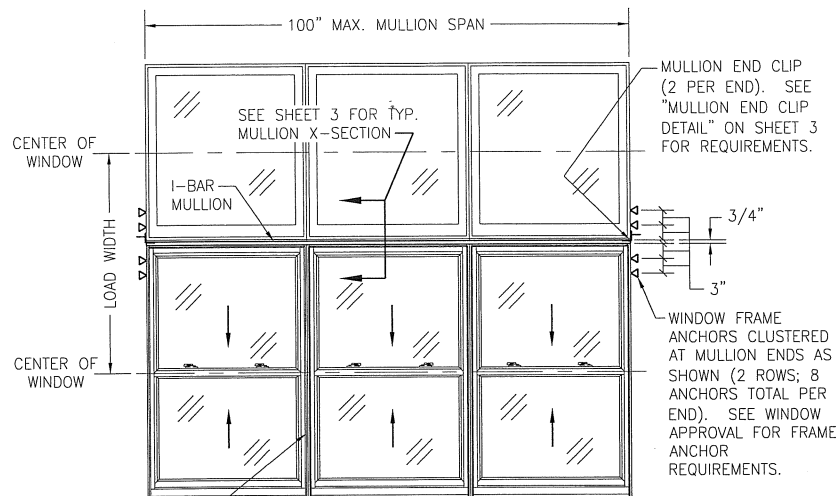
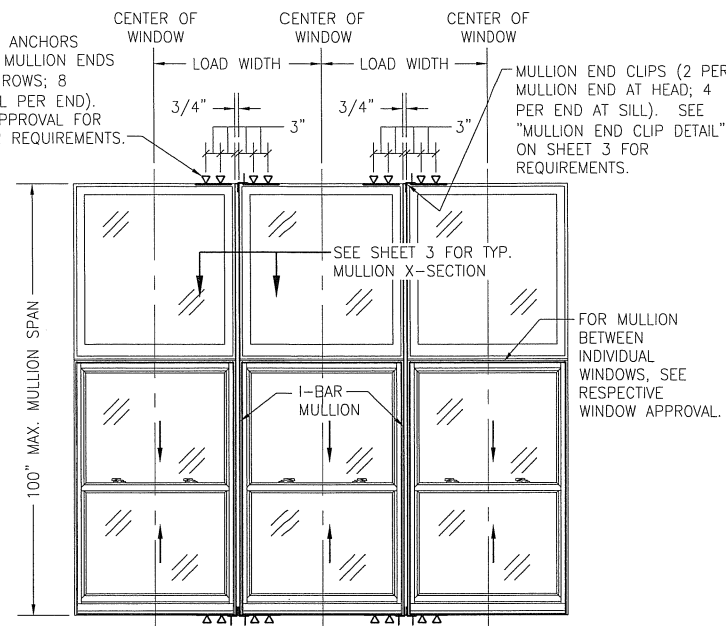




WINDOW FRAME ANCHORS CLUSTERED AT MULLION ENDS AS SHOWN (2 ROWS; 8 ANCHORS TOTAL PER END). SEE WINDOW APPROVAL FOR FRAME ANCHOR REQUIREMENTS.



**EXTERIOR ELEVATION:
MULTIPLE FIXED WINDOWS OVER MULTIPLE
DOUBLE HUNG WINDOWS
(CONTINUOUS MULLION VERTICAL)**

SCALE: N.T.S.
(MULTIPLE WINDOW TRANSOM CONDITION SHOWN.
SINGLE WINDOW TRANSOM ALSO APPLIES)

EVALUATION OF THIS PRODUCT IS BASED ON APPLICABLE STANDARDS AND/OR INFORMATION & RESULTS FROM APPLICABLE TEST REPORTS. THE FLORIDA BUILDING CODE VERSION CONSIDERED WITH THIS EVALUATION WAS THAT IN FORCE AT THE TIME OF THE EVALUATION. IN THE EVENT OF CODE VERSION CHANGES/UPDATES OR IN THE EVENT THAT NEW OR ADDITIONAL TESTING IS COMPLETED ON THIS PRODUCT, PRIOR TO STATING CODE COMPLIANCE WITH THE STATE, THE MANUFACTURER SHALL CONFIRM WITH THE EVALUATION ENGINEER OF RECORD THAT EVERYTHING SPECIFIED HERE-IN IS CURRENT WITH ALL CURRENT TESTING, CODES AND APPLICABLE STANDARDS.

