushed.

WATER HAMMER ARRESTORS
ASSE 1010; sized in accordance with PDI WH-201, precharged piston type construction of hard drawn Type K copper, threaded bass adapter, brass piston with o-ring seals, FDA approved silicone lubricant, suitable for operation in temperature range 35 to 150 degrees F, maximum 250 psig working pressure, 1500 psig surge pressure. Watts series 15.

PPP Industries, Sioux Chief Manufacturing Company, Tyler Pipe/Wade Division, Watts Water Technologies or approved equal prior to submitting bids.

TRAP PRIMER VALVES
Bronze body, O-ring seals, integral threaded outlet vacuum breaker, adjustable, in conformance with ANSI/ASSE 1018.

Ancon - Watts Water Technologies, PPP Industries, Jay R. Smith Manufacturing Company, Tyler Pipe/Wade Division, or approved equal prior to submitting bids.

INSULATION
Insulate horizontal storm piping above ground. Insulate domestic water piping.

Insulate traps and supplies on ADA lavatories and sinks.

ACCEPTABLE MANUFACTURERS
Armstrong, Halstead , Johns-Manville, Knauf, or Owens_Corning.

GLASS FIBER INSULATION
Manville Micro-Lok meeting ASTM C547; rigid molded, non-combustible, "K" Value: 0.23 at 75°F, maximum service temperature: 850 F, with vapor Retarder Jacket: AP-T Plus White Kraft paper reinforced with glass fiber yarn and bonded to aluminum foil, secure with self-sealing longitudinal laps and butt strips or AP Jacket with outward clinch expanding staples or vapor barrier mastic as needed.

Connection:
Waterproof vapor retarder adhesive; Halstead Contact Adhesive.

UV-Protection:
Outdoor protective coating; Armstrong Protective Coating.

MINIMUM INSULATION THICKNESS

	PIPE SIZE			
SYSTEMS	1" OR LESS	1 ¼" TO 2"	2 ½" TO 4"	5" AND UP
Storm Drain	---	---	1"	1"
Domestic Cold Water	½"	½"	1"	1"
Domestic Hot Water	1"	1"	1-½"	1-½"
Domestic Hot Water Return	1"	1"	1-½"	1-½"

Insulate domestic water supply piping and P-trap below lavatory and exposed sinks to provide handicapped accessibility.

PLUMBING FIXTURES
Refer to Schedule for specific items. Substitutions to be approved before submitting bids.

EMERGENCY EQUIPMENT
Refer to Schedule for specific items. Substitutions to be approved before submitting bids.

DRAINS, TRAPS, STOPS, AND SUPPLIES
Brass Craft, Chicago Faucet, Dearborn, EBC, Keeney, Kohler, McGuire, or Zurn. Substitutions to be approved before submitting bids.

BACKFLOW PREVENTION DEVICES
Refer to Schedule for specific items. Substitutions to be approved before submitting bids.

PLUMBING EQUIPMENT
Refer to Schedule for specific items. Substitutions to be approved before submitting bids.

WATER HEATERS :
Natural Gas:
Instantaneous type, gas-fired, insulated and jacketed, T&P relief valve, drain valve manufactured by Rinnia or equal.

Heater shall be furnished with a water pressure gauge and an A.S.M.E. pressure-temperature relief valve of size to relieve total BTU input of the coil.

CIRCULATING PUMP
Pump shall be manufactured by Armstrong, Bell & Gossett, Taco, or Thrush.

Pump shall be 120 volt, single phase, 3450 RPM, in_line bronze pump, with brass impeller.

Time Control:
Time controls shall be manufactured by Paragon Electric Co. or equivalent. Provide a 120 VAC electronic programmable time controller for each circulating pump. Unit shall include seven day, 365 day per year programmable features and rechargeable battery backup; Paragon Electric Co. model number EC72.

Motor Starter:
Starters shall be manufactured by Allen_Bradley, Cutler-Hammer, G.E., or Square D. Provide a single phase manual motor starter switch for starting and controlling each pump, with internal overload protection, general purpose enclosure, neon pilot light and HAND-OFF-AUTO selector switch; Allen_Bradley Model 600_TAX142.

WATER SOFTENERS
Manufacturers: Basis of design - Culligan Water Treatment
Amtrol Water Treatment Technologies.
Capital Water Softener, Inc.
CustomCare Water Technologies, Inc
Hellenbrand, Inc.
Water-Right., Inc.
Tanks: Fiberglass reinforced mineral tank constructed of molded high-density polyethylene inner shell reinforced by exterior fiberglass winding and epoxy resin. NSF approved and rated for 150 psig Mount slotted or lateral hub PVC distributor in tank with underbedding gravel
Mineral:High capacity ion exchange mineral, FDA approved, Sybron/Ionac, Rohm & Haas, Resintech, or Puralite. Uniform beads rated for removal of 30,000 grains of hardness as calcium carbonate when regenerated with 15lbs. of salt. Design for minimum 50 percent resin bed freeboard.
Valve: Top mount brass valve with motor drive, hydraulically balanced piston, seal and spacers, adjustable brine flow control, backwash flow control, adjustable capacity, and regeneration settings. Provide bypass ball valve arrangement.
Controls: Factory wired and tested controls with transformer and labeled terminal block for twin alternating consisting of the following.
7-Day Time Clock.
Mechanical Demand Meter Delayed Regeneration.
Mechanical Demand Meter Immediate Regeneration.
Electronic Meter and 480 Microprocessor with LED Display for Delayed Regeneration.
Electronic Meter and 480 Microprocessor with LED Display for Immediate Regeneration.
Systemax Microprocessor Controller with LED Display.
Brine Tank: High density polyethylene brine tank with high salt platform, PVC brine measuring and float valve, PVC injector. Contractor to provide initial salt fill.
Ratings: Maximum 10 MG/L hardness leakage, 110 degrees F maximum operating temperature, 30-100 psig operating pressure, 120/60/1 electrical.
Accessories:Flexible braided stainless steel pipe connectors for tanks over 24-inch diameter. Inlet and outlet sampling valves, inlet and outlet pressure gauges with shutoff valve. Resin defoulant system with chemical metering pump, tubing and 4 month supply of chemical cleaner for iron and bacteria fouling.

PRESSURE TANK
Manufacturer:
Amtrol Well-X-Trol Model WX-456-C

System requires one tank equipped with shutoff valves, drain valves, pressure relief, and air pressure test gauge asymbels.
Tank: Galvanized steel, tested and stamped in accordance with ASME SEC. VIII; pressurized heavy duty butyl diaphragm type with integral floor stand; tapping for installation of piping and accessories:
1. Tank Volume: 422 Gal.
2. Discharge: 3" Discharge

PART 3 - EXECUTION

GENERAL
Install plumbing systems in accordance with Wisconsin Plumbing Code and Local Requirements. Electrical requirements and connections to be coordinated with the Electrical Contractor. Coordinate locations of drains with Mechanical Contractor for condensate piping by Mechanical Contractor.

FACILITY WATER DISTRIBUTION
Install pipe, fittings and joints with reference standards, manufacturer's recommendations, recognized industry practices and required piping as shown on drawing.

In all cases, consult drawings for exact location of pipe spaces, ceiling heights, door and window openings, or other architectural details before installing piping.

Do not route piping through transformer vaults or above transformers, panelboards, or switchboards, including required service space for this equipment, unless piping is serving this equipment.

Maintain minimum required horizontal or vertical, water on top, distance between water piping and sanitary sewer piping per Illinois Uniform Plumbing Code. Where water piping crosses a sanitary sewer, provide minimum required vertical clearance and installation requirements per code.

Perform hydrostatic leak tests, follow recognized industry practices for performing the test.

After installation of all plumbing fixtures prior to occupancy, plumbing contractor to make sure all fixtures are operating properly by simultaneously flush and operating all fixtures valves at once to verify proper operation of facility water distribution system.

SANITARY AND STORM/CLEARWATER DRAIN AND VENT SYSTEMS INSTALLATION
Connect drain and vent piping to each fixture and piece of equipment and install required piping as shown on drawings. Provide necessary fittings and hardware to make required offsets and transitions.

Changes in direction of drainage piping shall be made by the appropriate use of 45 degree wyes, long or short sweep 1/4 bends, 1/6, 1/8, 1/16 bends or combination.

Fittings shall be installed to make for the least possibility of stoppage. Horizontal drainage piping less than 3 inches shall be pitched a minimum of 1/4 inch per foot or run. Piping 3" to 10" shall be pitched a minimum of 1/8" per foot of run.

When running drain piping below a footing and parallel to it, piping shall be at least one foot greater in distance away from footing than below its bottom. Where possible, run sewers at centerpoint between two parallel footings and maintain above mentioned distances at a minimum. When running drain piping under a footing, disturb as little of the soil under footing as possible. Provide concrete fill under footings where excavations wider than 18" are required.

When running drain piping through a footing, provide a steel pipe sleeve with 2" thick minimum compressible wrap.
Verify invert elevations and building elevations prior to installation.
Connect to drains, fixtures, and equipment.
Perform final leak tests per recognized industry practices for performing the test and follow local or state requirements.
After installation of all plumbing fixtures prior to occupancy, plumbing contractor to make sure all fixtures are draining properly by simultaneously flush and operating all fixtures valves at once to verify proper operation of facility sanitary sewerage.
Clean and flush all sewer piping by means of a power sewer snake to street connection.

VENT FLASHING
Vent pipes passing through roof.

DRAINS AND CLEANOUTS
Set floor drains, roof drains, and cleanouts level and plumb adjusted to finished floor elevation or finished wall location. Locate where serviceable. Allow minimum of 18-inc clearance around cleanouts for rodding.

Lubricate threaded cleanout plugs with graphite and oil, teflon tape, or waterproof grease. Install trap primer connections where indicated. Provide deep seal traps on floor drains.

WTI
WATER TECHNOLOGY INC.
100 Park Avenue
Post Office Box 614
Beaver Dam, Wisconsin 53916
Voice: 920.887.7375
Toll Free: 800.538.8207
Fax: 920.887.7999
www.watertechnologyinc.com

GRAEF
5126 West Terrace Drive,
Suite 111
Madison, WI 53718-8346
608 / 242 1550
608 / 242 0787 fax

REINDAHL SPLASH PAD
1818 PORTAGE ROAD
MADISON, WI

ID	DATE	DESCRIPTION
2	01/13/14	REBID

DATE	01/31/2014
PROJECT NO.	2013-2000.01
DRAWN BY	MHS
CHECKED BY	RAK
PHASE	BID DOCUMENTS

PLUMBING SPECIFICATIONS

P901

Date: Friday, January 24, 2014 Plotted by: Cusimano, Liza Drawing location: L:\Jobs2013\2013200-01\CAD\Plumbing\dgn\000-P901.dwg

MECHANICAL SYMBOLS AND ABBREVIATIONS

NOTE: NOT ALL SYMBOLS AND ABBREVIATIONS INDICATED HERE ARE USED IN THE DRAWINGS AND MAY NOT APPLY TO THIS PROJECT. ADDITIONAL SYMBOLS MAY BE INDICATED IN THE DRAWINGS.

