# DANE COUNTY DEPARTMENT of PUBLIC WORKS, HIGHWAY and TRANSPORTATION 

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Commissioner / Director
Gerald J. Mandli

December 6, 2013

## ATTENTION ALL REQUEST FOR BID (RFB) PROPOSAL HOLDERS

RFB NO. 313086 - ADDENDUM NO. 6

## ARCTIC ANIMAL EXHIBIT AND CONCESSIONS

BIDS DUE: THURSDAY, DECEMBER 12, 2013, 2:00 PM.
DUE DATE AND TIME ARE NOT CHANGED BY THIS ADDENDUM.

This Addendum is issued to modify, explain or clarify the original Request for Bid (RFB) and is hereby made a part of the RFB. Please attach this Addendum to the RFB. Bidders must acknowledge all Addenda on the Bid Form.

PLEASE MAKE THE FOLLOWING CHANGES:

## GENERAL

1. Bid Form

- As described on the Bid Form- Both Lump Sum allowances identified on page BF-1 of the Bid Form are to be included in the Base Bid.

2. Instructions to Bidders; 9.B, 9.C and 9.K.8

- The ESB reporting is required within 10 days. (Not 24 hours).


## CIVIL

3. Sheet C2.1- Sanitary

- SA 1.20, Moved
- SA 1.41, Moved

4. Sheet C2.2- Sanitary Structure Table

- SA 1.20, Moved Northing =476984.49, Easting= 814655.02, RIM = 110.00
- SA 1.32, Moved, Northing= 477099.51, Easting $=814494.57$, RIM $=109.00$
- SA 1.37, RIM $=112.35$, 9 Linear Feet, See Detail on Sheet C2.7
- SA 1.41, RIM = 106.50, INV OUT = 105.08
- $\operatorname{SA} 1.41$, RIM $=104.00$
- SA 1.43, RIM = 106.50, INV OUT 105.08


## 5. Sheet C2.3-Sanitary Pipe Table

- Pipe 2, Length $197^{\prime}$
- Pipe 3, Length 15', Slope 0.69\%
- Pipe 4 , Length $32^{\prime}$, Slope $0.78 \%$
- Pipe 10, Length 104
- Pipe 24, Length $=62^{\prime}$, Slope $4.20 \%$
- Pipe 27, Slope 5.23\%

6. Sheet C2.7- Storm Water Str. \& Pipe Tables

- ST 2.23, 28 Linear Feet, RIM=106.00
- ST 2.32, 15 Linear Feet, RIM - 107.00, INV OUT 106.25
- Pipe 43, 4 inch PVC
- Pipe 46, 4 inch PVC
- Added Trench Drain Detail


## SITE

7. Specification 323113, Chain Link Fences

- All mesh, pipes, and hardware to be painted flat black as shown on the drawings. There is no special polymer coating, powder coating, or vinyl coating.

8. Sheet CS1.0

- Modified contractor access/ staging locations.

9. Sheet SA1.1

- Added references to pavement thicknesses.

10. Sheet SA1.8

- Modified dimensions at seal pool due to thickened pool walls.

11. Sheet SA3.3, details G \& H

- 24 " x 24 " S.S. Checkered hatch noted is per J/SA3.3

12. Sheet SA8.1

- Updated references to pavement thicknesses.

13. Sheet SG1.2

- Modified grades at underwater seal viewing due to thickened walls.

14. Sheet SA7.0

- Note 10- Chainlink lid at vestibules is supported on 4" pipes @ 5’-0" o.c. as shown on A/SA7.1
- Hotwire fence chargers to be 6 Joules, Low Impedance for use with Large Predators such as bears in tall/thick grass, equal to: PowerWizard PW6000, or Zareba EAC 100M-Z

15. Sheet SA7.1, detail A

- Tension bars occur at each end of any give run of chain link fence, not at the intermediate posts.
- How wire to be attached to the chainlink fences with plastic chain link insulators.


## ARCHITECTURAL

## 16. Specification 034100, Precast Structural Concrete

- Provide and coordinate galvanized embed plates required for installation of cagework as indicated on all CW sheets.
- Provide additional galvanized embed plates beyond those shown in cage work drawings of the following sizes and quantities; (10) 6 "x6", (4) $6 " \times 12^{\prime \prime}$, (2) $12^{\prime \prime} \times 16^{\prime \prime}$ as required for complete installation of the cage work; exact locations to be determined.

17. Specification 033600, Artificial Rockwork

- All void space behind rockwork within pools is required to be grouted solid.
- All rockwork required to be finished (carved and colored) to $1^{\prime}-0^{\prime \prime}$ below grade.