FOR MULLION BETWEEN INDIVIDUAL WINDOWS, SEE RESPECTIVE WINDOW APPROVAL.

**EXTERIOR ELEVATION:
SINGLE OR MULTIPLE FIXED WINDOWS
OVER MULTIPLE DOUBLE HUNG WINDOWS
(CONTINUOUS MULLION HORIZONTAL)**

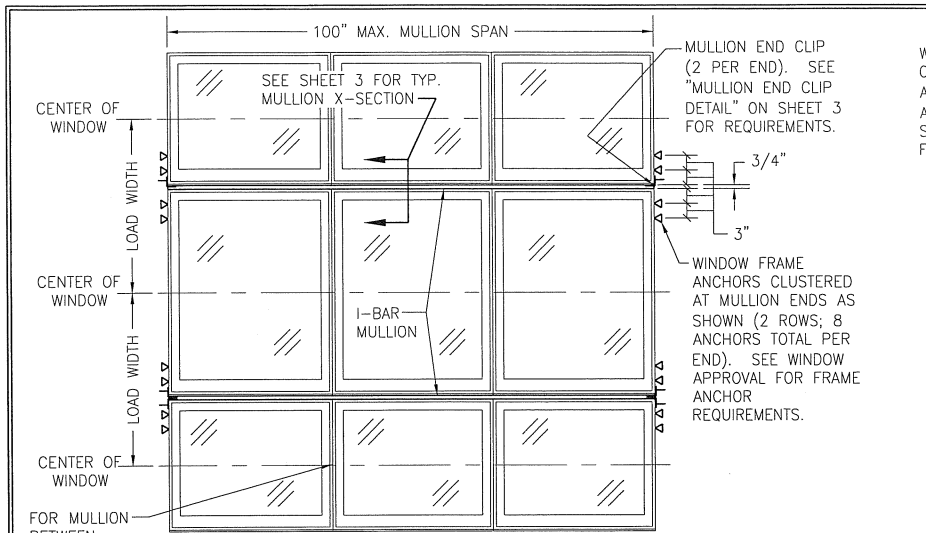
SCALE: N.T.S.
(MULTIPLE WINDOW TRANSOM CONDITION SHOWN.
SINGLE WINDOW TRANSOM ALSO APPLIES)

GENERAL NOTES:

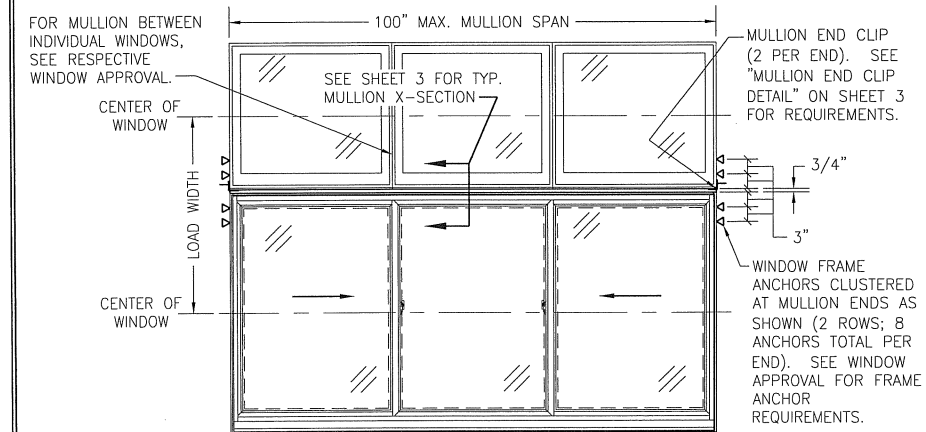
1. THIS MULLION SYSTEM HAS BEEN TESTED, ANALYZED & APPROVED FOR DESIGN PRESSURES NOT TO EXCEED THOSE SHOWN IN THE "ALLOWABLE DESIGN PRESSURE TABLE(S)".
2. OPENINGS, BUCKING & BUCKING FASTENERS MUST BE PROPERLY DESIGNED & INSTALLED TO SUPPORT WIND LOADS TRANSFERRED BY THE WINDOWS AND THEIR MULLIONS.
3. MULLIONS & THEIR FASTENERS SHALL BE IN ACCORDANCE WITH THESE DRAWINGS & SHALL NOT VARY UNLESS SPECIFICALLY MENTIONED ON THE DRAWINGS. SPECIFIED ANCHOR EMBED TO BASE MATERIAL SHALL BE BEYOND WALL FINISH OR STUCCO.
4. THESE MULLION SYSTEMS HAVE BEEN DESIGNED IN ACCORDANCE WITH AND MEET THE REQUIREMENTS OF THE FLORIDA BUILDING CODE (FBC) INCLUDING HIGH VELOCITY HURRICANE ZONES (HVHZ) & ARE LARGE MISSILE IMPACT RATED.
5. IMPACT SHUTTERS ARE NOT REQUIRED WITH THIS MULLION SYSTEM PROVIDING THE WINDOWS JOINED BY THE MULLION(S) ALSO HOLD IMPACT APPROVAL.
6. THIS MULLION IS ONLY VALID WHEN USED IN CONJUNCTION WITH APPLICABLE ST. CLOUD WINDOW, INC. PRODUCTS.
7. ALL WINDOWS USED WITH THIS MULLION SHALL BE QUALIFIED UNDER SEPERATE APPROVAL AND SHALL COMPLY WITH THAT APPROVAL.
8. FOR WINDOW FRAME TO OPENING ATTACHMENT, SEE THE RESPECTIVE WINDOW APPROVAL.
9. ALL ANCHORS SECURING MULLION TO PRESSURE TREATED BUCKS OR WOOD FRAMING SHALL BE CAPABLE OF RESISTING CORROSION CAUSED BY THE PRESSURE TREATING CHEMICALS IN THE WOOD.
10. DETERMINE THE POSITIVE & NEGATIVE DESIGN LOADS TO USE WHEN REFERENCING THESE DOCUMENTS IN ACCORDANCE WITH THE GOVERNING CODE AND GOVERNING WIND VELOCITY. FOR WIND LOAD CALCULATIONS IN ACCORDANCE WITH THE FLORIDA BUILDING CODE, A DIRECTIONALITY FACTOR OF $K_d = 0.85$ MAY BE APPLIED PER THE ASCE-7 STANDARD.
11. MATERIALS, INCLUDING BUT NOT LIMITED TO STEEL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE FLORIDA BUILDING CODE.
12. TO THE BEST OF OUR KNOWLEDGE, THE MULLION SYSTEM SHOWN HEREIN IS QUALITY ASSURED BY A FLORIDA STATE APPROVED CERTIFICATION/QA ENTITY & SHALL BE LABELED IN ACCORDANCE WITH THE FBC AND THE 61G20-3 FLORIDA DEPARTMENT OF BUSINESS & PROFESSIONAL REGULATION SPECIFICATIONS. THESE DRAWINGS SHOW ALL APPLICABLE ELEVATION, COMBINATION, INSTALLATION & COMPARATIVE ANALYSIS CONDITIONS AS DETERMINED THROUGH TESTING & ENGINEERING RATIONAL ANALYSIS. MULLION ASSEMBLY SHALL BE IN ACCORDANCE WITH THESE DRAWINGS, THE MANUFACTURER'S QUALITY ASSURANCE SPECIFICATIONS & TESTING REPORTS.
13. CERTIFICATION OF THIS MULLION SYSTEM SHALL BE CONSIDERED VOID IF IT IS INSTALLED WITHOUT A BUILDING PERMIT FROM THE APPLICABLE LOCAL BUILDING DEPARTMENT OR IF IT IS INSTALLED BY ANYONE OTHER THAN A LICENSED CONTRACTOR EXPERIENCED WITH WINDOW INSTALLATIONS.
14. ALLOWABLE PRESSURE ON THE MULLION UNIT SHALL BE CONTROLLED BY THE LESSER ALLOWABLE PRESSURE OF THE MULLION OR THE INDIVIDUAL WINDOW UNITS.
15. ANY CONDITIONS NOT COVERED IN THIS APPROVAL SHALL BE SUBJECT TO SEPERATE ENGINEERING REVIEW.
16. THE I-BAR MULLIONS SPECIFIED HERE-IN SHALL BE CONTINUOUS FROM END TO END.
17. WHEN VERTICALLY STACKED, THE MANUFACTURER/INSTALLER SHALL INSURE THAT THE DEAD WEIGHT OF THE ABOVE WINDOWS WILL NOT CAUSE UNDO STRESS ON THE BELOW WINDOWS. THESE MULLIONS ARE DESIGNED TO SUPPORT WIND LOADS ONLY AND NOT THE DEAD LOAD OF THE WINDOWS.
18. THIS MULLION SYSTEM IS ACCEPTABLE FOR USE WITH IMPACT & NON-IMPACT RATED ST. CLOUD WINDOW, INC. PRODUCTS.