MECHANICAL ABBREVIATIONS

AD	-	ACCESS DOOR
ADJ	-	ADJUSTABLE
AFF	-	ABOVE FINISHED FLOOR
AL	-	ALUMINUM
ALT	-	ALTERNATE
AP	-	ACCESS PANEL
APD	-	AIR PRESSURE DROP
APPROX	-	APPROXIMATE
ARCH	-	ARCHITECTURAL
AVG	-	AVERAGE
BAS	-	BUILDING AUTOMATION SYSTEM
BOB	-	BOTTOM OF BEAM
BOD	-	BOTTOM OF DUCT
BOP	-	BOTTOM OF PIPE
BTU	-	BRITISH THERMAL UNITS
BTUH	-	BRITISH THERMAL UNITS PER HOUR
CAV	-	CONSTANT AIR VOLUME
CFH	-	CUBIC FEET PER HOUR
CFM	-	CUBIC FEET PER MINUTE
CL	-	CENTERLINE
CLG	-	CEILING
COND	-	CONDENSATE
CONTR	-	CONTRACTOR
COP	-	COEFFICIENT OF PERFORMANCE
CU	-	COPPER
DAP	-	DUCT ACCESS PANEL
DB	-	DRY BULB
DDC	-	DIRECT DIGITAL CONTROL
DEG	-	DEGREES
DIA	-	DIAMETER
DIM	-	DIMENSION
DN	-	DOWN
DWG	-	DRAWING
DX	-	DIRECT EXPANSION
EA	-	EXHAUST AIR
EAT	-	ENTERING AIR TEMPERATURE
EC	-	ELECTRICAL CONTRACTOR
EDR	-	EQUIVALENT DIRECT RADIATION
EFF	-	EFFICIENCY
ELEC	-	ELECTRICAL
ELEV	-	ELEVATION
EM	-	EMERGENCY
ESP	-	EXTERNAL STATIC PRESSURE
ETR	-	EXISTING TO REMAIN
EWT	-	ENTERING WATER TEMPERATURE
EXH	-	EXHAUST
EXP	-	EXPANSION
EXIST	-	EXISTING
F	-	FAHRENHEIT
FC	-	FORWARD CURVED
FLA	-	FULL LOAD AMPS
FLR	-	FLOOR
FM	-	FACTORY MUTUAL
FPD	-	FLUID PRESSURE DROP
FPI	-	FINS PER INCH
FPM	-	FEET PER MINUTE
FPS	-	FEET PER SECOND
F&T	-	FLOAT AND THERMOSTATIC
FT	-	FEET
FTG	-	FOOTING
GA	-	GAUGE
GAL	-	GALLON
GALV	-	GALVANIZED
GBD	-	GRAVITY BACKDRAFT DAMPER
GC	-	GENERAL CONTRACTOR
GPM	-	GALLONS PER MINUTE
GPH	-	GALLONS PER HOUR
HP	-	HORSEPOWER
ID	-	INSIDE DIAMETER
IE	-	INVERT ELEVATION
IN	-	INCHES
LAT	-	LEAVING AIR TEMPERATURE
LB/HR	-	POUNDS PER HOUR
LF	-	LINEAR FEET
LTG	-	LIGHTING
LWT	-	LEAVING WATER TEMPERATURE
MAX	-	MAXIMUM
MBH	-	THOUSANDS OF BTU PER HOUR
MC	-	MECHANICAL CONTRACTOR
MCA	-	MINIMUM CIRCUIT AMPACITY
MCC	-	MOTOR CONTROL CENTER
MEP	-	MECHANICAL, ELECTRICAL AND PLUMBING
MER	-	MECHANICAL EQUIPMENT ROOM
MEZZ	-	MEZZANINE
MFR	-	MANUFACTURER
MIN.	-	MINIMUM
MISC	-	MISCELLANEOUS
NA	-	NOT APPLICABLE
NC	-	NORMALLY CLOSED
NIC	-	NOT IN CONTRACT
NO	-	NORMALLY OPEN
NPS	-	NOMINAL PIPE SIZE
NPSH	-	NET POSITIVE SUCTION HEAD
NPT	-	NATIONAL PIPE THREAD
NR	-	NEAR
NTS	-	NOT TO SCALE
OA	-	OUTSIDE AIR
OC	-	ON CENTER
OED	-	OPEN END DUCT
OLP	-	OVERLOAD PROTECTION
OV	-	OUTLET VELOCITY
PC	-	PLUMBING CONTRACTOR
PCF	-	POUNDS PER CUBIC FOOT
PD	-	PRESSURE DROP
PH	-	PHASE
PLBG	-	PLUMBING
POC	-	POINT OF CONNECTION
PPH	-	POUNDS PER HOUR
PRV	-	PRESSURE RELIEF VALVE
PSF	-	POUNDS PER SQUARE FOOT
PSI	-	POUNDS PER SQUARE INCH
PSIA	-	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	-	POUNDS PER SQUARE INCH GAUGE
PVC	-	POLYVINYL CHLORIDE
RA	-	RETURN AIR
REQD	-	REQUIRED
RF	-	ROOF
RH	-	RELATIVE HUMIDITY
RPM	-	REVOLUTIONS PER MINUTE
SA	-	SUPPLY AIR
SCH	-	SCHEDULE
SHT	-	SHEET
SP	-	STATIC PRESSURE
SPEC	-	SPECIFICATION
SQ	-	SQUARE
S/S	-	STAINLESS STEEL
STD	-	STANDARD
STRUCT	-	STRUCTURAL
T&P	-	TEMPERATURE AND PRESSURE
TA	-	TRANSFER AIR
TBR	-	TO BE REMOVED
TC	-	TEMPERATURE CONTROL
TEMP	-	TEMPERATURE
TOB	-	TOP OF BEAM
TOD	-	TOP OF DUCT
TOP	-	TOP OF PIPE
TOS	-	TOP OF SLAB
TSP	-	TOTAL STATIC PRESSURE
T STAT	-	THERMOSTAT
TYP	-	TYPICAL
UC	-	UNDERCUT DOOR
		1" (BY GENERAL CONTRACTOR)
UNO	-	UNLESS OTHERWISE NOTED
V	-	VOLTS
VA	-	VALVE
VAV	-	VARIABLE AIR VOLUME
VEL	-	VELOCITY
VP	-	VELOCITY PRESSURE
VTR	-	VENT THRU ROOF
W/	-	WITH
W/O	-	WITHOUT
WB	-	WET BULB
WC	-	WATER COLUMN
WG	-	WATER GAUGE
X	-	EXISTING

MECHANICAL EQUIPMENT ABBREVIATIONS

AC	-	AIR CONDITIONING UNIT/AIR COMPRESSOR
ACC	-	AIR COOLED CONDENSER
ACCU	-	AIR COOLED CONDENSING UNIT
ACU	-	AIR CONDITIONING UNIT
AHU	-	AIR HANDLING UNIT
AMD	-	AIR MIXING DEVICE
ARU	-	AIR ROTATION UNIT
AS	-	AIR SEPARATOR
AT	-	AIR TERMINAL DEVICE
B	-	BOILER
BBS	-	BOILER BLOWDOWN SEPARATOR
BC	-	BOOSTER COIL
BFS	-	BOILER FEEDWATER SYSTEM
C	-	CONVECTOR
CC	-	COOLING COIL
CH	-	CHILLER
CP	-	CONDENSATE PUMP
CRU	-	CONDENSATE RETURN UNIT
CT	-	COOLING TOWER
CUH	-	CABINET UNIT HEATER
DC	-	DUST COLLECTOR
DH	-	DEHUMIDIFIER
EBB	-	ELECTRIC BASEBOARD
EF	-	EXHAUST FAN
EH	-	EXHAUST HOOD
EJ	-	EXPANSION JOINT
ET	-	EXPANSION TANK
EUH	-	ELECTRIC UNIT HEATER
F	-	FILTER
FCU	-	FAN COIL UNIT
FD	-	FLOOR DRAIN
FOP	-	FUEL OIL PUMP
FOT	-	FUEL OIL TANK
FTR	-	FIN TUBE RADIATION
GF	-	GAS FURNACE
GV	-	GRAVITY VENTILATOR
H	-	HUMIDIFIER
HC	-	HEATING COIL
HP	-	HEAT PUMP
HRC	-	HEAT RECOVERY COIL
HRD	-	HEAT RECLAIM DEVICE
HX	-	HEAT EXCHANGER
IAH	-	INTAKE AIR HOOD
IF	-	INLINE FAN
IFH	-	INFRARED HEATER
LP	-	LOUVERED PENTHOUSE
MAU	-	MAKE-UP AIR UNIT
MCC	-	MOTOR CONTROL CENTER
P	-	PUMP
RAHU	-	ROOFTOP AIR HANDLING UNIT
RCP	-	RADIANT CEILING PANEL
REF	-	ROOF EXHAUST FAN
RF	-	RETURN FAN
RH	-	RELIEF HOOD
RTU	-	ROOFTOP UNIT
RV	-	ROOF VENTILATOR
SA	-	SOUND ATTENUATOR
SF	-	SUPPLY FAN
T	-	TANK
TXV	-	THERMAL EXPANSION VALVE
UH	-	UNIT HEATER
UST	-	UNDERGROUND STORAGE TANK
UV	-	UNIT VENTILATOR
V	-	VALVE
VFD	-	VARIABLE FREQUENCY DRIVE
VP	-	VACUUM PUMP

PIPING SYSTEMS AND FITTINGS

- BBD — BOILER BLOW DOWN
- BF — BOILER FEED
- BA — BREATHABLE AIR
- CWS — CHILLED WATER SUPPLY
- CWR — CHILLED WATER RETURN
- A — COMPRESSED AIR
- CDS — CONDENSER WATER SUPPLY
- CDR — CONDENSER WATER RETURN
- D — DRAIN LINE
- FOF — FUEL OIL FILL
- FOS — FUEL OIL SUPPLY
- FOR — FUEL OIL RETURN
- FOV — FUEL OIL VENT
- GCWS — GLYCOL CHILLED WATER SUPPLY
- GCWR — GLYCOL CHILLED WATER RETURN
- HPWS — HEAT PUMP WATER SUPPLY
- HPWR — HEAT PUMP WATER RETURN
- HPS — HIGH PRESSURE STEAM
- HPC — HIGH PRESSURE CONDENSATE
- HWS — HOT WATER SUPPLY
- HWR — HOT WATER RETURN
- H — HUMIDIFICATION
- LP — LIQUEFIED PETROLEUM GAS
- LPS — LOW PRESSURE STEAM (10 PSIG)
- LPC — LOW PRESSURE CONDENSATE
- MU — MAKE-UP WATER
- MPS — MEDIUM PRESSURE STEAM
- MPC — MEDIUM PRESSURE CONDENSATE
- G — NATURAL GAS
- N2 — NITROGEN
- V — VENT LINE
- PC — PUMPED CONDENSATE
- RHG — REFRIGERANT HOT GAS
- RL — REFRIGERANT LIQUID
- RS — REFRIGERANT SUCTION
- RV — REFRIGERANT VENT
- VAC — VACUUM (AIR)

- FLANGE
- UNION
- ANCHOR
- PIPE GUIDE
- ECCENTRIC REDUCER
- CONCENTRIC REDUCER
- LINE CONTINUATION BREAK
- PIPELINE STRAINER
- ELBOW DOWN
- ELBOW UP
- TEE DOWN
- TEE UP
- PIPE CAP
- VALVE IN VERTICAL

NOTE:
(X) PRIOR TO SYSTEM TYPE DENOTES EXISTING PIPING (i.e, XHWS - EXISTING HOT WATER SUPPLY)

(XX) = SYSTEM PRESSURE IN PSIG (i.e. ——(5 PSIG)C——)

