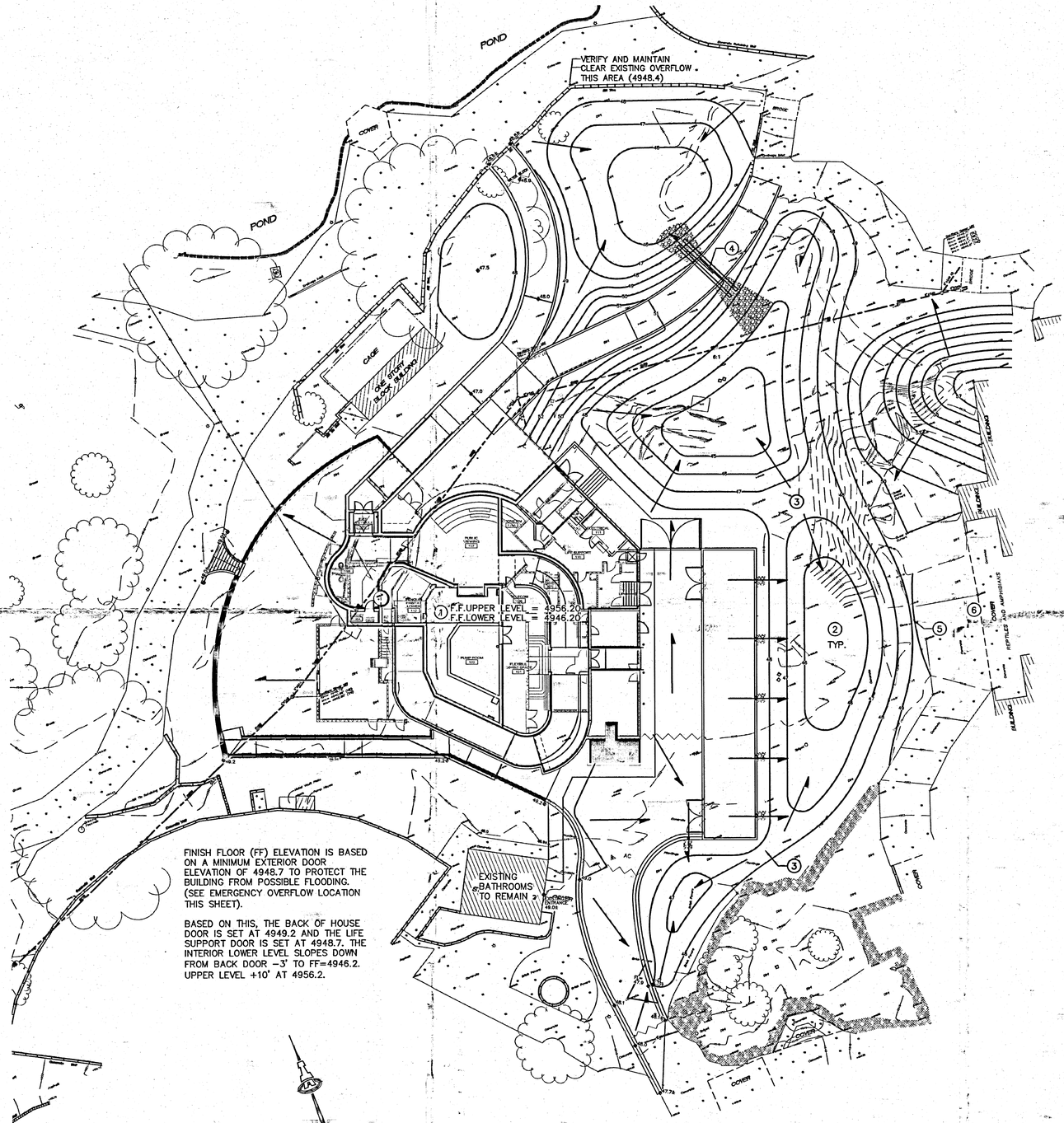


GRADING AND DRAINAGE PLAN - OVERALL

GENERAL NOTES

A. THE CONTRACTOR SHALL ABIDE BY ALL STATE, LOCAL, AND FEDERAL LAWS, CODES, RULES AND REGULATIONS WHICH APPLY TO THE CONSTRUCTION OF THESE IMPROVEMENTS, INCLUDING EPA AND ADA REQUIREMENTS.

B. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER CONTRACT SHALL, EXCEPT AS OTHERWISE STATED ON OR PROVIDED FOR HEREON, BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS (COA SPEC.).

C. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS FOR THE PROJECT PRIOR TO COMMENCING CONSTRUCTION, OR PRIOR TO OCCUPANCY, AS APPROPRIATE.

D. COORDINATE WORK WITH SITE PLAN, UTILITY PLAN, DEMOLITION PLAN, AND LANDSCAPE PLAN.

E. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING OBSTRUCTIONS, AND CONDITION OF ALL EXISTING INFRASTRUCTURE PRIOR TO CONSTRUCTION. REPORT ALL DISCREPANCIES TO THE ARCHITECT AND VERIFY THE ARCHITECT INTENT BEFORE PROCEEDING.

F. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE SAFETY.

G. THE CONTRACTOR SHALL MAINTAIN RECORD DRAWINGS ON SITE AT ALL TIMES.

H. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED INSPECTIONS OF THE WORK.

I. CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THE PROJECT LIMITS. ANY DAMAGE TO ADJACENT STRUCTURES RESULTING FROM THE CONSTRUCTION PROCESS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING EXISTING CONDITIONS PRIOR TO CONSTRUCTION.

J. THE CONTRACTOR SHALL MAINTAIN ALL BARRICADING AND CONSTRUCTION SIGNING AT ALL TIMES. THE CONTRACTOR SHALL VERIFY THE PROPER LOCATION OF ALL BARRICADING AT THE END AND BEGINNING OF EACH DAY.

K. EXISTING UTILITY LINES ARE SHOWN IN AN APPROXIMATE MANNER ONLY AND MAY BE INCOMPLETE OR OBSOLETE. SUCH LINES MAY OR MAY NOT EXIST WHERE SHOWN OR NOT SHOWN. CONTRACTOR SHALL CONTACT NM-811 FOR UTILITY LINE SPOTS FIVE WORKING DAYS PRIOR TO CONDUCTING SITE FIELD WORK. CONTRACTOR SHALL FIELD VERIFY AND LOCATE ALL UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF NECESSARY DRY UTILITY ADJUSTMENTS.

L. FIVE WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR MUST CONTACT NM811 (811) FOR LOCATION OF EXISTING UTILITIES.

M. ALL SITE PREPARATION, GRADING OPERATIONS, FOUNDATION CONSTRUCTION, AND PAVEMENT INSTALLATION WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT, WHICH WILL BE PROVIDED BY THE OWNER OR ARCHITECT.

N. ALL TRASH, DEBRIS, & SURFACE VEGETATION SHALL BE CLEARED AND LEGALLY DISPOSED OF OFFSITE.

O. VIBRATORY COMPACTION SHALL NOT BE USED OVER IN-PLACE UTILITIES.

P. SOIL TESTING AND INSPECTION SERVICES DURING SITE OPERATIONS ARE REQUIRED. CONTRACTOR SHALL ALLOW TESTING LABS TO INSPECT AND APPROVE COMPACTED SUBGRADES, BACKFILL, AND FILL LAYERS BEFORE FURTHER CONSTRUCTION WORK IS DONE. SHOULD COMPACTION TESTS INDICATE INADEQUATE DENSITY, CONTRACTOR SHALL PROVIDE ADDITIONAL COMPACTION AND TESTING AT THE CONTRACTOR'S SOLE EXPENSE.

Q. ADJUST ANY RIMS OF EXISTING UTILITY FEATURES AS NECESSARY TO MATCH NEW GRADES. UTILITIES IN PAVED AREAS SHALL BE HS-25 TRAFFIC RATED.

R. CONTRACTOR SHALL COMPLY WITH LOCAL REGULATIONS FOR RESEEDING OF DISTURBED AREAS.

GRADING NOTES

a. GRADING SHALL BE PERFORMED AT THE ELEVATIONS AND IN ACCORDANCE WITH THE DETAILS SHOWN ON THIS PLAN.

b. PROPOSED SPOT AND CONTOUR ELEVATIONS SHOWN REPRESENT TOP OF FINISH MATERIAL (I.E. TOP OF CONCRETE, TOP OF CONCRETE BUILDING PAD, TOP OF PAVEMENT MATERIAL, TOP OF LANDSCAPING MATERIAL, ETC.). CONTRACTOR SHALL GRADE, COMPACT SUBGRADE AND DETERMINE EARTHWORK ESTIMATES BASED ON ELEVATIONS SHOWN MINUS FINISH MATERIAL THICKNESSES.

c. IF FIELD GRADE ADJUSTMENTS ARE REQUIRED, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT.