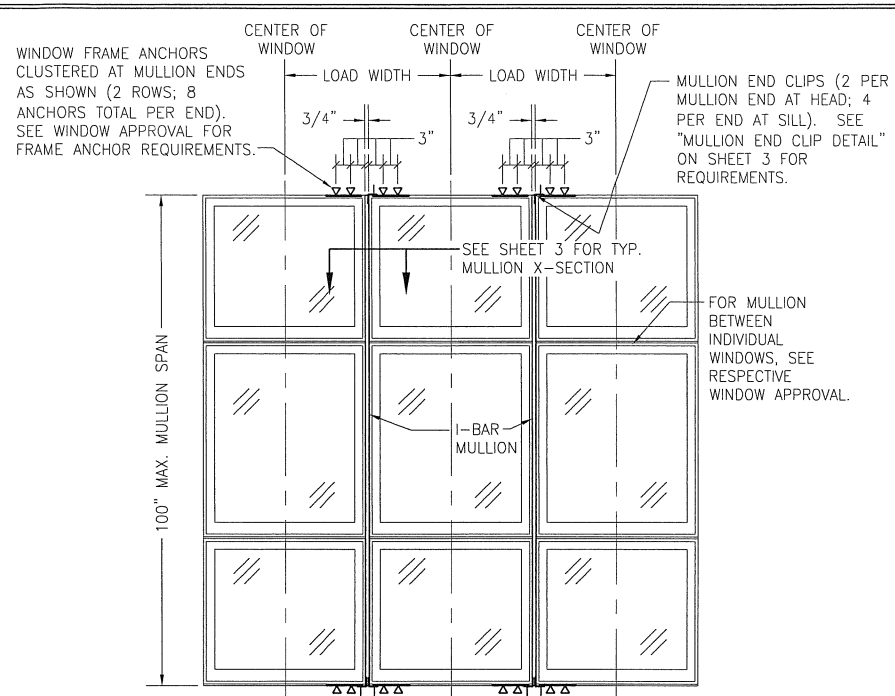
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PLT: 1-24		DATE: 10/19/10	
NO.	REVISION	DESCRIPTION	DATE
A1	UPDATE TO CURRENT STANDARDS	W.W.S.	08/23/11
B1	UPDATE MULLION LOAD TABLE	W.W.S.	08/05/14
C1	UPDATE TO CURRENT STANDARDS	W.W.S.	01/12/15
DRAWING TITLE: 900 SERIES CLIPPED I-BAR MULLION			
CONSULTANTS: W. W. SCHAEFFER ENGINEERING & CONSULTING, P.A. (CA 6809)		MANUFACTURER: ST. CLOUD WINDOW, INC. 390 INDUSTRIAL BLVD. SAUK RAPIDS, MN 56379 320-251-9311	
ADDRESS: 1500 SOUTH GORHAM STREET PALM BEACH, FL 33418 PHONE: 561-744-3424		P.E. NO. 14135	
CERTIFICATION JAN 12 2015		DRAWING NO. 1720	
SHEET NO. 1 OF 3		REV. C	



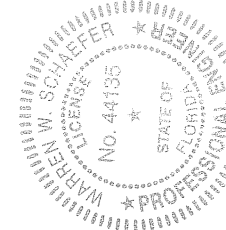
EXTERIOR ELEVATION:
MULTIPLE WINDOWS OVER MULTIPLE WINDOWS
(CONTINUOUS MULLION HORIZONTAL)
 SCALE: N.T.S.
 (WINDOWS MAY BE ANY COMBINATION OF FIXED &/OR OPERABLE)