PIPE VALVES AND SPECIALTIES

- ANGLE VALVE
- BALANCING VALVE (CIRCUIT SETTER) (C.S.)
- BALL VALVE
- BUTTERFLY VALVE
- BUTTERFLY VALVE WITH ACTUATOR
- CHECK VALVE (ARROW INDICATES FLOW DIRECTION)
- DIAPHRAGM VALVE
- DRAIN VALVE WITH CAPPED OUTLET
- FLOAT OPERATED VALVE
- GATE VALVE
- GLOBE VALVE
- PLUG VALVE
- PRESSURE REDUCING VALVE
- PRESSURE RELIEF VALVE
- SHUTOFF VALVE (SEE SPECIFICATION FOR TYPE)
- SOLENOID VALVE
- THERMAL EXPANSION VALVE
- TRIPLE DUTY VALVE
- 2-WAY CONTROL VALVE
- 3-WAY CONTROL VALVE

- AUTOMATIC AIR VENT (AV)
- MANUAL AIR VENT (HMV)
- BALL JOINT
- EXPANSION JOINT (EJ)
- FLEXIBLE CONNECTION
- FLOW SWITCH (FS)
- FLOW METER (FM)
- PETE'S PLUG
- PRESSURE GAUGE
- PRESSURE SWITCH (PS)
- STEAM TRAP (INDICATE TYPE: T - THERMOSTATIC TRAP; F&T - FLOAT AND THERMOSTATIC TRAP; IB - INVERTED BUCKET TRAP) (XX)
- THERMOMETER
- DIRECTION OF FLOW
- DIRECTION OF PITCH RISE (R) OR DROP (D) (R)

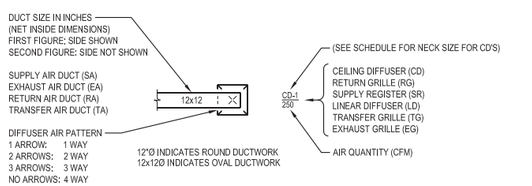
DUCTWORK FITTINGS

SINGLE LINE DUCTWORK

DOUBLE LINE DUCTWORK

- RECTANGULAR/ROUND BRANCH TAKE OFF (SA, RA, AND EA) — 45°, D; 1/4 D BUT NOT NOT LESS 6"
- TEE (FOR LOW PRESSURE SUPPLY AIR DUCTWORK ONLY) — 45°, W; 1/4 W BUT NOT NOT LESS 6"
- 15° MAX. FOR DIVERGING TRANSITION, 25° MAX. FOR CONVERGING TRANSITION - ECCENTRIC
- 15° MAX. FOR DIVERGING TRANSITION, 25° MAX. FOR CONVERGING TRANSITION - CONCENTRIC
- DUCT WITH FLOW DIRECTION ARROW
- LINE CONTINUATION BREAK (RECTANGULAR, ROUND)
- SUPPLY AIR (SA) OR OUTDOOR AIR (OA) DUCT UP
- SUPPLY AIR (SA) OR OUTDOOR AIR (OA) DUCT DOWN
- RETURN AIR (RA), RELIEF AIR OR TRANSFER AIR (TA) DUCT UP
- RETURN AIR (RA), RELIEF AIR OR TRANSFER AIR (TA) DUCT DOWN
- EXHAUST AIR (EA) DUCT UP
- EXHAUST AIR (EA) DUCT DOWN
- DUCT RISE/DROP W/ 90° ELBOWS (SUPPLY RECTANGULAR DUCT SHOWN)
- EITHER RADIUS OR SQUARE ELBOW (REFER TO SPECIFICATION FOR ADDITIONAL REQUIREMENTS) — W, R=1.5W RADIUS ELBOW
- SQUARE ELBOW WITH TURNING VANES
- DUCT RISE (R) OR DROP (D) W/ 30° ELBOWS (RECTANGULAR DUCTS) — R, D
- DUCT CROSS OVER — THIS DUCT RUNS UNDERNEATH

DIFFUSER, GRILLE, AND REGISTER NOTATION



- SQUARE/RECTANGULAR SUPPLY DIFFUSER, GRILLE OR REGISTER
- ROUND DIFFUSER
- RETURN REGISTER OR GRILLE (HORIZONTAL MOUNT)
- EXHAUST REGISTER OR GRILLE (HORIZONTAL MOUNT)
- SIDEWALL REGISTER OR GRILLE (DUCT MOUNT)
- SUPPLY REGISTER OR GRILLE (VERTICAL MOUNT)
- EXHAUST OR RETURN REGISTER OR GRILLE (VERTICAL MOUNT)
- DOOR TRANSFER GRILLE (DG)
- UNDERCUT DOOR (UC)

DAMPERS AND CONTROLS

- MANUAL VOLUME DAMPER (VD)
- FIRE DAMPER (FD)
- SMOKE DAMPER (SD)
- COMBINATION FIRE/SMOKE DAMPER (FD/SD)
- BACKDRAFT DAMPER (B)
- MOTORIZED DAMPER (M)

- SPACE THERMOSTAT (T)
- SPACE HUMIDISTAT (H)
- NIGHT CYCLE CONTROL THERMOSTAT (T_N)
- TEMPERATURE SENSOR (T)
- HUMIDITY SENSOR (H)
- PRESSURE SENSOR (P)
- DUCT SMOKE DETECTOR (SD)
- STARTER (ST)
- SPEED SWITCH (S)

DUCTWORK SPECIALTIES

- DUCT REHEAT COIL
- TEST HOLE
- ACCESS DOOR (AD)
- NEW TO EXISTING DUCT CONNECTION (NEW / EXISTING)
- REMOVE EXISTING DUCTWORK
- FLEXIBLE DUCT (OR)
- POINT OF CHANGE IN DUCT CONSTRUCTION BY PRESSURE CLASS (1 / 2)
- LINED DUCTWORK

GENERAL SYMBOLS

- DETAIL REFERENCE — TOP DESIGNATES DETAIL NUMBER; BOTTOM DESIGNATES SHEET NUMBER (1 / MX.XX)
- SECTION REFERENCE — TOP DESIGNATES SECTION NUMBER; BOTTOM DESIGNATES SHEET NUMBER (1 / MX.XX)
- ELEVATION SYMBOL
- EXISTING PIPING, DUCTWORK, EQUIPMENT, DEVICES, ETC., TO BE DEMOLISHED
- EXISTING PIPING, DUCTWORK OR EQUIPMENT TO REMAIN
- NEW PIPING, DUCTWORK OR EQUIPMENT

- VAV-1 — EQUIPMENT NAME AND NUMBER
- (1) — PLAN KEYED NOTE NUMBER
- REVISION NUMBER
- POINT OF CONNECTION (NEW TO EXISTING)
- POINT OF DISCONNECTION

MECHANICAL SHEET INDEX

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REINDAHL SPLASH PAD

1818 PORTAGE ROAD
MADISON, WI

ID	DATE	DESCRIPTION
2	01/13/14	REBID

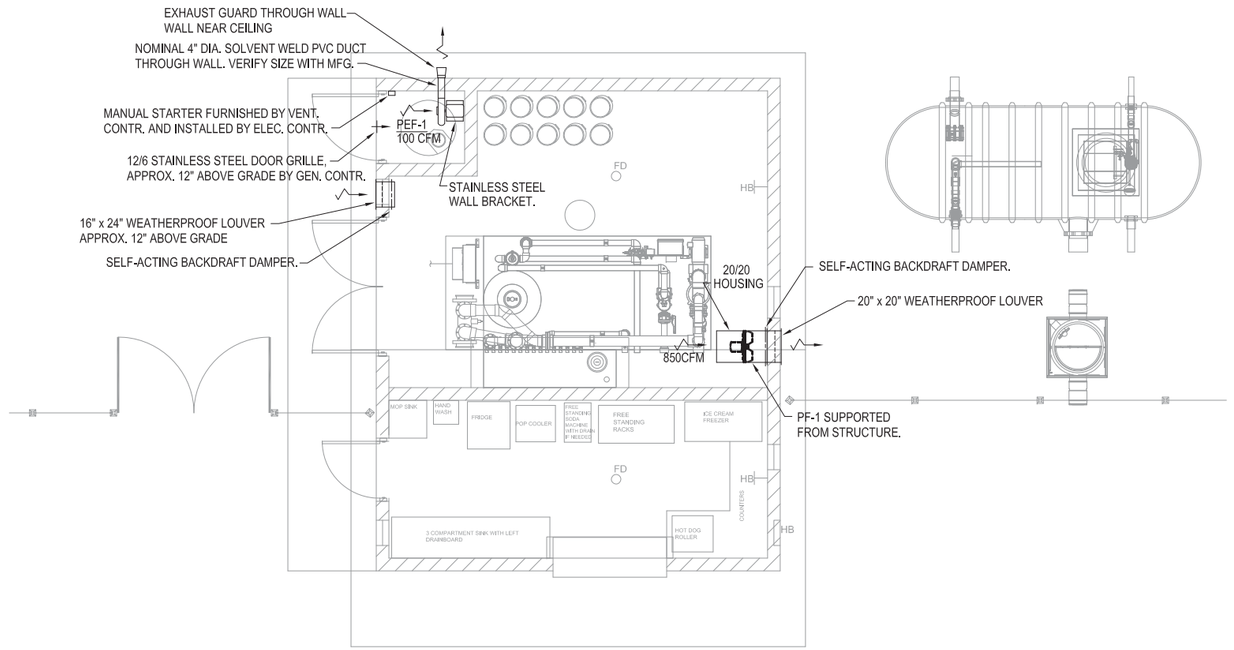
DATE	01/31/2014
PROJECT NO.	2013-2000.01
DRAWN BY	MHS
CHECKED BY	SDH
PHASE	BID DOCUMENTS

MECHANICAL SYMBOLS, ABBREVIATIONS AND SHEET INDEX

M000

GENERAL NOTES:

1. PROPELLER FAN (PF-1): GREENHECK MODEL S1-14-440-B6, 850 CFM AT 0.30" WC STATIC PRESSURE, 1/6 HP. 120V/60 HZ/1 PH. UNIT SHALL BE DIRECT DRIVE COMPLETE WITH SELF-ACTING BACKDRAFT DAMPER, AND HOUSING WITH INLET GUARD. THE FAN SHALL RUN CONTINUOUSLY DURING SPLASH PARK OCCUPANCY SEASON. SEE ELECTRICAL DRAWING FOR STARTER.
2. WEATHERPROOF LOUVERS: GREENHECK MODEL EDK-402, ALUMINUM, 4" THICK, DRAINABLE HEAD, K BLADES MINIMUM 54% FREE AREA WITH INSECT SCREEN AND INTAKE SELF-ACTING BACKDRAFT DAMPER.
3. PLASTIC EXHAUST FAN (PEF-1): ,PLASTEC VENTILATION, INC. MODEL 15, 1/4 HP, 120V/60/1 PH, 100 CFM AT 0.20" W. C. STATIC PRESSURE CONSTRUCTED OF ALL HIGH DENSITY POLYPROPYLENE WITH STAINLESS STEEL SUPPORT BRACKETED TO WALL, POLYPROPYLENE EXHAUST GUARD AND MANUAL STARTER (LOCKABLE). TURN STARTER OVER TO ELEC. CONTRACTOR FOR INSTALLATION.



1 / M100 MECHANICAL FLOOR PLAN

SCALE: 1/4"=1'-0"

TRUE NORTH PLAN NORTH

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MECHANICAL FLOOR PLAN, DETAILS AND SCHEDULES

M100

Date: Friday, January 24, 2014 Plotted by: Selm, Mardin H. Drawing location: L:\Jobs2013\20132000-01\CAD\Mechanical\dgn\00\M100.dwg

ELECTRICAL SYMBOLS

NOTE: NOT ALL SYMBOLS AND ABBREVIATIONS INDICATED HERE ARE USED IN DRAWINGS AND MAY NOT APPLY TO CURRENT PROJECT. ADDITIONAL SYMBOLS MAY BE INDICATED ON DRAWINGS.