## 18. Sheet A0.1

- Door types 2 and 9 are no longer used.
- The option of a narrow lite at door type 1 has been removed.
- Door frame types C and D are no longer used.
- Revised Doors 100a, 100b, 119a, and 119b to no longer have door frame type C, as door frame type 7 has a built in frame.

19. Sheet A0.2

- Changed head detail from 1/A1.10 to 4/A1.9 for window types 'A1' and 'A2'
- Glass width for window type 'A5' is $11^{\prime}-23 / 4 /$.
- Jamb detail for window type 'A5' is similar to 4/A4.6.
- Window type B1 has two locations. Interior location has gyp. bd. Finish (see detail 9/A2.1) and exterior location has themework finish (see detail 5/A2.1).

20. Sheet A3.3, elevations 1 \& 3

- Chain link fence vestibules (seet note 2.06 "containment fence") have chain link lids as shown on Sheet SA7.0 (note 10) at approximately elevation $14^{\prime}-0^{\prime \prime}$ as shown on Sheet A/SA7.1


## 21. Sheet A4.3

- Room 401 as shown on detail A to have a 4" thick concrete floor per details A\&D/SA3.0.


## 22. Sheet CW1.1

- Revised sheet to show cagework weld plates in the RCP (B/CW1.1) as well as add two new elevations (5,6/CW1.1) indicating suggested approximate locations, size, \& quantity of embed plates needed to fasten cagework \& related items to precast ceilings \& walls. Concrete precaster is to coordinate with cagework contractor for final locations, sizes, \& quantity of embed plates. Note that all cable \& pulley locations are shown diagrammatic, \& final locations will be determined by cagework contractor and are to be coordinated with concrete precaster.
- See note on details 1-4/CW1.1 for pulleys that will be fastened to precast concrete walls \& ceilings. In addition, all steel plate pulley covers shields are to be $1 / 4^{\prime \prime}$ galv. Steel instead of $1 / 8^{\prime \prime}$ galv. Steel plate.
- Polar Bear Transfer Crate equal to LGL \#91190
- Replace existing sheet CW1.1 with new sheet CW1.1 included in this addendum.


## 23. Sheet CW1.3

- Detail 10/CW1.3 omitted from CD set.

24. Sheet CW2.1

- (A/CW2.1) Revised Keynotes for bear training wall to shift door handle type H1 to match door type S02. In addition, revised keeper cagework door type 'C7' to 'C7a'.
- Revised cagework to indicate a cover for two 6'-2"x12" openings rather than two $4^{\prime}-4$ " $\times 10^{\prime \prime}$ openings.


## 25. Sheet CW3.2

- Shift Door S3: At pre-cast walls, shift door track \& door trolley track fastens to wall by bolting to $3 / 8^{\prime \prime}$ diam. threaded studs welded to embed plates @ 24" o.c
- Shift door S4: One jamb of door fastens to pre-cast wall by bolting to $3 / 8$ "diam. threaded studs welded to embed plates @ 24 " o.c. Verify on plan location of jamb against pre-cast wall.
- Shift door S7: Bottom of door track to be held min. 2" above finish floor.
- Shift door S8: Bottom horizontal door track to be mounted to floor with $1 / 2 /$ poly spacer to hold track off finish floor. Additionally, revised shift door to match elevation on 5/CW4.1 (single padlock drop bolt in lieu of two horizontal padlock bolts).
- Typical Door Shield for Horizontal Shift Doors: Where shield covers shift door mounted to precast concrete wall, fasten cover to wall by bolting to 3/8"diam. threaded studs welded to embed plates @ 24 " o.c.


## 26. Sheet CW3.3

- Revised details 6, 7 and 8 to remove steel embed plate at interior face of pre-cast jambs. All cagework doors will epoxy anchor to cast-in-place concrete \& pre-cast concrete walls. Pre-Cast supplier to provide 8" solid concrete at jamb.


## 27. Sheet CW3.4

- Revised 11/CW3.4 to indicate 3"x2" shift door S4 angle track (on bear squeeze chute side) to thru bolt to keeper door C4 jamb \& fasten to precast wall by bolting to $3 / 8^{\prime \prime}$ diam. threaded studs welded to embed plates @ 24" o.c.