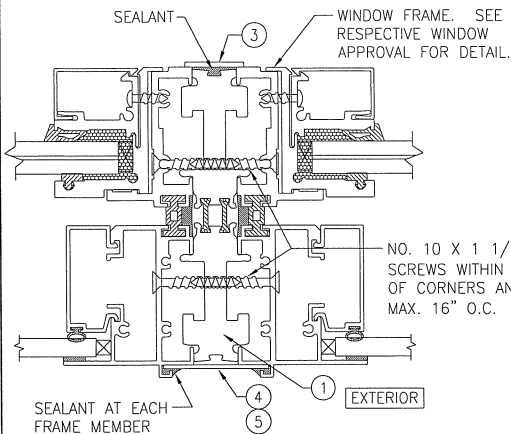
EXTERIOR ELEVATION:
MULTIPLE FIXED WINDOWS OVER A
2-PANEL OR 3-PANEL SLIDING WINDOW
 SCALE: N.T.S.
 (MULTIPLE WINDOW TRANSOM CONDITION SHOWN.
 SINGLE WINDOW TRANSOM ALSO APPLIES)



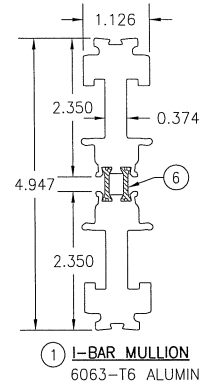
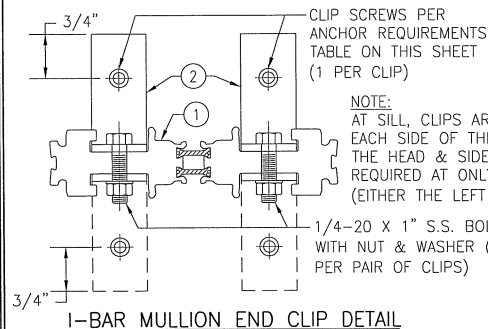
EXTERIOR ELEVATION:
MULTIPLE WINDOWS OVER MULTIPLE WINDOWS
(CONTINUOUS MULLION VERTICAL)
 SCALE: N.T.S.
 (WINDOWS MAY BE ANY COMBINATION OF FIXED &/OR OPERABLE)



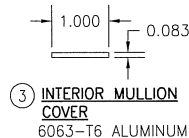
DRAWN BY: W.W.S.	CHECKED BY: W.W.S.
PLOT: 1=24	DATE: 10/19/10
DATE	BY
NO.	REVISION DESCRIPTION
DRAWING TITLE: 900 SERIES CLIPPED I-BAR MULLION	
MANUFACTURER: ST. CLOUD WINDOW, INC. 390 INDUSTRIAL BLVD. SAUK RAPIDS, MN 56379 320-251-9311	
CONSULTANTS: W. W. SCHAEFFER ENGINEERING & CONSULTING, P.A. (CA 6809) 7480 150TH COURT NORTH PALM BEACH GARDENS, FL 33418 PHONE: 561-744-3424	
CERTIFICATION	JAN 12 2015
DRAWING NO.	REV.
1720	C
SHEET NO.	2 OF 3



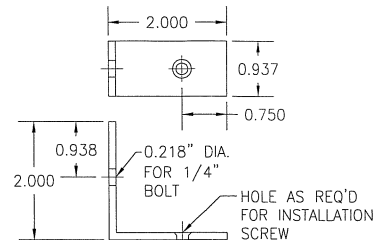
TYPICAL MULLION SECTION



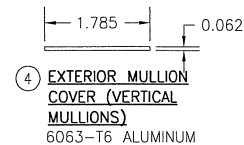
1 I-BAR MULLION
6063-T6 ALUMINUM



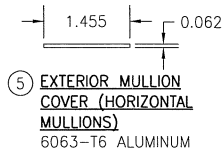
3 INTERIOR MULLION COVER
6063-T6 ALUMINUM



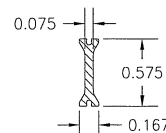
2 I-BAR MULLION END CLIP
6063-T6 ALUMINUM