EQUIPMENT AND PANELBOARDS

- TRANSFORMER - PAD MOUNTED
- METER
- CT — CURRENT TRANSFORMER CABINET
- PANELBOARD - SURFACE MOUNTED - (SEE SCHEDULE)

WIRING DEVICES

- DUPLEX RECEPTACLE - MOUNTED 1'-6" AFF, UOI - (X) INDICATES CIRCUIT NUMBER (PANEL BOUNDS AS INDICATED ON DRAWINGS) - (Y) INDICATES TYPE: (D) DEDICATED (DD) DOUBLE DUPLEX (GFI) GROUND FAULT INTERRUPTING (WP) WEATHERPROOF COVER (WR) WEATHER RESISTANT RECEPTACLE
- SPECIAL PURPOSE OUTLET - (X) INDICATES DEVICE IDENTIFICATION (SEE EQUIPMENT SCHEDULE)
- MOTOR CONNECTION - (X) INDICATES MOTOR IDENTIFICATION (SEE EQUIPMENT SCHEDULE)
- DUPLEX RECEPTACLE MOUNTED 6" ABOVE COUNTER BACKSPLASH OR HEIGHT AS NOTED - (X) INDICATES CIRCUIT NUMBER (PANEL BOUNDS AS INDICATED ON DRAWINGS)

GENERAL SYMBOLS

- X / XXX — DETAIL REFERENCE - TOP DESIGNATES DETAIL NUMBER - BOTTOM DESIGNATES SHEET NUMBER
- DETAIL COVERAGE AREA
- X / XXX — EQUIPMENT REFERENCE - TOP DESIGNATES EQUIPMENT TYPE: (LP) LIGHTING PANEL (MDP) MAIN DISTRIBUTION PANEL (MSB) MAIN SWITCHBOARD PANEL (PP) POWER PANEL (RC) RELAY CABINET (RP) RECEPTACLE PANEL (T) TRANSFORMER - BOTTOM DESIGNATES EQUIPMENT ID

LINETYPE LEGEND

- ITEMS SHOWN ON PLANS AS THIN, SOLID BLACK LINES ARE EXISTING TO REMAIN
- ITEMS SHOWN ON PROPOSED PLANS AS THICK, DASHED BLACK LINES NEW CONDUIT UNDERGROUND
- ITEMS SHOWN ON PROPOSED PLANS AS THICK, SOLID BLACK LINES ARE NEW
- ITEMS SHOWN ON PLANS AS THIN DASHDOT BLACK LINES ARE FUTURE

RACEWAYS AND BOXES

- J — JUNCTION BOX

TELECOMMUNICATIONS

- TELEPHONE / DATA OUTLET - 4" SQUARE BOX & 3/4" CONDUIT STUB (ROUGH-IN ONLY)

LIGHTING FIXTURES

- SURFACE MOUNTED
- RECESS MOUNTED
- WALL MOUNTED
- SUSPENDED, PENDENT, CHAIN, STEM, OR CABLE HUNG
- POLE MOUNTED WITH ARM
- POST TOP MOUNTED
- IN-GROUND OR IN-FLOOR MOUNTED
- SINGLE HEAD SPOT OR FLOOD
- DOUBLE HEAD SPOT OR FLOOD
- STRIP OR UNDER CABINET
- SURFACE MOUNTED ACCENT - CHEVRON INDICATES DIRECTION OF ILLUMINATION
- RECESS MOUNTED ACCENT - CHEVRON INDICATES DIRECTION OF ILLUMINATION
- EMERGENCY BATTERY UNIT - DUAL LIGHTING HEADS
- EMERGENCY BATTERY REMOTE - SINGLE LIGHTING HEAD
- EMERGENCY BATTERY REMOTE - DUAL LIGHTING HEADS
- EXIT LIGHT FIXTURE - CEILING MOUNTED - SHADING INDICATES FACE(S) - ARROW(S) AND FACE(S) AS INDICATED ON DRAWINGS
- EXIT LIGHT FIXTURE - END MOUNTED - SHADING INDICATES FACE(S) - ARROW(S) AND FACE(S) AS INDICATED ON DRAWINGS

LIGHTING FIXTURE DESIGNATIONS

- SHADING INDICATES FIXTURE FULLY WIRED TO EMERGENCY OR NIGHT LIGHTING CIRCUIT
- PARTIAL SHADING INDICATES FIXTURE PARTIALLY WIRED TO EMERGENCY OR NIGHT LIGHTING CIRCUIT
- A-1b — LIGHT FIXTURE DESIGNATION - (A) INDICATES FIXTURE TYPE (SEE SCHEDULE) - (1) INDICATES CIRCUIT NUMBER (PANEL BOUNDS AS INDICATED ON DRAWINGS) - (b) INDICATES CONTROL DESIGNATION (IF NOT INDICATED, CONTROLLED VIA SWITCH AT ROOM ENTRY)

TYPICAL AT EACH FIXTURE LOCATION:
- ca — CONTACTOR DESIGNATION (SEE SCHEDULE) CONTROLLED VIA CONTACTOR
- dal — DIMMER CHANNEL CABINET DESIGNATION CONTROLLED VIA ELECTRONIC DIMMING SYSTEM
- oa — SPECIFIC DEVICE DESIGNATION CONTROLLING CIRCUIT OR PORTION OF CIRCUIT OCCUPANCY SENSOR CONTROLLED
- ra — RELAY DESIGNATION CONTROLLING CIRCUIT OR PORTION OF CIRCUIT LOW VOLTAGE RELAY CONTROLLED VIA RELAY CABINET
- ta — TIME CLOCK DESIGNATION (SEE SCHEDULE) TIME CLOCK CONTROLLED

LIGHTING CONTROL

- X a $ — SWITCH - MOUNTED 3'-8" AFF, UOI - (a) INDICATES SWITCH DESIGNATION - SINGLE POLE, UOI - (X) INDICATES SWITCH TYPE: (2) TWO POLE (3) THREE WAY (4) FOUR WAY (DLS) DUAL LEVEL SWITCH (TS) TIMED (P) WITH PILOT LIGHT
- X OS — OCCUPANCY SENSOR - CEILING MOUNTED - (X) INDICATES TYPE (SEE SPECIFICATIONS))
- X — OCCUPANCY SENSOR - WALL MOUNTED 3'-8" AFF, UOI - (X) INDICATES TYPE (SEE SCHEDULE)
- X C — CONTACTOR - (X) INDICATES TYPE (SEE SCHEDULE)
- X T — TIME CLOCK - (X) INDICATES TYPE (SEE SCHEDULE)
- X PC — PHOTOCELL - (X) INDICATES TYPE (SEE SCHEDULE)

PANELBOARD SCHEDULE: RP/A

VOLTAGE:	240/120	MAIN TYPE:	MCB	BUS MATERIAL:	COPPER
PHASE/WIRE:	1P / 3W	MAIN RATING:	400 AMPS	BUS RATING:	400 AMPS
SVC. ENTRANCE LABEL:	YES	TVSS:	NO	ENCLOSURE:	NEMA 1
MINIMUM AIC:	22,000 AMPS	FEED-THRU LUGS:	NO	200% NEUTRAL:	NO
IS SERIES RATED ALLOWED:	NO	MOUNTING:	SURFACE	PANELBOARD TYPE:	BRANCH CIRCUIT

CCT #	LOAD TYPE	LOAD DESCRIPTION	VA	TRIP / POLE			TRIP / POLE	VA	LOAD TYPE	LOAD DESCRIPTION	CCT #
1	R	RECEPTACLE	180	20/1	A	A	110/2	8,400	M	SPO1	2
3	R	RECEPTACLE	180	20/1	B	B	X	8,400	M		4
5	L	LIGHTING	280	20/1	A	A				SPACE	6
7	L	LIGHTING	260	20/1	B	B				SPACE	8
9	L	LIGHTING	94	20/1	A	A				SPACE	10
11	R	RECEPTACLE	180	20/1	B	B				SPACE	12
13	R	RECEPTACLE	180	20/1	A	A	20/1	528	M	PF1	14
15	R	RECEPTACLE	180	20/1	B	B	20/1	696	M	PEF1	16
17	E	SOLENOID VALVE	50	20/1	A	A	50/2	4,750	E	SPO 3	18
19	R	EM PHONE	180	20/1	B	B	X	4,750	E		20
21		SPARE		20/1	A	A				SPACE	22
23		SPARE		20/1	B	B				SPACE	24
25		SPARE		20/1	A	A				SPACE	26
27		SPARE		20/1	B	B				SPACE	28
29		SPARE		20/1	A	A				SPACE	30
31		SPARE		20/1	B	B				SPACE	32
33		SPARE		20/1	A	A				SPACE	34
35		SPARE		20/1	B	B				SPACE	36
37		SPARE		20/1	A	A				SPACE	38
39		SPARE		20/1	B	B				SPACE	40
41		SPARE		20/1	A	A				SPACE	42

ABBREVIATIONS:		PHASE	A	B
ST	= SHUNT TRIP		14,462	14,846
GFCI	= GROUND FAULT CIRCUIT INTERRUPTOR	LOAD TYPE ABBREVIATIONS:		
HACR	= HEATING AND AIR-CONDITIONING RATED	R = RECEPTACLE	M = MOTOR	
HS	= HANDLE-BLOCKING DEVICE	L = LIGHTING	LM = LARGEST MOTOR	
		E = EQUIPMENT	K = KITCHEN	

TOTAL CONNECTED (VA):	29,308
TOTAL CONNECTED (A):	122.12
TOTAL DEMAND (VA):	29,308
TOTAL DEMAND (A):	122.12

PANEL SCHEDULE NOTES:
1. BREAKERS SHALL BE MARKED IN THE PANEL BY CONTRACTOR.
2. CONTRACTOR TO PROVIDE SPARE SINGLE POLE 20 AMP BREAKERS (LEFT SIDE OF PANELBOARD ONLY). RIGHT SIDE SPACES MAY BE LEFT.