d. THE ENVIRONMENTAL PROTECTION AGENCY (EPA) AND THE CITY OF ALBUQUERQUE REQUIRE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP), AN NDPES PERMIT, AND AN EROSION AND SEDIMENT CONTROL (ESC) PERMIT FOR PROJECTS WHERE CONSTRUCTION ACTIVITIES MEET THE EPA THRESHOLD. (SWPPP, NPDES PERMIT, AND ESC PLAN BY OTHERS.) A CURRENT CITY-APPROVED ESC PERMIT MUST BE INCLUDED WITH THE CONTRACTOR'S SUBMITTAL FOR A ROUGH GRADING, GRADING, PAVING, BUILDING, OR WORK ORDER PERMIT. CONTRACTOR SHALL COORDINATE WITH OWNER TO DETERMINE WHO WILL PREPARE SWPPP AND INSPECT REQUIRED ELEMENTS.

e. ALL NEW PAVEMENT SURFACES SHALL BE CONSTRUCTED WITH POSITIVE SLOPE AWAY FROM BUILDINGS AND POSITIVE SLOPE TOWARD EXISTING AND/OR PROPOSED DRAINAGE PATHS. PAVING AND ROADWAY GRADES SHALL BE ±0.1' FROM PLAN ELEVATIONS. BUILDING PAD ELEVATION SHALL BE ±0.05' FROM PLAN ELEVATION.

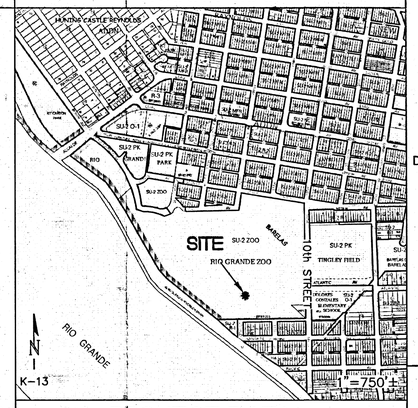
f. WHERE GRADES BETWEEN NEW AND EXISTING ARE SHOWN AS 'MATCH' OR '±', TRANSITIONS SHALL BE SMOOTH.

g. ALL EROSION PROTECTION SHALL BE 6" AVG. DIA. ANGULAR FACED ROCK (F.F. ROCK) PLACED OVER GEOTEX 501 NON-WOVEN GEOTEXTILE (O.E.). NOTE: IF APPROVED BY ENGINEER, ALTERNATIVE EROSION PROTECTION MAY BE SUBSTITUTED.

h. STORMWATER RETENTION POND ELEVATIONS AND SITE STORMWATER CONTROL MEASURES SHOWN ON THIS PLAN SHALL BE STRICTLY ADHERED TO FOR CERTIFICATION PURPOSES.

i. POST-CONSTRUCTION MAINTENANCE FOR STORMWATER FACILITIES WILL BE THE RESPONSIBILITY OF THE FACILITIES OWNER. ENGINEER RECOMMENDS THAT OWNER INSPECT SITE YEARLY AND AFTER EACH RAINFALL TO IDENTIFY NEW AREAS OF EROSION AND INSTALL ADDITIONAL EROSION PROTECTION AS NEEDED BASED ON ACTUAL OCCURRENCES.

VICINITY MAP



PROJECT DATA

PROPERTY: THE SITE IS A PORTION OF THE ALBUQUERQUE RIO GRANDE ZOO PROPERTY LOCATED WITHIN C.O.A. VICINITY MAP K-13. THE SITE IS BOUND TO THE NORTH AND WEST BY THE MAIN PARK AREA AND BANDSTAND POND, AND TO THE SOUTH AND EAST BY EXISTING ANIMAL EXHIBIT.

PROPOSED IMPROVEMENTS: THE PROPOSED IMPROVEMENTS INCLUDE A NEW FACILITY HOUSING THE PROPOSED PENGUIN EXHIBIT WITH ASSOCIATED CONCRETE WALKS AND LANDSCAPING. DRAINAGE IMPROVEMENTS WILL BE CONSTRUCTED TO ADDRESS BUILDING DISCHARGE.

LEGAL: TROPICAL AMERICA AND ADJACENT AREAS, RIO GRANDE ZOO, ALBUQUERQUE, NM

BENCHMARK: VERTICAL DATUM IS BASED UPON THE ALBUQUERQUE CONTROL STATION MONUMENT "12-L14", ELEVATION = 4947.708 FEET (NAVD 1988), AS PUBLISHED.

OFF-SITE: NO OFFSITE FLOW IMPACTS THIS PROPERTY.