## 28. Sheet CW4.1

- Pinniped transfer crate equal to LGL \#91188, provide 4" S.S. eyebolts epoxied into wall around shift for securing in place.
- (B,11/CW4.1) Revised drawings to indicate suggested approximate locations, size, \& quantity of embed plates needed to fasten cagework \& related items to precast ceilings \& walls. Precaster is to coordinate with cagework contractor for final locations, sizes, \& quantity of embed plates.
- Add new detail 11/CW4.1 to existing CW4.1 sheet.


## STRUCTURAL

## 29. General

- Material noted "Controlled Granular Backfill...to achieve EFP= 30 PSF/FT" is "Grade 1 Granular Backfill" in Geotechnical report.

30. Sheet S5.1- Seal Holding/ Life Support Foundation Plan

- Shifted footing step locations 1'-6" west to accommodate widened site wall footing

31. Sheet S7.3- Foundation Details

- Detail 9: Added 1'-2" embedment note

32. Sheet S7.4- Foundation Details

- Detail 6: Added 1'-2" embedment note and adjusted rebar in footing
- Detail 7: Added 1'-2" embedment note and adjusted rebar in footing
- Detail 9: Added 1'-2" embedment note

33. Sheet SR1.3- Bear Pool Wall Plan

- Changed T.O. Footing to match T.O. Pool Slab

34. Sheet SR1.4-Seal Pool Wall Plan

- Changed T.O. Footing to match T.O. Pool Slab
- Made site wall footing at seal building wider (now 8' overall)
- Added trench drain note at Seal Pool Underwater Viewing Wall


## PLUMBING

35. Specification Section 221000

- Section 2.4: Clarification - Schedule 40, unplasticized PVC-DWV or ABSDWV, conforming to ASTM Standard D2665 with solvent-weld socket type joints shall be allowed for above ground sanitary and vent piping in seal building only. All other buildings shall remain cast iron or copper per specification section 2.4.
- Section 2210 00, section 2.4.B: Standard weight no hub couplings are acceptable on above ground cast iron sanitary and vent piping.
- Section 2210 00, section 2.6: Clarification - Standard weight cast iron with standard duty no hub couplings is acceptable for above ground grease vent piping.


## ELECTRICAL

36. Specification Section 260533

- Section 3.7: Clarification to item 5a - RMC does not need to be concrete encased. The options are RMC and concrete encased RNC.

37. Sheet E0.1

- luminaire schedule: Add "H.E. Williams DIG" as an acceptable manufacturer to type F2.
- Luminaire Schedule: Add "H.E. Williams DIG" as an acceptable manufacturer to types F13 and F13E.


## 38. Sheet EO.5

- Existing bear tunnel shall be considered a damp location.
- Revise the measurement from between the new concessions building transformer and the existing transformer. The new transformer shall be located $11^{\prime}-6^{\prime \prime}$ from the face of the building instead of specifically $7^{\prime}-0^{\prime \prime}$ between transformers. The desire is to maximize the distance between transformers.


## 39. Sheet EL1.1

- Bear Den 201 shall be considered a wet location, same as the bear holding building.


## 40. Sheet EL3.1

- Life support spaces considered corrosive may use standard galvanized fixture rods. All cut ends must be touched up to maintain corrosion resistance per the specifications.


## 41. Sheet EP3.1

- Life support spaces considered corrosive may use standard galvanized unistrut. All cut ends must be touched up to maintain corrosion resistance per the specifications.
- plan 2: Delete the equipment connection near P-5 that is not labeled. P5 has only a single connection


## Enclosures:

Sheets: SG1.2, CW4.1(all sheets $8.5^{\prime \prime} \times 11$ " sheets - dated 12.6 .2013 )
Sheets: C2.1, C2.2, C2.3, C2.7, CS1.0, SA1.1, SA1.8, SA8.1, CW1.1, S5.1, S7.3, S7.4, SR1.3, SR1.4 (all $30 " \times 42^{\prime \prime}$ sheets - dated 12.6.2013)