ELECTRICAL SHEET INDEX

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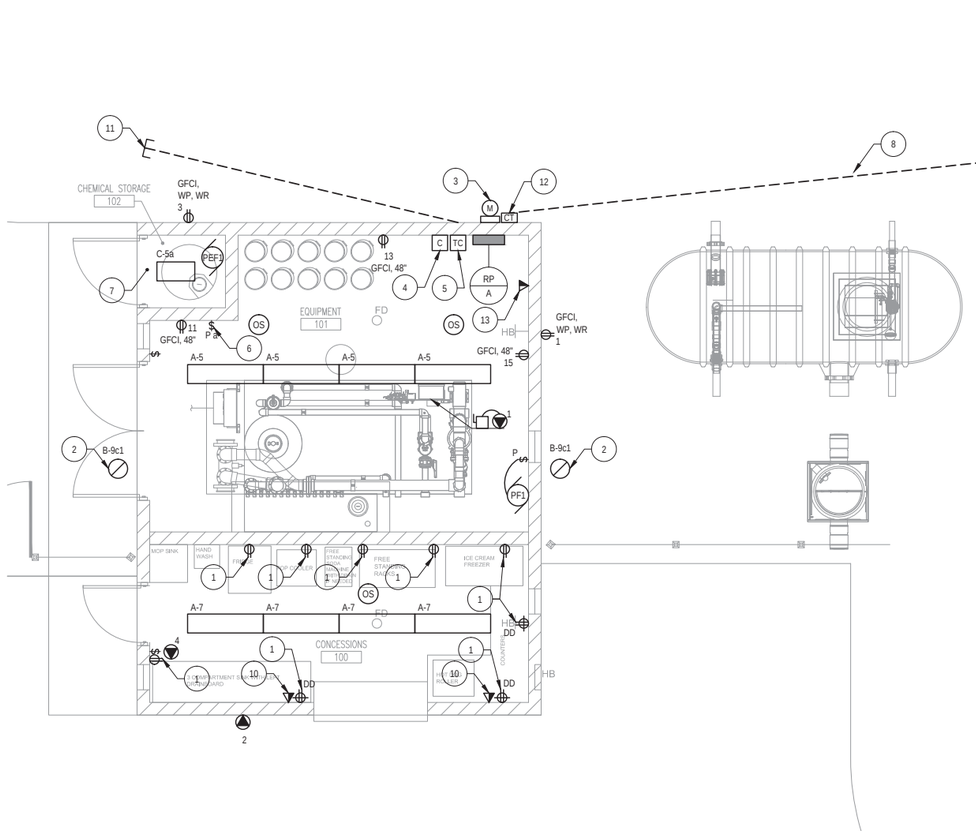
ELECTRICAL SYMBOLS, SCHEDULE AND SHEET INDEX

E000

Date: Friday, January 24, 2014 Plotted by: St. Ledger, Heather Drawing location: L:\Jobs2013\20132000-01\CAD\Electrical\dgn\00\E000.dwg



1 / E100 ELECTRICAL FLOOR PLAN

SCALE: 1/4"=1'-0"

TRUE NORTH PLAN NORTH

GENERAL NOTES:

1. ALL CIRCUITS TO BE FED FROM PANEL "RP/A", UNLESS OTHERWISE INDICATED. SEE PANEL SCHEDULE FOR FURTHER DETAILS.
2. NO MULTI WIRE BRANCH CIRCUITS ALLOWED, EACH BRANCH CIRCUIT REQUIRES A SEPARATE NEUTRAL.

SHEET NOTES:

1. PROVIDE ROUGH IN ONLY. STUB 3/4" CONDUIT TO PANEL "RP/A" IN EQUIPMENT ROOM 101.
2. LIGHT FIXTURE SHALL BE RECESSED INTO SOFFIT. FIXTURE SELECTION BY OWNER. COORDINATE ACTUAL FIXTURE SIZE AND MOUNTING REQUIREMENTS WITH ACTUAL EQUIPMENT PROVIDED. SEE ARCHITECTURAL PLANS A1.01 & A1.02 FOR CONSTRUCTION DETAILS.
3. CONTRACTOR SHALL PROVIDE 400A 240/120V SINGLE PHASE, 3-WIRE UTILITY APPROVED METER TRANSOCKET WITH FUSIBLE SWITCH. COORDINATE EXACT REQUIREMENTS WITH LOCAL UTILITY.
4. CONTRACTOR SHALL PROVIDE ELECTRICALLY HELD NORMALLY CLOSED, 4-POLE, LIGHTING CONTACTOR SQUARE D MODEL LG40 OR APPROVED EQUAL.
5. CONTRACTOR SHALL PROVIDE ELECTRONIC ASTROLOGICAL TIME CLOCK IN AN INTERMATIC MODEL ET8215C OR APPROVED EQUAL.
6. PROVIDE SWITCH WITH PILOT LIGHT TO CONTROL LIGHT FIXTURE TYPE "C" LOCATED IN CHEMICAL ROOM. LABEL FACEPLATE TO INDICATE "CHEMICAL STORAGE ROOM LIGHTING."
7. ALL EXPOSED CONDUIT, CONNECTORS, HANGERS, HARDWARE, AND FITTINGS IN THIS AREA SHALL BE PVC.
8. PROVIDE 2 SETS OF (3) #3/0 AWG AND (1) #3 GROUND IN (2) 2" CONDUITS. REFER TO CIVIL PLANS FOR TRANSFORMER LOCATION AND SITE DIMENSIONAL INFORMATION. INSTALL A MINIMUM OF 24" BELOW FINISHED GRADE.
9. PAD MOUNTED UTILITY TRANSFORMER PROVIDED BY OTHERS. ELECTRICAL CONTRACTOR SHALL PROVIDE CONCRETE PAD. ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT REQUIREMENTS WITH UTILITY AND OWNER. REFER TO CIVIL PLANS FOR EXACT LOCATION OF TRANSFORMER.
10. PROVIDE ROUGH-IN ONLY. INSTALL EMPTY 3/4" CONDUIT IN WALL AND BACK TO THE NORTH WEST CORNER OF EQUIPMENT ROOM 101 FOR FUTURE DATA OUTLET. LABEL END OF CONDUIT TO INDICATE DATA OUTLET. PROVIDE BUSHING ON END AND PULL STRING.
11. STUB EMPTY 1" CONDUIT, UNDERGROUND, FROM EQUIPMENT ROOM 101 FOR FUTURE SITE LIGHTING. CAP AND STAKE END. COORDINATE LENGTH AND DIRECTION WITH OWNER.
12. PROVIDE 400A 240/120V SINGLE PHASE, 3-WIRE UTILITY APPROVED CT CABINET. COORDINATE EXACT REQUIREMENTS WITH LOCAL UTILITY.
13. PROVIDE ROUGH-IN ONLY. INSTALL EMPTY 3/4" CONDUIT UP TO CEILING FOR FUTURE DATA OUTLET.

MOTOR STARTER SCHEDULE

GENERAL NOTES:

A. OBTAIN SUPPLIERS SHOP DRAWINGS / WIRING DIAGRAMS TO VERIFY LOCATION AND REQUIREMENTS PRIOR TO ROUGH-IN.
B. FURNISH HACR TYPE BREAKERS FOR ALL HVAC EQUIPMENT
C. ELECTRICAL CONTRACTOR SHALL INSTALL ALL STARTS AND DISCONNECTS AND PROVIDE ALL WIRING AND CONDUIT NEEDED FOR COMPLETE SYSTEM
D. ALL MOTORS SHALL BE PROVIDED WITH A DISCONNECT SWITCH LOCATED PER NEC REQUIREMENTS.

EQUIPMENT NUMBER	LOAD	VOLT	PHASE	LOCATION	DESCRIPTION	FED FROM		BREAKER		BRANCH WIRING				SEE NOTES
						PANEL	CKT	SIZE	POLE	#	SIZE	GND	CONDUIT	
PF1	1/6HP	120	1	101	PROPELLER FAN 1	RP/A	14	20	1	2	12	12	3/4"	1
PEF1	1/4HP	120	1	102	PLASTIC EXHAUST FAN 1	RP/A	16	20	1	2	12	12	3/4"	2

MOTOR STARTER SCHEDULE NOTES:

1. ELECTRICAL CONTRACTOR SHALL PROVIDE MANUAL STARTER.
2. STARTER SHALL BE PROVIDED BY MECHANICAL CONTRACTOR, INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR.

SPECIAL PURPOSE OUTLET SCHEDULE

#	SERVING	LOC	FEED FROM		BREAKER		WIRING				VOLT	PHASE	LOAD	SEE NOTE
			PANEL	CIRCUIT	SIZE	POLE	#	SIZE	GND	COND				
1	WATER QUALITY MANAGEMENT SYSTEM	101	RP/A	2,4	110	2	2	#2	#6	1-1/4"	240	1	70FLA	2
2	EM POOL PHONE	VERIFY	RP/A	19	20	1	2	#12	#12	3/4"	120	1	-	4
3	WATER HEATER	VERIFY	RP/A	18,20	50	2	2	#8	#10	3/4"	240	1	9.5KW	1,2
4	SOLENOID VALVE	100	RP/A	17	20	1	2	#12	#12	3/4"	120	1	-	3

SPECIAL PURPOSE OUTLET SCHEDULE NOTES:

1. REFER TO PLUMBING PLANS FOR LOCATION OF WATER HEATER.
2. ELECTRICAL CONTRACTOR SHALL PROVIDE FUSED HEAVY DUTY SAFETY SWITCH ADJACENT TO EQUIPMENT.
3. SOLENOID VALVE FOR SHOWER SHALL BE CONTROLLED BY CIRCUIT 2 OF CONTACTOR AND TIME CLOCK. VERIFY TIME SCHEDULE WITH OWNER PRIOR TO INSTALLATION.
4. VERIFY MOUNTING HEIGHT AND LOCATION WITH ARCHITECTURAL PLANS. PROVIDE 20A RECEPTACLE TO BE MOUNTED IN PHONE ENCLOSURE.

LIGHTING FIXTURE SCHEDULE

NOTE: SEE SPECIFICATIONS SECTIONS FOR ADDITIONAL INFORMATION REGARDING LIGHTING FIXTURE AND INSTALLATION REQUIREMENTS. PROVIDE OPTIONS AND ACCESSORIES REFERENCED BY THE COLUMN TITLED "OPTIONS/ACCESSORIES". MANUFACTURERS LISTED AS ACCEPTABLE SHALL MEET ALL REQUIREMENTS AND FEATURES INDICATED. ACCEPTABLE MANUFACTURERS MUST MEET THE PHOTOMETRIC PERFORMANCE OF THE LISTED UNIT.

ABBREVIATIONS: DW = DRY WALL, ES = EXPOSED STRUCTURE, LG = LAY-IN GRID, P = PENDANT, PL = PLASTER, PO = POLE, R = RECESS, S = SURFACE, W = WALL MOUNTED, V = VARIES

DES	LAMP DATA		DESCRIPTION	LIGHTING FIXTURE		VOLT	MOUNT	CEILING TYPE	FIXTURE DEPTH	OPTIONS/ ACCESSORIES	ACCEPTABLE MANUFACTURERS	SEE NOTE
	#	TYPE		MANUFACTURER	CATALOG SERIES							
A	2	32WT8	SECURITY SURFACE LUMINAIRE	FAIL-SAFE	FCT-X-232-120-80/86-LE3-SF3	120	S					
B	-	LED	RECESSED SOFFIT LUMINAIRE	BETALED	SFT-304-5M-RM-04-D-350-IC	120	R					
C	2	F17T8	HAZARDOUS LOCATION LUMINAIRE	KENALL	HES8-24-2-17-DV-2H-PP	120	S					

LIGHTING FIXTURE SCHEDULE NOTES:

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ELECTRICAL FLOOR PLAN, DETAILS AND SCHEDULES

E100

ABBREVIATED ELECTRICAL SPECIFICATIONS

GENERAL ELECTRICAL PROVISIONS

WORK INCLUDED IN CONTRACT

MENTION OF ANY ARTICLE, OPERATION OR METHOD REQUIRES THAT CONTRACTOR SHALL PROVIDE SAME AND PERFORM EACH OPERATION IN COMPLETE ACCORDANCE WITH CONDITIONS STATED, CONTRACTOR SHALL PROVIDE ALL MATERIAL, LABOR, EQUIPMENT, AND TRANSPORTATION AS NECESSARY TO COMPLETE PROJECT IN COMPLIANCE WITH CONTRACT DOCUMENTS. IN GENERAL, WORK INCLUDES EVERYTHING ESSENTIAL FOR COMPLETE ELECTRICAL SYSTEM IN OPERATING ORDER AS SHOWN ON DRAWINGS AND INDICATED IN SPECIFICATIONS.