4 EXTERIOR MULLION COVER (VERTICAL MULLIONS)
6063-T6 ALUMINUM



5 EXTERIOR MULLION COVER (HORIZONTAL MULLIONS)
6063-T6 ALUMINUM



6 I-BAR MULLION THERMAL BREAK
TECHNOFORM 945500

MULLION ALLOWABLE DESIGN PRESSURE

MAXIMUM MULLION SPAN (IN.)	MAXIMUM LOAD WIDTH (IN.)	ALLOWABLE PRESSURE (PSF)	
		POS.	NEG.
100	72.75	37.9	37.9
	66.75	41.3	41.3
	60.75	45.4	45.4
	54.75	50.3	50.3
	48.75	56.5	56.5
	42.75	64.5	64.5
96	36.75	75.0	75.0
	72.75	39.5	39.5
	66.75	43.0	43.0
	60.75	47.3	47.3
	54.75	52.4	52.4
	48.75	58.9	58.9
90	42.75	67.2	67.2
	37.75	75.0	75.0
	72.75	42.1	42.1
	66.75	45.9	45.9
	60.75	50.4	50.4
	54.75	55.9	55.9
84	48.75	62.8	62.8
	42.75	71.6	71.6
	40.75	75.0	75.0
	72.75	45.1	45.1
	66.75	49.2	49.2
	60.75	54.0	54.0
78	54.75	59.9	59.9
	48.75	67.3	67.3
	42.75	75.0	75.0
	72.75	48.6	48.6
	66.75	52.9	52.9
	60.75	58.2	58.2
72	54.75	64.5	64.5
	48.75	72.5	72.5
	46.75	75.0	75.0
	72.75	52.6	52.6
	66.75	57.4	57.4
	60.75	63.0	63.0
66	54.75	69.9	69.9
	50.75	75.0	75.0
	72.75	57.4	57.4
	66.75	62.6	62.6
	60.75	68.7	68.7
	54.75	75.0	75.0
60	72.75	63.1	63.1
	66.75	68.8	68.8
	60.75	75.0	75.0
54	72.75	70.2	70.2
	66.75	75.0	75.0
48	72.75	75.0	75.0

PRESSURE TABLE NOTES:
1. SEE ELEVATIONS FOR DIMENSIONING OF LOAD WIDTH.
2. ALLOWABLE UNIT PRESSURE SHALL BE THE LESSER OF THE PRESSURE SHOWN IN THIS TABLE & THAT SPECIFIED FOR THE INDIVIDUAL WINDOW.

FRAME ANCHOR REQUIREMENTS TABLE

OPENING TYPE (SUBSTRATE)	FRAME/CLIP TO OPENING FASTENER TYPE	MINIMUM EMBED	MINIMUM EDGE DIST.
I-BAR MULLION END CLIP SCREWS			
(2) MIN. 2X6 WOOD FRAME OR BUCK (MIN. GR. 3 & C=0.55)	NO. 14 SMS OR WOOD SCREW	1 1/4"	3/4"
MIN. 18 GA. 33 KSI METAL STUD	1/4-20 GR. 5 SELF TAP/DRILL SCREW	FULL	1/2"
MIN. 1/8" THK A36 STEEL	1/4-20 GR. 5 SELF TAP/DRILL SCREW	FULL	1/2"
MIN. 1/8" THK 6063-T5 ALUM.	1/4-20 GR. 5 SELF TAP/DRILL SCREW	FULL	1/2"
MIN. C-90 CMU OR 2500 PSI CONCRETE	(1) 1/4" CONCRETE SCREW	1 1/4"	2"
(1) CONCRETE SCREWS SHALL BE ELCO ULTRACONS, ELCO CRETE-FLEX, ITW RAMSET/RED HEAD TAPCONS OR HILTI KWIK-CON II (HARDENED STEEL OR S.S.).			
(2) 2X6 BUCKS MAY BE RIPPED DOWN TO MINIMUM 4 1/2" ACTUAL DEPTH.			

DRAWN BY: W.W.S.		CHECKED BY: W.W.S.	
PLOT: 1=2		DATE: 10/19/10	
DATE	BY	REVISION	DESCRIPTION
DRAWING TITLE: 900 SERIES CLIPPED I-BAR MULLION MANUFACTURER: ST. CLOUD WINDOW, INC. 390 INDUSTRIAL BLVD. SAUK RAPIDS, MN 56379 320-251-9311 CONSULTANTS: W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809) 7480 150TH COURT NORTH PALM BEACH, FL 33418 PHONE: 561-744-3424 CERTIFICATION: JAN 13 2015 W. W. SCHAEFER, P.E. P.E. NO. 44135			
DRAWING NO. 1720		REV. C	
SHEET NO. 3		OF 3	