| STRUCTURE TABLE |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| STRUCTURE NAME: | NORTHING | EASTING | DETALLS: | PIPES IN: | PIPES OUT | CASTING |
| SA 1.10 | 476915.35 | 814839.15 | TYPE 4 $\mathrm{RIM}=105.64$ INV OUT = 96.80 | Pipe $2,48 " 1 \mathbb{N V} \mathbb{I N}=96.75$ | Pipe $1,4{ }^{\text {" }}$ INV OUT $=96.80$ | R-1540' |
| SA 1.20 | 476984.49 | 814655.02 | TYPE 4 <br> RIM $=110.00$ <br> INV $\mathbb{N}=99.00$ <br> INV $\operatorname{IN}=98.07$ INV $I N=96.98$ <br> INV OUT = 96.95 | Pipe 4, 12" $\operatorname{INV} \operatorname{IN}=99.00$ Pipe 3, 10" INV IN =98.07 Pipe 10, 48" $\operatorname{INV} \operatorname{IN}=96.98$ | Pipe $2,48{ }^{\text {" INV OUT }}=96.95$ | R-1560. |
| SA 1.21 | 477000.54 | 814682.69 | TYPE1 RIM $=111.00$ NV $\operatorname{N}=101.25$ NV OUT = 99.25 | Pipe 6, 8" $\operatorname{INV} \operatorname{IN}=101.25$ <br> Pipe 5, $4^{\prime \prime} \operatorname{INV} \operatorname{IN}=103.00$ | Pipe 4, 12 " INV OUT =99.25 | $\underbrace{\text { T258 }}_{\substack{\text { RTPEC }}}$ |
| SA 1.22 | 477016.63 | 814717.84 | POOL DRAIN <br> $\mathrm{RIM}=104.50$ INV OUT $=103.58$ |  | Pipe $5,44^{\prime \prime}$ INV OUT $=103.58$ |  |
| SA 1.23 | 477040.32 | 814696.52 |  | Pipe 9, 4" $\operatorname{INV} \operatorname{IN}=105.35$ <br> Pipe 7, 4" INV IN =105.30 | Pipe $6,8{ }^{\prime \prime}$ INV OUT $=105.25$ | $\underbrace{\substack{\text { Tris }}}_{\substack{\text { Reprec }}}$ |
| SA 1.24 | 477048.48 | 814695.67 | $\begin{gathered} \text { TYPE } 1 \\ \text { RIM }=12.00 \\ \text { INV OUT }=105.40 \end{gathered}$ |  | Pipe 9, $4^{\prime \prime}$ INV OUT $=105.40$ |  |
| SA 1.25 | 477022.12 | 814737.32 | $\begin{gathered} \text { TYPE } 1 \\ \text { RIM }=113.99 \\ \text { INV IN }=105.65 \\ \text { INV OUT }=105.55 \end{gathered}$ | Pipe 8, $4^{4} \mid \mathbb{N V} \mathbb{N}=105.65$ | Pipe $7,44^{\prime \prime}$ Inv OUT $=105.55$ |  |
| SA 1.30 | 477024.26 | 814558.85 | $\begin{gathered} \text { TYPE } 4 \\ \text { RIM }=107.50 \\ \text { INV IN }=97.12 \\ \text { INV } \mathbb{N}=99.50 \\ \text { INV IN }=100.00 \\ \text { INV OUT }=97.09 \end{gathered}$ | Pipe 23, 48" INV IN =97.12 <br> Pipe 12, 24" INV IN =99.50 <br> Pipe 11, 4" $\operatorname{INV} \operatorname{IN}=100.00$ | Pipe 10, 48" INV OUT =97.09 | R.15900 |
| SA 1.31 | 477058.76 | 814579.50 | TYPE IM $=104$ $\mathrm{R} M \mathrm{M}=104.00$ $\mathbb{N} \mathbb{N}=100.10$ $\operatorname{INV} \operatorname{IN}=100.10$ INV OUT = 100.00 | Pipe $15,12 " I N V I N=100.10$ Pipe $13.41 \mathrm{NV} I N=100.10$ Pipe $13,4^{4} \operatorname{INV} \mathbb{N}=100.10$ Pipe $20.4 " I N V I N=100.10$ | Pipe 12, 24" INV OUT =100.00 |  |
| SA 1.32 | 477099.51 | 814494.57 | POOL DRAIN RIM $=109.00$ INV OUT = 107.58 |  | Pipe 14,4" INV OUT = 107.58 |  |
| SA 1.33 | 47711.31 | 814587.01 | $\begin{gathered} \text { TYPE 1 } \\ \text { RIM }=113.00 \\ \text { INV IN }=109.00 \\ \text { INV } N=109.00 \\ \text { INV OUT }=108.00 \end{gathered}$ | Pipe 17, 4" INV IN =109.00 <br> Pipe 16, 4" $\operatorname{INV} \operatorname{IN}=109.00$ | Pipe 15, $12^{\prime \prime}$ "INV OUT $=108.00$ |  |
| SA 1.34 | 477132.47 | 814583.42 | $\begin{gathered} \text { TYPE } 1 \\ \text { RIM }=113.75 \\ \text { INV IN }=110.50 \\ \text { INV OUT }=110.40 \end{gathered}$ | Pipe $18,4 " \mathbb{N V I N}=110.50$ | Pipe 17,4" INV out =110.40 |  |