CONTRACTOR SHALL APPLY FOR ALL PERMITS AND PAY ALL FEES.

ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH ALL STATE AND LOCAL INSPECTION AUTHORITIES HAVING JURISDICTION TOGETHER WITH RECOMMENDATIONS OF MANUFACTURER WHOSE EQUIPMENT IS TO BE SUPPLIED AND INSTALLED UNDER THIS CONTRACT.

ALL MATERIALS SHALL BE SUITABLY STORED AND PROTECTED PRIOR TO INSTALLATION AND ALL WORK SHALL BE PROTECTED AFTER INSTALLATION, DURING CONSTRUCTION, AND PRIOR TO ACCEPTANCE.

SHALL ANY ERRORS OR OMISSIONS OCCUR WITHIN SPECIFICATIONS, DRAWINGS, OR OTHER DOCUMENTS, CONTRACTOR IS DEEMED TO HAVE ESTIMATED MORE EXPENSIVE WAY OF DOING WORK, UNLESS ERROR HAS BEEN ADDRESSED (ADDENDUM) BEFORE SUBMISSION OF BID AS TO WHICH METHOD OR MATERIALS WILL BE REQUIRED.

PERMITS AND LICENSES

CONTRACTOR SHALL PREPARE AND SUBMIT ALL APPLICATIONS AND WORKING DRAWINGS, AS REQUIRED, TO AUTHORITIES HAVING JURISDICTION OVER PROJECT. ALL LICENSES AND PERMITS REQUIRED SHALL BE SECURED AND PAID FOR BY CONTRACTOR.

STANDARDS AND CODES

WORK SHALL BE INSTALLED IN ACCORDANCE WITH NATIONAL, STATE, AND LOCAL CODES, ORDINANCES, LAWS, AND REGULATIONS. COMPLY WITH ALL APPLICABLE OSHA REGULATIONS.

MATERIALS SHALL HAVE UL OR ETL LABEL WHERE UL OR ETL STANDARD AND / OR TEST EXISTS.

MATERIALS AND EQUIPMENT

MATERIALS AND EQUIPMENT REQUIRED SHALL BE NEW, UNLESS OTHERWISE INDICATED.

EQUIPMENT SUPPLIED SHALL BE BASED ON MATERIALS AND EQUIPMENT OF MANUFACTURERS SPECIFIED. NO SUBSTITUTIONS WILL BE ALLOWED.

MAINTENANCE MANUALS

CONTRACTOR SHALL ASSEMBLE AND SUBMIT TO OWNER, THREE COMPLETE SETS OF MANUAL OF OPERATION AND MAINTENANCE FOR EACH SYSTEM.

CLEANING AND PAINTING

RUBBISH RESULTING FROM WORK SHALL BE REMOVED AND DISPOSED OF ON DAILY BASIS IN SUCH MANNER AS TO BE ACCEPTABLE TO OWNER.

CONTRACTOR SHALL CLEAN ALL EXPOSED IRON WORK, INTERIOR AND EXTERIOR OF CABINETS AND PULL BOXES, ETC., AND REMOVE RUBBISH AND DEBRIS RESULTING FROM WORK.

WHERE PAINTED SURFACES OF EQUIPMENT HAVE BEEN DAMAGED OR RUSTED DURING CONSTRUCTION, CONTRACTOR SHALL PAINT SAME TO MATCH FINAL.

TESTS AND ACCEPTANCE

OPERATION OF EQUIPMENT AND ELECTRICAL SYSTEMS DOES NOT CONSTITUTE ACCEPTANCE OF WORK BY OWNER. FINAL ACCEPTANCE IS TO BE MADE AFTER CONTRACTOR HAS ADJUSTED HIS EQUIPMENT AND DEMONSTRATED THAT IT FULFILLS REQUIREMENTS OF DRAWINGS AND SPECIFICATIONS.

UPON COMPLETION OF INSTALLATION, CONTRACTOR SHALL FURNISH CERTIFICATES OF APPROVAL FROM AUTHORITIES HAVING JURISDICTION. CONTRACTOR SHALL DEMONSTRATE THAT ALL WORK IS COMPLETE AND IN PERFECT OPERATING CONDITION, WITH RACEWAY AND CONDUIT SYSTEM PROPERLY GROUNDED, WIRING FREE FROM GROUNDS AND SHORTS, AND ENTIRE INSTALLATION IS FREE FROM ANY PHYSICAL DEFECTS.

IN PRESENCE OF ENGINEER AND OWNER, CONTRACTOR SHALL DEMONSTRATE PROPER OPERATION OF ALL SYSTEMS.

UNLESS OTHERWISE INDICATED, ALL WORK SHALL BE GUARANTEED FOR ONE (1) YEAR AFTER DATE OF FINAL ACCEPTANCE.

DEFINITIONS

A/E - ARCHITECT AND / OR ENGINEER

PROVIDE - FURNISHED, INSTALLED, AND COMPLETELY WIRED AND CONNECTED BY CONTRACTOR.

CONTRACTOR - PERSON OR GROUP RESPONSIBLE FOR PROJECT CONSTRUCTION.

ELECTRICAL SERVICE AND DISTRIBUTION

PROVIDE TEMPORARY SERVICE IN AREAS OF CONSTRUCTION FOR ALL TRADES. INCLUDE LOCAL LIGHTING AND 120 VOLT POWER. COST OF POWER SHALL BE PAID BY OWNER.

PROVIDE NEW UTILITY SERVICE IN ACCORDANCE WITH DRAWINGS AND AS REQUIRED BY LOCAL CODES. COORDINATE AND PROVIDE ALL EQUIPMENT - CONDUITS, METER BACK BOXES, TERMINATION BOXES, METER STACKS, TRANSFORMER CONCRETE PADS, BOLLARDS, CONDUCTORS, ETC. - AS REQUIRED BY LOCAL UTILITY. CONTRACTOR IS RESPONSIBLE FOR METER APPLICATION AND PAYING ALL FEES ASSOCIATED.

BUSSING SHALL BE COPPER.

GROUNDING SHALL BE IN ACCORDANCE WITH ALL CODES.

SAFETY SWITCHED SHALL BE HEAVY DUTY, FUSED WITH CLASS R INDICATING TYPE FUSES. PROVIDE THREE SPARE FUSES OF EACH FUSE TYPE TO OWNER. PROVIDE NEMA 1 SWITCHES FOR INDOOR USE, AND NEMA 4X FOR OUTDOOR AND CORROSIVE AREAS.

CONTRACTOR TO PROVIDE ALL ARC FLASH LABELING ON ELECTRICAL EQUIPMENT AS REQUIRED BY NEC.

BUILDING WIRE AND CABLE

BUILDING WIRE

PRODUCT DESCRIPTION: SINGLE CONDUCTOR INSULATED WIRE.

CONDUCTOR: COPPER ONLY.

INSULATION VOLTAGE RATING: 600 VOLTS, RATED 75 DEGREES CELSIUS, UNLESS OTHERWISE INDICATED.

PROVIDE FOLLOWING WIRING TYPES:
- CONCEALED OR EXPOSED DRY INTERIOR LOCATIONS: USE ONLY BUILDING WIRE TYPE THW, THHN / THWN OR XHHW INSULATION IN RACEWAY. WET OR DAMP INTERIOR LOCATIONS: USE ONLY BUILDING WIRE TYPE THW INSULATION IN RACEWAY. EXTERIOR LOCATIONS: USE ONLY BUILDING WIRE TYPE THW, OR USE INSULATION, IN RACEWAY.
- UNDERGROUND LOCATIONS: USE ONLY BUILDING WIRE TYPE THW, OR USE INSULATION, IN RACEWAY.

SOLID OR STRANDED CONDUCTOR FOR #10 AWG AND SMALLER. CONDUCTOR #6 AWG AND LARGER SHALL BE STRANDED.

CONDUCTOR SHALL NOT BE SMALLER THAN #12 AWG FOR POWER AND LIGHTING CIRCUITS.

CONDUCTOR SHALL NOT BE SMALLER THAN #14 AWG FOR CONTROL CIRCUITS.

ALL WIRES SHALL BE NEW, DELIVERED TO SITE IN UNBROKEN CARTONS, AND SHALL BE LESS THAN ONE YEAR OLD OUT OF MANUFACTURER'S STOCK.

MC, AC, AND NONMETALLIC-SHEATHED CABLES SHALL NOT BE USED.

PORTABLE CORDS

S00W PORTABLE CORD RATED -40°C TO 90°C, 600 VOLTS, COPPER MSHA, COLOR CODED SYNTHETIC RUBBER INSULATED WIRE WITH AN OIL RESISTANT THERMOSET JACKET, UL AND CSA LISTED AS SOOW WIRE.

WIRING CONNECTORS

CONDUCTORS #10 AWG AND SMALLER: 3M SCOTCH-LOK COMPRESSION TYPE SOLDERLESS CONNECTORS WITH PLASTIC COVER.

JOINTS, TAPS, AND SPLICES IN CONDUCTORS #8 AWG AND LARGER: SOLDERLESS COMPRESSION TYPE CONNECTORS, TOOL AND DIE APPLIED, OF TYPE THAT WILL NOT LOOSEN UNDER VIBRATION OR NORMAL STRAINS. BURNDY "HY-DENT" TYPE OR EQUIVALENT.

RUBBER INSULATING ELECTRICAL TAPE: SCOTCH 3M MODEL 23, 30-MIL TAPE.

SPLIT BOLT CONNECTORS ARE NOT ACCEPTABLE.

EXAMINATION

DO NOT DRAW CONDUCTORS INTO CONDUITS UNTIL BUILDING IS ENCLOSED AND WATERTIGHT AND UNTIL WORK THAT MAY CAUSE CONDUCTOR DAMAGE HAS BEEN COMPLETED.

JOINTS TAPS AND SPLICES

EACH TAP, JOINT, OR SPLICE IN CONDUCTORS #6 AWG AND LARGER SHALL BE TAPED WITH TWO HALF-LAP LAYERS OF VINYL PLASTIC ELECTRICAL TAPE AND FINISH WRAP OF COLOR CODING TAPE, WHERE REQUIRED BY CODE.

CABLE SPLICES SHALL BE MADE ONLY IN DISTRIBUTION AND JUNCTION BOXES.

INSTALLATION

NEATLY TRAIN AND LACE WIRING INSIDE BOXES, EQUIPMENT, AND PANELBOARDS.

BRANCH CIRCUIT CONDUCTORS

CONDUCTORS SHALL BE SIZE #12 MINIMUM, UNLESS OTHERWISE INDICATED.

SIZE CONDUIT, OUTLET BOXES, AND OTHER RACEWAY SYSTEM COMPONENTS IN ACCORDANCE WITH NEC REQUIREMENTS AS MINIMUM.

FIXTURE WIRES

USE CONDUCTOR WITH INSULATION SUITABLE FOR CURRENT, VOLTAGE, AND TEMPERATURE TO WHICH CONDUCTOR WILL BE SUBJECTED.

#12 AWG WIRE SIZE MINIMUM FOR CONDUCTORS SUPPLYING POWER TO SINGLE FIXTURE. 600 VOLT INSULATION MINIMUM.

INSULATION SUITABLE FOR OPERATION AT 90 DEGREES CELSIUS. MINIMUM FOR LIGHTING FIXTURES WITH INTEGRAL BALLAST, MOGUL BASE SOCKETS, QUARTZ LAMPS, OR OTHERWISE WHERE SUBJECT TO EXCESSIVE TEMPERATURES.