| STRUCTURE TABLE |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| STRUCTURE NAME: | NORTHING | EAsting | DETAILS: | PIPES IN: | PIPES OUT | CASting |
| SA 1.35 | 477176.60 | 814574.97 | $\begin{gathered} \text { TYPE } 1 \\ \text { RIM }=114.15 \\ \text { NV OUT }=111.15 \end{gathered}$ | Pipe 60, 4" Inv out =11.25 | Pipe 19, 4" Inv out =111.15 |  |
| SA 1.36 | 477190.93 | 814551.15 | $\begin{gathered} \text { TYPE } 1 \\ \text { RIM }=125.00 \\ \text { INV } O \text { OT }=111.50 \end{gathered}$ |  | Pipe 60, 4" INV out =111.50 |  |
| SA 1.37 | 477115.17 | 814566.74 | 6" TRENCH DRAIN 9 LINEAR FEET RIM $=112.35$ INV OUT $=109.2$ | ) | Pipe 16, 4 " Inv out $=109.20$ |  |
| SA 1.38 | 477120.73 | 814569.80 | $\begin{gathered} \text { POOL DRAIN } \\ \text { RMM } 111.155 \\ \text { NVVOT }=109.20 \end{gathered}$ |  | Pipe 22, 4 " Inv OUT $=109.20$ | Pool drain SEEARATE DETALI LSSA. |
| SA 1.40 | 477080.17 | 814434.92 |  | Pipe 25, 12" INV IN =99.28 Pipe 24, 4" INV IN =99.95 | Pipe 23,48 " Inv out =97.28 | ${ }^{\text {R.-1540 }}$ |
| SA 1.41 | 477106.66 | 814487.67 | $\left.\begin{array}{c} \text { POLOL DRAIN } \\ \text { RMM }=10.000 .58 \end{array}\right\}$ |  | Pipe $24,4{ }^{4 \prime}$ Inv out $=102.58$ |  |
| SA 1.42 | 477110.49 | 814431.38 | $\begin{gathered} \text { TYPE } 1 \\ \text { RIM }=104.00 \\ \text { INV } 10.00 .00 \\ \text { IN OUT }=100.20 \end{gathered}$ | Pipe $26,4{ }^{\prime \prime}$ INV $1 \mathrm{~N}=100.30$ | Pipe 25, 12" INV OUT = 100.20 |  |
| SA 1.43 | 477180.79 | 814423.00 | $\left(\begin{array}{c} \text { POOL DRAN } \\ \text { RMM }=106.50 \\ \text { NVOT } \\ \hline 105.08 \end{array}\right)$ |  | $\text { Pipe 27, 4" INV OUT = } 105.08$ | $\begin{aligned} & \text { Pool drain } \\ & \text { SEGRAAE } \\ & \text { DETALL SSS4.0 } \end{aligned}$ |
| SA 1.50 | 477071.52 | 814794.45 |  | Pipe $31,4^{\prime \prime} \operatorname{IN} \operatorname{IN}=102.80$ Pipe $33,4^{\prime \prime} \mid N V I N=107.33$ | Pipe 30, $6^{\prime \prime}$ Inv out $=102.60$ | ${ }^{\text {R. } 15540}$ |
| SA 1.51 | 477068.53 | 814771.86 | $\begin{gathered} \text { TYPE } 1.3 \\ \text { RM }=11.133 \\ \text { INV } 10.000 \\ \text { INV OUT }=102.98 \end{gathered}$ | Pipe $32,44^{\prime \prime} \mathrm{INV} 1 \mathrm{~N}=103.00$ | Pipe 31, $\mathbf{4}^{4 \prime}$ Inv out $=102.98$ | R.1580 ${ }^{\text {a }}$ |
| SA 1.52 | 477140.70 | 814674.91 | $\begin{gathered} \text { TYPE } 1 \\ \text { RM }=14.45 \\ \text { INV NO } 10.20 \\ \text { INV OUT }=108.10 \end{gathered}$ | Pipe $34,4{ }^{4 \prime}$ INV $\operatorname{N}=108.20$ | Pipe 33, 4 " Inv out $=108.10$ | ${ }^{\text {R.1-560 }}$ |

* SANITARY MANHOLES TO INCLUDE CHIMNEY SEAL

| Pipe Table |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| NAME | SIZE \& MATERIAL | LENGTH | SLOPE | VALVES |
| Pipe 1 | 4.0 inch PVC Pipe | 15 | 0.23\% | 4" Asahi-America Butterly Valve Type 57 |
| Pipe 2 | 48 inch Concrete Pipe | $197{ }^{\prime}$ | 0.10\% |  |
| Pipe 3 | 10.0 inch PVC Pipe | $15 '$ | 0.69\% |  |
| Pipe 4 | 12.0 inch PVC Pipe | $32^{\prime}$ | 0.78\% |  |
| Pipe 5 | 4.0 inch PVC Pipe | 39' | 1.51\% | 4" Asahi-America Gate Valve Type P |
| Pipe 6 | 8.0 inch PVC Pipe | $42^{\prime}$ | 9.50\% |  |
| Pipe 7 | 4.0 inch PVC Pipe | $45^{\prime}$ | 0.56\% |  |
| Pipe 8 | 4.0 inch PVC Pipe | $8^{\prime}$ | 0.60\% |  |
| Pipe 9 | 4.0 inch PVC Pipe | 8' | 0.61\% |  |
| Pipe 10 | 48 inch Concrete Pipe | 104' | 0.11\% |  |
| Pipe 11 | 4.0 inch PVC Pipe | 22 | 27.66\% |  |
| Pipe 12 | 24.0 inch PVC Pipe | $40^{\prime}$ | 1.24\% |  |
| Pipe 13 | 4.0 inch PVC Pipe | 44' | 4.30\% |  |
| Pipe 14 | 4.0 inch PVC Pipe | 61 ' | 9.09\% | 4" Asahi-America Gate Valve Type P |
| Pipe 15 | 12.0 inch PVC Pipe | $53 '$ | 14.88\% |  |
| Pipe 16 | 4.0 inch PVC Pipe | 21 | 0.97\% |  |
| Pipe 17 | 4.0 inch PVC Pipe | $22^{\prime}$ | 6.52\% |  |
| Pipe 18 | 4.0 inch PVC Pipe | $24^{\prime}$ | 1.02\% |  |
| Pipe 19 | 4.0 inch PVC Pipe | $25^{\prime}$ | 1.58\% |  |
| Pipe 20 | 4.0 inch PVC Pipe | $40^{\prime}$ | 19.64\% |  |


| Pipe Table |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| NAME | SIZE \& MATERIAL | LENGTH | SLOPE | VALVES |
| Pipe 21 | 4.0 inch PVC Pipe | 31 ' | 3.28\% | 4" Asahi-America Gate Valve Type P |
| Pipe 22 | 4.0 inch PVC Pipe | 11' | 1.82\% |  |
| Pipe 23 | 48 inch Concrete Pipe | 136' | 0.12\% |  |
| Pipe 24 | 4.0 inch PVC Pipe | $62^{\prime}$ | 4.20\% | 4" Asahi-America Gate Valve Type P |
| Pipe 25 | 12.0 inch PVC Pipe | 31 ' | 3.01\% |  |
| Pipe 26 | 4.0 inch PVC Pipe | 24 | 7.00\% |  |
| Pipe 27 | 4.0 inch PVC Pipe | $59 '$ | 5.23\% | 4" Asahi-America Gate Valve Type P |
| Pipe 28 | 4.0 inch PVC Pipe | 19' | 0.52\% |  |
| Pipe 29 | 12.0 inch PVC Pipe | 82' | 8.53\% |  |
| Pipe 30 | 6.0 inch PVC Pipe | $40^{\prime}$ | 7.51\% |  |
| Pipe 31 | 4.0 inch PVC Pipe | 23 ' | 0.79\% |  |
| Pipe 32 | 4.0 inch PVC Pipe | 6 ' | 0.50\% |  |
| Pipe 33 | 4.0 inch PVC Pipe | 138' | 0.56\% |  |
| Pipe 34 | 4.0 inch PVC Pipe | $3 '$ | 3.26\% |  |
| Pipe 60 | 4.0 inch PVC Pipe | $28^{\prime}$ | 0.90\% |  |