FIXTURE WIRING SHALL BE CONTINUOUS WIRING SYSTEM TO LAMP HOLDER OR TO BALLAST AND FROM BALLAST TO LAMP HOLDER.

WIRE COLOR

INSTALL WIRE COLORS IN ACCORDANCE WITH FOLLOWING:
- BLACK AND RED FOR SINGLE PHASE CIRCUITS AT 120 / 240 VOLTS.
- BLACK, RED, AND BLUE FOR CIRCUITS AT 120 / 208 VOLTS SINGLE OR THREE PHASE.
- BROWN, ORANGE, AND YELLOW FOR CIRCUITS AT 277 / 480 VOLTS SINGLE OR THREE PHASE.

NEUTRAL CONDUCTORS: WHITE. WHEN TWO OR MORE NEUTRALS ARE LOCATED IN ONE CONDUIT, INDIVIDUALLY IDENTIFY EACH WITH PROPER CIRCUIT NUMBER.

MOTOR WIRING

APPLICABLE MOTORS FURNISHED UNDER GENERAL CONSTRUCTION, HVAC, AND PLUMBING TRADES OF WORK. MOTOR STARTERS AND CONTROLLERS SHALL BE ERECTED BY CONTRACTOR IN APPROVED MANNER AT LOCATIONS ESTABLISHED BY CONTRACTOR SUPPLYING EQUIPMENT. CONTRACTOR SHALL EXTEND MOTOR CIRCUITS CONNECTIONS IN EACH INSTANCE. ALL LINE VOLTAGE MOTOR CONTROL WIRING FROM STARTER TO MOTOR CONTROLLERS AND ALL INCIDENTAL LINE VOLTAGE MOTOR CONTROL WIRING FROM STARTER TO MOTOR CONTROLLERS SHALL BE DONE BY CONTRACTOR. LOW VOLTAGE WIRING (LESS THAN 120 VOLTS) SHALL BE BY HVAC CONTRACTOR. PROVIDE HORSEPOWER RATED MOTOR DISCONNECT SWITCHES AS REQUIRED BY CODE. CONTRACTOR SHALL VERIFY ALL MATERIALS ARE PROVIDED FOR COMPLETE ELECTRICAL INSTALLATION.

SPECIAL PURPOSE OUTLETS

SPECIAL PURPOSE OUTLET SHALL BE LOCATED AS REQUIRED BY EQUIPMENT BEING SERVED. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ELECTRICAL CHARACTERISTICS OF ACTUAL EQUIPMENT BEING FURNISHED FOR PROJECT PRIOR TO INSTALLATION OF OUTLETS. CONTRACTOR SHALL VERIFY ALL MATERIALS ARE PROVIDED FOR COMPLETE ELECTRICAL INSTALLATION.

RACEWAYS AND BOXES

DESIGN REQUIREMENTS

MINIMUM RACEWAY SIZE: 3/4", UNLESS OTHERWISE INDICATED.

METAL CONDUIT

RIGID GALVANIZED STEEL (RGS) CONDUIT: ANSI C80.1.

INTERMEDIATE METAL CONDUIT (IMC): RIGID STEEL.

ELECTRIC METALLIC TUBING (EMT) CONDUIT: ANSI C80.3.

FITTINGS AND CONDUIT BODIES: NEMA FB 1: FITTINGS FOR METAL RACEWAYS SHALL BE STEEL OR MALLEABLE IRON AND SHALL BE ZINC GALVANIZED, OR CADMIUM PLATED. DO NOT USE ALUMINUM OR DIE CAST FITTINGS.

PVC COATED METAL CONDUIT

PRODUCT DESCRIPTION: NEMA RN 1: RIGID STEEL CONDUIT WITH EXTERNAL PVC COATING, 40 MIL THICK.

FITTINGS AND CONDUIT BODIES: NEMA FB 1: STEEL FITTINGS WITH EXTERNAL PVC COATING TO MATCH CONDUIT, PVC GASKETED FOR MATING SURFACES.

LIQUID-TIGHT FLEXIBLE METAL CONDUIT

PRODUCT DESCRIPTION: INTERLOCKED STEEL CONSTRUCTION WITH PVC SUNLIGHT RESISTANT JACKET.

FITTINGS: NEMA FB 1. LIQUID-TIGHT, SUITABLE FOR GROUNDING, SUITABLE FOR WET LOCATIONS, TAPERED THREADED HUB, NON-METALLIC MATERIALS.

NON-METALLIC CONDUIT

PRODUCT DESCRIPTION: NEMA TC 2: SCHEDULE 40 OR 80 PVC, UL LISTED, AND AS REQUIRED BY NEC. SUNLIGHT RESISTANT.

RATED FOR 90 DEGREES CELSIUS CABLE.

FITTINGS AND CONDUIT BODIES: NEMA TC 3, SCHEDULE 40 OR 80, TO MATCH CONDUIT.

OUTLET BOXES

CAST BOXES: NEMA FB 1, TYPE FD, CAST FERALLOY. FURNISH GASKETED COVER BY BOX MANUFACTURER.

RESTRICTIONS

SPLIT, CRUSHED, OR SCARRED CONDUIT IS NOT ACCEPTABLE.

WELDED CONDUIT IS NOT ACCEPTABLE.

PVC CONDUIT MAY NOT BE USED IN INTERIOR OF BUILDING EXCEPT AT FOLLOWING LOCATIONS:
1. POOL EQUIPMENT ROOMS.
2. WHERE INDICATED ON THE PLANS.

SYSTEM DESCRIPTION

RACEWAY AND BOXES LOCATED AS INDICATED ON DRAWINGS, AND AT OTHER LOCATIONS REQUIRED FOR SPLICES, TAPS, WIRE PULLING, EQUIPMENT CONNECTIONS, AND COMPLIANCE WITH REGULATORY REQUIREMENTS. RACEWAY AND BOXES ARE SHOWN IN APPROXIMATE LOCATIONS UNLESS DIMENSIONED. PROVIDE RACEWAY TO COMPLETE WIRING SYSTEM.

UNDERGROUND (OUTSIDE) MORE THAN 5'-0" OUTSIDE FOUNDATION WALL: PROVIDE SCHEDULE 40 NON-METALLIC CONDUIT, UNLESS OTHERWISE INDICATED.

UNDERGROUND (OUTSIDE) WITHIN 5'-0" FROM FOUNDATION WALL TO INSIDE OF BUILDING: PROVIDE PVC COATED RIGID STEEL CONDUIT. ONCE INSIDE BUILDING, PROVIDE STEEL CONDUIT.

WET, DAMP, AND OUTDOOR LOCATIONS: PROVIDE RIGID STEEL CONDUIT. PROVIDE CAST METAL JUNCTION AND PULL BOXES.

DRY LOCATIONS: PROVIDE STEEL CONDUIT (RGS, IMC, OR EMT), UNLESS OTHERWISE INDICATED. PROVIDE SHEET METAL BOXES.

INSTALLATION

INSTALL WORK IN ACCORDANCE WITH STATE AND MUNICIPALITY STANDARDS.

INSTALLATION - RACEWAY

SUPPORT RACEWAY USING COATED STEEL OR MALLEABLE IRON STRAPS, LAY-IN ADJUSTABLE HANGERS, CLEVIS HANGERS, AND SPLIT HANGERS.

SECURE CONDUITS IN PLACE WITH MALLEABLE CORROSION-PROOF ALLOY STRAPS OR HANGERS. CONDUIT STRAPS USED IN CORROSIVE AREAS SHALL BE PVC COATED.

DO NOT SUPPORT RACEWAY WITH WIRE OR PERFORATED PIPE STRAPS. REMOVE WIRE USED FOR TEMPORARY SUPPORTS.

ROUTE EXPOSED RACEWAY PARALLEL AND PERPENDICULAR TO WALLS.

CUT CONDUIT SQUARE USING SAW OR PIPE CUTTER: DE-BURR CUT ENDS.

BRING CONDUIT TO SHOULDER OF FITTINGS: FASTEN SECURELY.

JOIN NON-METALLIC CONDUIT USING CEMENT AS RECOMMENDED BY MANUFACTURER. WIPE NON-METALLIC CONDUIT DRY AND CLEAN BEFORE JOINING. APPLY FULL EVEN COAT OF CEMENT TO ENTIRE AREA INSERTED IN FITTING. ALLOW JOINT TO CURE FOR MINIMUM 20 MINUTES.

INSTALL CONDUIT HUBS TO FASTEN CONDUIT TO CAST BOXES IN DAMP AND WET LOCATIONS.

INSTALL NO MORE THAN EQUIVALENT OF THREE (3) 90 DEGREE BENDS BETWEEN BOXES. INSTALL CONDUIT BODIES TO MAKE SHARP CHANGES IN DIRECTION, AS AROUND BEAMS. INSTALL HYDRAULIC ONE-SHOT BENDER TO FABRICATE OR FACTORY ELBOWS FOR BENDS IN METAL CONDUIT LARGER THAN 2" SIZE.

AVOID MOISTURE TRAPS: INSTALL JUNCTION BOX WITH DRAIN FITTING AT LOW POINTS IN CONDUIT SYSTEM.

PROVIDE WATERTIGHT CONDUIT SYSTEM WHERE INSTALLED IN WET LOCATIONS SUCH AS UNDERGROUND, OR WHERE EMBEDDED IN CONCRETE.

CONDUIT RUNS THAT EXTEND THROUGH AREAS OF DIFFERENT TEMPERATURE OR ATMOSPHERIC CONDITIONS OR THAT ARE PARTLY INDOORS AND PARTLY OUTDOORS SHALL BE SEALED, DRAINED, AND INSTALLED IN MANNER THAT WILL PREVENT DRAINAGE OF CONDENSED OR ENTRAPPED MOISTURE INTO CABINETS. MOTORS, OR EQUIPMENT ENCLOSURES.

CONDUIT CONNECTIONS AT MOTORS AND OTHER EQUIPMENT THAT VIBRATES:
- LIQUID-TIGHT FLEXIBLE METAL CONDUIT WHERE FLEXIBLE CONNECTIONS ARE REQUIRED. USE DOUBLE LOCKNUTS AND INSULATED BUSHINGS WITH THREADS FULLY ENGAGED.

DIRECT BURIED UNDERGROUND CONDUIT:
- EXTERIOR UNDERGROUND DIRECT BURIED CONDUITS SHALL BE BURIED AT DEPTH OF NOT LESS THAN 30" BELOW GRADE. UNDERGROUND CONDUITS SHALL SLOPE 1/8" PER FOOT FOR PROPER DRAINAGE. CONDUITS SHALL DRAIN TOWARD MANHOLES AND JUNCTION BOXES, NOT ELECTRICAL EQUIPMENT.

ADJUSTING

INSTALL KNOCKOUT CLOSURES IN UNUSED OPENINGS IN BOXES.

CLEANING

CLEAN INTERIOR OF BOXES TO REMOVE DUST, DEBRIS, AND OTHER MATERIAL.

CLEAN EXPOSED SURFACES AND RESTORE FINISH.

WIRING DEVICES

GENERAL

PROVIDE WIRING DEVICES OF ONE MANUFACTURER. USE OF MANUFACTURER'S NAME AND MODEL OR CATALOG NUMBER IS FOR PURPOSE OF ESTABLISHING STANDARD OF QUALITY AND GENERAL CONFIGURATION DESIRED.

UNLESS OTHERWISE INDICATED, MANUFACTURERS SHALL BE HUBBELL, PASS AND SEYMOUR, OR LEVITON.