| STRUCTURE TABLE |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| STRUCTURE NAME: | NORTHING | EASting | DETAILS: | PIPES IN: | PIPES OUT | CAStings |
| ST 2.10 | 476983.67 | 814779.08 | 12" FES W/ APRON ENDWALL RIM $=104.00$ | Pipe 35, 12" $\operatorname{INV}$ IN =104.00 |  |  |
| ST 2.11 | 477009.78 | 814788.53 | $\begin{gathered} \text { TYPE } 1 \\ \text { RIM }=110.80 \\ \text { INV IN }=105.00 \\ \text { INV OUT }=105.00 \end{gathered}$ | Pipe 36, 12" INV IN =105.00 | Pipe 35, 12" INV OUT = 105.00 | R-1550 |
| ST 2.12 | 477063.65 | 814781.62 | $\begin{gathered} \text { TYPE } 1 \\ \text { RIM }=111.10 \\ \text { IN } \mathbb{N}=108.10 \\ \text { INV }=107.00 \\ \text { INV OUT }=106.00 \end{gathered}$ | Pipe 38, 12" INV IN =108.10 Pipe 37, 12" INV IN =107.00 | Pipe 36, 12" INV OUT = 106.00 | R.1550 |
| ST 2.13 | 477083.88 | 814795.38 | 24" INVERTED BELL <br> RIM $=110.60$ <br> INV OUT = 107.60 |  | Pipe 37, 12" INV OUT = 107.60 | R.4360-D |
| ST 2.14 | 477145.00 | 814678.70 | $\begin{gathered} \text { 24" INVERTED BELL } \\ \text { RM }=125.40 \\ \text { INV } 1 \mathbb{1 N}=122.40 \\ \text { INV OUT }=113.00 \end{gathered}$ | Pipe 39, 12" $\operatorname{INV}$ IN =122.40 | Pipe 38, 12" INV OUT = 113.00 | R.4380.D |
| ST 2.15 | 477182.85 | 814583.48 | $\begin{gathered} \text { 24" INVERTED BELL } \\ \text { RIM }=126.00 \\ \text { INV OUT }=123.00 \end{gathered}$ |  | Pipe 39, 12" INV OUT = 123.00 | R.4360.D |
| ST 2.20 | 476967.92 | 814673.92 | $\begin{gathered} \text { TYPE 2 } \\ \text { RIM }=108.00 \\ \text { INV } \operatorname{IN}=100.00 \\ \text { INV IN }=99.24 \end{gathered}$ | Pipe 41, 4" $\operatorname{INV} \operatorname{IN}=100.00$ Pipe 40, 30" INV IN =99.24 |  | R.1550 |
| ST 2.21 | 476973.41 | 814666.01 | $\begin{gathered} \text { TYPE } 2 \\ \text { RIM }=108.64 \\ \text { INV OUT }=99.55 \end{gathered}$ |  | Pipe 40, 30" INV OUT =99.55 | R.1550 |
| ST 2.22 | 476988.68 | 814712.92 | $\begin{gathered} \text { TYPE } 1.00 \\ \text { RIM }=107.00 \\ \text { IN } \mathbb{N}=102.75 \\ \text { INV } N=102.00 \\ \text { INV OUT }=101.00 \end{gathered}$ | Pipe 42, 4" INV IN =102.75 <br> Pipe 43, 6 " $\operatorname{INV} \operatorname{IN}=102.00$ | Pipe 41, 4" INV OUT =101.00 | R.1550 |
| ST 2.23 | 476996.05 | 814725.43 | 6" TRENCH DRAIN- 28 LINEAR FEET RIM $=106.00$ INV OUT $=105.25$ |  | Pipe 43, 4" INV OUT =105.25 |  |
| ST 2.30 | 477051.06 | 814475.25 | $\begin{gathered} \text { TYPE 1 } \\ \text { RIM }=108.31 \\ \text { INV } \mathbb{N}=100.00 \end{gathered}$ | Pipe 44, 12" $\operatorname{INV}$ IN = 100.00 |  | R.1550 |
| ST 2.31 | 477083.23 | 814453.29 | $\begin{gathered} \text { TYPE } 1 \\ \text { RIM }=108.50 \\ \text { INV IN }=103.00 \\ \text { INV OUT }=101.65 \\ \text { INV OUT }=101.75 \end{gathered}$ | Pipe 46, $6^{\prime \prime}$ INV $\operatorname{IN}=103.00$ | Pipe 44, 12" INV OUT = 101.65 Pipe 45, 6 " $\operatorname{INV}$ OUT =101.75 | R.1550 |
| ST 2.32 | 477103.20 | 814468.27 | $\begin{aligned} & \text { 6" TRENCH DRAIN } \\ & 15 \text { LINEAR FEET } \\ & \text { RIM }=107.0 \\ & \text { INV OUT }=106.25 \end{aligned}$ |  | Pipe 46, 4" INV OUT =106.25 | $\underset{\substack{\text { R.asea } \\ \text { GRate }}}{\text { a }}$ |
| ST 2.40 | 477247.36 | 814386.98 |  |  | Pipe 56, 6" INV OUT =105.25 | R.1550 |
| ST 2.41 | 477243.32 | 814347.48 | $\begin{gathered} \text { TYPE } 1 \\ \text { RIM }=108.54 \\ \text { IN } \mathbb{N}=101.00 \\ \text { INV } N=105.10 \\ \text { INV OUT }=104.00 \end{gathered}$ | Pipe 55, 6 " $\operatorname{INV} \operatorname{IN}=101.00$ <br> Pipe 56, 6 " $\operatorname{INV} \operatorname{IN}=105.10$ | Pipe 57, 6" INV OUT =104.00 | R.1550 |


| Pipe Table |  |  |  |
| :---: | :---: | :---: | :---: |
| NAME | SIZE \& MATERIAL | LENGTH | SLOPE |
| Pipe 35 | 12.0 inch PVC Pipe | $28{ }^{\prime}$ | 3.60\% |
| Pipe 36 | 12.0 inch PVC Pipe | $54^{\prime}$ | 1.84\% |
| Pipe 37 | 12.0 inch PVC Pipe | $25^{\prime}$ | 2.45\% |
| Pipe 38 | 12.0 inch PVC Pipe | $131{ }^{\prime}$ | 3.74\% |
| Pipe 39 | 12.0 inch PVC Pipe | 103' | 0.59\% |
| Pipe 40 | 30 IN . RCP | $10^{\prime}$ | 3.22\% |
| Pipe 41 | 4.0 inch PVC Pipe | $44^{\prime}$ | 2.26\% |
| Pipe 42 | 4.0 inch PVC Pipe | $6^{\prime}$ | 4.16\% |
| Pipe 43 | 4.0 inch PVC Pipe | 15' | 22.39\% |
| Pipe 44 | 12.0 inch PVC Pipe | $44^{\prime}$ | 3.71\% |
| Pipe 45 | 6.0 inch PVC Pipe | $17{ }^{\prime}$ | 1.48\% |
| Pipe 46 | 4.0 inch PVC Pipe | $25^{\prime}$ | 13.22\% |
| Pipe 47 | 6.0 inch PVC Pipe | 38' | 12.24\% |
| Pipe 48 | 4.0 inch PVC Pipe | ${ }^{\prime}$ | 8.09\% |
| Pipe 49 | 4.0 inch PVC Pipe | $4{ }^{\prime}$ | 5.80\% |
| Pipe 50 | 6.0 inch PVC Pipe | 35' | 0.00\% |
| Pipe 51 | 6.0 inch PVC Pipe | 42' | 0.00\% |
| Pipe 52 | 6.0 inch PVC Pipe | $20^{\prime}$ | 0.00\% |
| Pipe 53 | 4.0 inch PVC Pipe | $5^{\prime}$ | 14.45\% |
| Pipe 54 | 4.0 inch PVC Pipe | $3^{\prime}$ | 8.90\% |
| Pipe 55 | 6.0 inch PVC Pipe | $22^{\prime}$ | 21.71\% |
| Pipe 56 | 6.0 inch PVC Pipe | $40^{\prime}$ | 0.38\% |
| Pipe 57 | 6.0 inch PVC Pipe | $52^{\prime}$ | 7.68\% |
| Pipe 58 | 6.0 inch PVC Pipe | 46' | 4.43\% |





SEAL PLAN- ALTERNATE \#7
ENLARGED LAYOUT PLAN NoRTH


SA8. 1 HENRY VILAS ZOO- COUNTY OF DANE


## SITE GRADING PLAN

$0^{5} 0^{50}$
SCALE: $1^{\prime \prime}=10^{\prime}$



ARCHITECTS

ARCTIC EXHIBIT \& CONCESSIONS HENRY VILAS ZOO - COUNTY OF DANE RFB No. 313086

CW4.1
ADD. \#6-DEC 6, 2013


LAN NOTES



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(sit) Pale wi stab CONSTRUCTION JOINT


POOL WALL CONSTRUCTION (3,4) $/$ CONTROL JOINT


(ㄱ.4. RETAINING WALL SECTION



(12) TYP. EXIST CIP WALL INFILL

5'-4" EXTENSION AT



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$$

F
( $\frac{12}{514}$ )






(5.4. RETAINING WALL SECTION

(10.4) POOL SLABE EDGE @ ZERO DEPTH


ST. 4

(14.4) FENCE POST EMBEDMENT

 ARCHITECTS



      <br>$\qquad$<br><br>