SWITCHES AND WALL SWITCHES

TOGGLE SWITCHES: 20 AMP, 120-277 VOLT, HEAVY DUTY INDUSTRIAL SERIES, BACK OR SIDE WIRED. HUBBELL CATALOG NUMBERS 1221 (SINGLE), 1223 (THREE-WAY), 1224 (FOUR-WAY).

COLOR: COORDINATE WITH ARCHITECT

RECEPTACLES

HEAVY DUTY, SPECIFICATION GRADE, 20 AMP DUPLEX, 125 VOLT, NEMA 5-20R, HUBBELL CATALOG NUMBER 5382.

TAMPER RESISTANT COMMERCIAL SPECIFICATION GRADE, 20 AMP DUPLEX, 125 VOLT, NEMA 5-20R, HUBBELL CATALOG NUMBER BR20TR.

WEATHER RESISTANT: CORROSION RESISTANT, HEAVY DUTY, SPECIFICATION GRADE, 20 AMP DUPLEX, 125 VOLT, NEMA 5-20R, HBL53CM82 (COLOR: YELLOW).

GFCI: SELF-TESTING, HEAVY DUTY, SPECIFICATION GRADE, 20 AMP DUPLEX, 125 VOLT, NEMA 5-20R, UL 2006 COMPLIANT, HUBBELL CATALOG NUMBER GFST20

TAMPER-RESISTANT GFCI: HEAVY-DUTY COMMERCIAL GRADE, 20 AMP DUPLEX, 125 VOLT, NEMA 5-20R, UL 2006 COMPLIANT, HUBBELL CATALOG NUMBER GFTR20.

WEATHER-RESISTANT GFCI: EXTRA HEAVY DUTY GRADE, 20 AMP DUPLEX, 125 VOLT, NEMA 5-20R, UL 2006 COMPLIANT. HUBBELL CATALOG NUMBER GFR5382.

COLOR: COORDINATE WITH ARCHITECT.

WALL PLATES

PROVIDE WALL PLATES FOR WIRING DEVICES, WITH GANGING AND CUTOUTS AS INDICATED AND WITH METAL SCREWS FOR SECURING PLATES TO DEVICES SCREW HEADS COLORED TO MATCH FINISH OF WALL PLATE.

WEATHERPROOF (WEATHER-RESISTANT) COVER PLATE: GASKETED CAST METAL PLATE WITH HINGED AND GASKETED DEVICE COVERS - INTERMATIC CATALOG NUMBER WP1010MC / 1030MC.

OCCUPANCY SENSORS

MANUFACTURERS:
- MYTECH, WATTSTOPPER, HUBBELL, LEVITON.

DUAL TECHNOLOGY: WALL OR CEILING MOUNTED. COMBINATION PASSIVE INFRARED AND ULTRASONIC DETECTION. INCLUDED ISOLATED RELAY AND POWER PACK (BZ-150). WATTSTOPPER DT-300.

DUAL TECHNOLOGY: WALL SWITCH, 600 WATT MINIMUM CAPACITY AT 120 OR 277 VOLTS. ADJUSTABLE SENSITIVITY WITH TIME DELAY FROM 3 TO 15 MINUTES. WATTSTOPPER OW SERIES. FOR DUAL-LEVEL SWITCHING, PROVIDE DW-200.

PREPARATION

CLEAN DEBRIS FROM OUTLET BOXES.

INSTALLATION

INSTALL DEVICES PLUMB AND LEVEL.

INSTALL SWITCHES WITH OFF POSITION DOWN AND 48" AFF TO TOP OF SWITCH.

INSTALL RECEPTACLES WITH GROUNDING POLE ON TOP AND 18" TO BOTTOM.

CONNECT WIRING DEVICE GROUNDING TERMINAL TO OUTLET BOX WITH BONDING JUMPER AND BRANCH CIRCUIT EQUIPMENT GROUNDING CONDUCTOR.

CONNECT WIRING DEVICES BY WRAPPING SOLID CONDUCTOR AROUND SCREW TERMINAL INSTALL STRANDED CONDUCTOR FOR BRANCH CIRCUITS #10 AWG AND SMALLER. WHEN STRANDED CONDUCTORS ARE USED IN LIEU OF SOLID, USE CRIMP ON FORK TERMINALS FOR DEVICE TERMINATIONS. DO NOT PLACE BARE STRANDED CONDUCTORS DIRECTLY UNDER DEVICE SCREWS.

PROVIDE LAYER OF ELECTRICAL TAPE AROUND PERIMETER SIDES OF EACH WIRING DEVICE SO THAT TERMINATIONS ARE INSULATED.

FIELD QUALITY CONTROL

INSPECT EACH WIRING DEVICE FOR DEFECTS.

OPERATE EACH WALL SWITCH WITH CIRCUIT ENERGIZED AND VERIFY PROPER OPERATION.

VERIFY EACH RECEPTACLE DEVICE IS ENERGIZED.

TEST EACH RECEPTACLE DEVICE FOR PROPER POLARITY.

TEST EACH GFCI RECEPTACLE DEVICE FOR PROPER OPERATION.

LIGHTING FIXTURE AND LAMPS

GENERAL

PROVIDE WIRING DEVICES OF ONE MANUFACTURER. USE OF MANUFACTURER'S NAME AND MODEL OR CATALOG NUMBER IS FOR PURPOSE OF ESTABLISHING STANDARD OF QUALITY AND GENERAL CONFIGURATION DESIRED.

PROVIDE FIXTURES COMPLETE WITH INITIAL FILL OF LAMPS AS SCHEDULED. PROVIDE BALLASTS AS SPECIFIED / REQUIRED AND SIX (6) SPARE LAMPS OF EACH LAMP TYPE.

REFER TO LIGHTING FIXTURE SCHEDULE.

FLUORESCENT BALLASTS: UNLESS OTHERWISE INDICATED IN LIGHTING FIXTURE SCHEDULE, BALLASTS SHALL BE ELECTRONIC PROGRAM START, LESS THAN 10 PERCENT THD, SUITABLE FOR LAMPS SPECIFIED, WITH UNIVERSAL INPUT VOLTAGE TO ACCEPT AMY LINE VOLTAGE BETWEEN 120-277 VOLTS. BALLAST FACTOR SHALL BE MINIMUM 0.88. FOR HIGH BAY APPLICATIONS, BALLAST FACTOR SHALL BE 1.15.

COMPACT FLUORESCENT BALLASTS SHALL BE ELECTRONIC AND EQUIPPED WITH INTERNAL, AUTOMATIC RESETTING THERMAL CUTOUT DEVICE. BALLASTS SHALL BE CLASS P, AND SHALL BE EQUIPPED WITH BALLAST SHUTOFF CIRCUIT FOR PROTECTION OF BALLAST AT END OF LAMP LIFE.

RECESSED FIXTURES SHALL INCLUDE THERMAL CUTOFF PROTECTION IN ACCORDANCE WITH CODE, WHICHEVER APPLICATION DICTATES. PROVIDE IC RATED FIXTURES WHEN REQUIRED.

CONTRACTOR SHALL VERIFY CEILING CONSTRUCTION PRIOR TO ORDERING. PROVIDE CEILING SLOPE ADAPTORS AS REQUIRED.

LAMPS SHALL BE FLUORESCENT, T8 OR COMPACT TYPE HAVING CRI OF 85 OR HIGHER. COLOR TEMPERATURE SHALL BE 3500 DEGREE KELVIN MINIMUM. SEE SCHEDULE.

EXCAVATION

CONTRACTOR SHALL PERFORM ALL EXCAVATION, AND PROVIDE ALL CABLES AND MAKE TERMINATIONS AS INDICATED ON PLANS AND AS REQUIRED.

EXCAVATION SHALL INCLUDE ALL NECESSARY CLEARING OF SITE, ALL GRUBBING AND ALL WET, DRY ROCK EXCAVATION AND ALL INCIDENTAL WORK SUCH AS SHEET PILING, SHORING, PLUMBING AND BAILING, ALL TRANSPORTATION AND BACKFILLING.

CONTRACTOR SHALL OBTAIN FINAL GRADES FROM OWNER BEFORE PROCEEDING WITH TRENCH WORK.

WHERE EARTH TRENCH MEETS CONDUIT EITHER ABOVE OR BELOW TRENCH LINE, TRENCH SHALL BE SLOPED AT GRADE OF NOT MORE THAN 2" PER FOOT TO MEET CONDUIT. DO NOT BEND CONDUIT TO MEET TRENCH.

MATERIAL EXCAVATED FROM TRENCH MAY BE STORED OR SOIL BANKED ADJACENT TO TRENCH. DURING PERIOD TRENCHES MAY BE LEFT OPEN. TRENCH SHALL EITHER BE COVERED OR BARRICADED WITH WARNING LIGHTS TO SATISFACTION OF INSPECTOR OR ENGINEER.

TRENCH SHALL BE CLEARED OF LARGE STONES, AND LARGE OBJECTS. TRENCH BED SHALL BE RELATIVELY CLEAN OF DEBRIS AND FIRM.

DURING EXCAVATION, CONTRACTOR SHALL EXERCISE CARE TO AVOID DAMAGE TO EXISTING TREES, UTILITIES, CONNECTIONS, ETC. EXPENSE OF REPAIRING ANY DAMAGE AND RESTORING SAME SHALL BE CONTRACTORS EXPENSE.

ALL CONDUIT SHALL DRAIN TO JUNCTION BOXES. NO POCKETS SHALL BE PERMITTED IN CONDUIT LINES.

BACKFILL

EXCAVATED MATERIAL ADJACENT TO TRENCH MAY BE USED AS BACK FILL EXCEPT FOR HARD CHUNKS OF EARTH BROKEN CONCRETE, BRICKS, STONES, OR OTHER OBJECTS LARGER 2" IN DIAMETER WHICH MAY DAMAGE DUCT SYSTEM.

ADDITIONAL BACK FILL MAY BE REQUIRED TO SUPPLEMENT EXCAVATED MATERIAL IN ORDER TO RESTORE TRENCH TO MEET PRECUT CONDITION AND ALLOW FOR SETTING.

BACK FILL SHALL BE FIRMLY TAMPED AND SOLIDLY PACKED: HOWEVER, DO NOT TAMP ON TOP OF PVC CONDUIT.

INSPECT INSTALLATION AFTER 30 DAYS WITH OWNER AND PERFORM SUCH ADDITIONAL WORK AS NECESSARY AND DIRECTED BY OWNER.

BIDDING PROCEDURES

BASE BID SHALL INCLUDE ALL LABOR AND ALL MATERIALS AND EQUIPMENT AS SHOWN ON CONSTRUCTION DRAWINGS AND AS REQUIRED AND SPECIFIED.

BASE BID SHALL NOT INCLUDE ANY CONDITIONS OR QUALIFYING STATEMENTS, SHALL BE IN STRICT ACCORDANCE WITH SPECIFICATION REQUIREMENTS AND SHALL BE BASED UPON INSTALLATION OF MATERIALS AND EQUIPMENT AS SPECIFIED.

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REINDAHL SPLASH PAD
1818 PORTAGE ROAD
MADISON, WI

ID	DATE	DESCRIPTION

DATE	01/31/2014
PROJECT NO.	2013-2000.01
DRAWN BY	HMC
CHECKED BY	AW
PHASE	BID DOCUMENTS

ELECTRICAL SPECIFICATIONS

E600

Date: Friday, January 24, 2014 Plotted By: St. Ledger, Heather Drawing location: L:\Jobs2013\2013000-01\CAD\Electrical\dgn\00E600.dwg