FLOOD HAZARD: PER BERNALILLO COUNTY FIRM MAP #333, THE SITE IS LOCATED WITHIN FLOOD ZONE 'X' (SHADED) DESIGNATED AS AREA OF MODERATE FLOOD HAZARD, USUALLY THE AREA BETWEEN THE LIMITS OF THE 100-YEAR AND 500-YEAR FLOODS.

DRAINAGE PLAN CONCEPT: THE PROPOSED AREA TO BE DEVELOPED PREVIOUSLY HOUSED THE TROPICAL AMERICA EXHIBIT AND EXTENSIVE WALKS AND COVERED AREAS. THE TOTAL PROPOSED IMPERVIOUS AREA WILL BE APPROXIMATELY THE SAME AS THE PRE-DEVELOPED CONDITION. HISTORICALLY, THE MAJORITY OF THIS AREA DRAINED TO LOCALIZED WATER HARVESTING AREAS WITHIN THE LANDSCAPING OVERFLOWING TO THE MAIN PARK. THE PROPOSED DEVELOPMENT WILL ALSO UTILIZE TEMPORARILY ALL WATER HARVESTING BASINS FOR INFILTRATION. EXCESS STORMWATER WOULD DISCHARGE TO THE MAIN PARK AREA WHICH, HISTORICALLY, IS USED TO INFILTRATE STORMWATER. THE FINAL LANDSCAPING FOR THIS EXHIBIT WILL BE DESIGNED AS PART OF A DIFFERENT PROJECT. FUTURE DESIGN WILL PROVIDE AREA PONDS SIZED TO RETAIN THE 100-YEAR, 6-HOUR VOLUME FOR INFILTRATION WITH EMERGENCY OVERFLOW TO THE PARK AT AN ELEVATION </= 4948.5.

KEYED NOTES

KEYED NOTES REFERENCE OVERALL GRADING (SCALE 1:20) AROUND BUILDING. SEE CG-101 AND CG-102 FOR SPECIFIC KEYED NOTES FOR UPPER LEVEL (SHOWN FADED) AND LOWER LEVEL GRADING AND DRAINAGE (SCALE 1:10).

1. SEE CG-101 FOR UPPER LEVEL GRADES THIS AREA. SEE CG-102 FOR LOWER LEVEL GRADES THIS AREA.
2. FINAL SITE LANDSCAPE PLAN TO BE DESIGNED UNDER SEPARATE CONTRACT. CONSTRUCT TEMPORARY STORMWATER RETENTION PONDS BASINS TO ELEVATIONS SHOWN. SEE OVERALL GRADING AND DRAINAGE PLAN (CG-001) FOR FULL EXTENT OF TEMPORARY GRADING.
3. OVERFLOW BETWEEN WATER HARVESTING BASINS = 47.5.
4. INSTALL TWO 12"ø CULVERTS WITH END SECTIONS. PROVIDE EROSION PROTECTION EACH END.
5. GRADE THIS AREA WITH BERM (TOP OF BERM 49.0) TO PREVENT STORMWATER FROM BACKING UP INTO REPTILE AND AMPHIBIAN AREA.
6. EXISTING STORMWATER FROM THIS AREA WILL CONTINUE TO DRAIN TO THE REPTILE AND AMPHIBIAN AREA.

LEGEND

- EXISTING CONTOUR
- 56 PROPOSED CONTOUR
- 56.2 PROPOSED SPOT ELEVATION
- FLOW ARROW (PROPOSED)
- FF=4946.20 FINISH FLOOR ELEVATION
- EROSION PROTECTION

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2140 CG-001.dwg Sep 15,2016

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MECHANICAL, ELECTRICAL ENGINEERS:	Bridgers and Paxton Consulting Engineers, Inc
LIFE SUPPORT ENGINEERS:	Alvine and Associates, Inc.

ABQ BIOPARK
ZOO BOTANIC GARDEN TINGLEY BEACH AQUARIUM

NO.	DATE	REVISION/REMARKS	BY

DESIGNED BY: BJB	DATE:	9/15/16
DRAWN BY: BJB	DATE:	9/15/16
CHECKED BY: FCA	DATE:	9/15/16
SUBMITTAL / DATE CONSTRUCTION DOCUMENTS		15/16
PROJECT NUMBER		16200
PROJECT FILENAME 2140 CG-001.dwg		Sep 15,2016

FRED C. ARFMAN NEW MEXICO 7322 LICENSED PROFESSIONAL ENGINEER 09.15.16

RECEIVED SEP 19 2016 LAND DEVELOPMENT SECTION

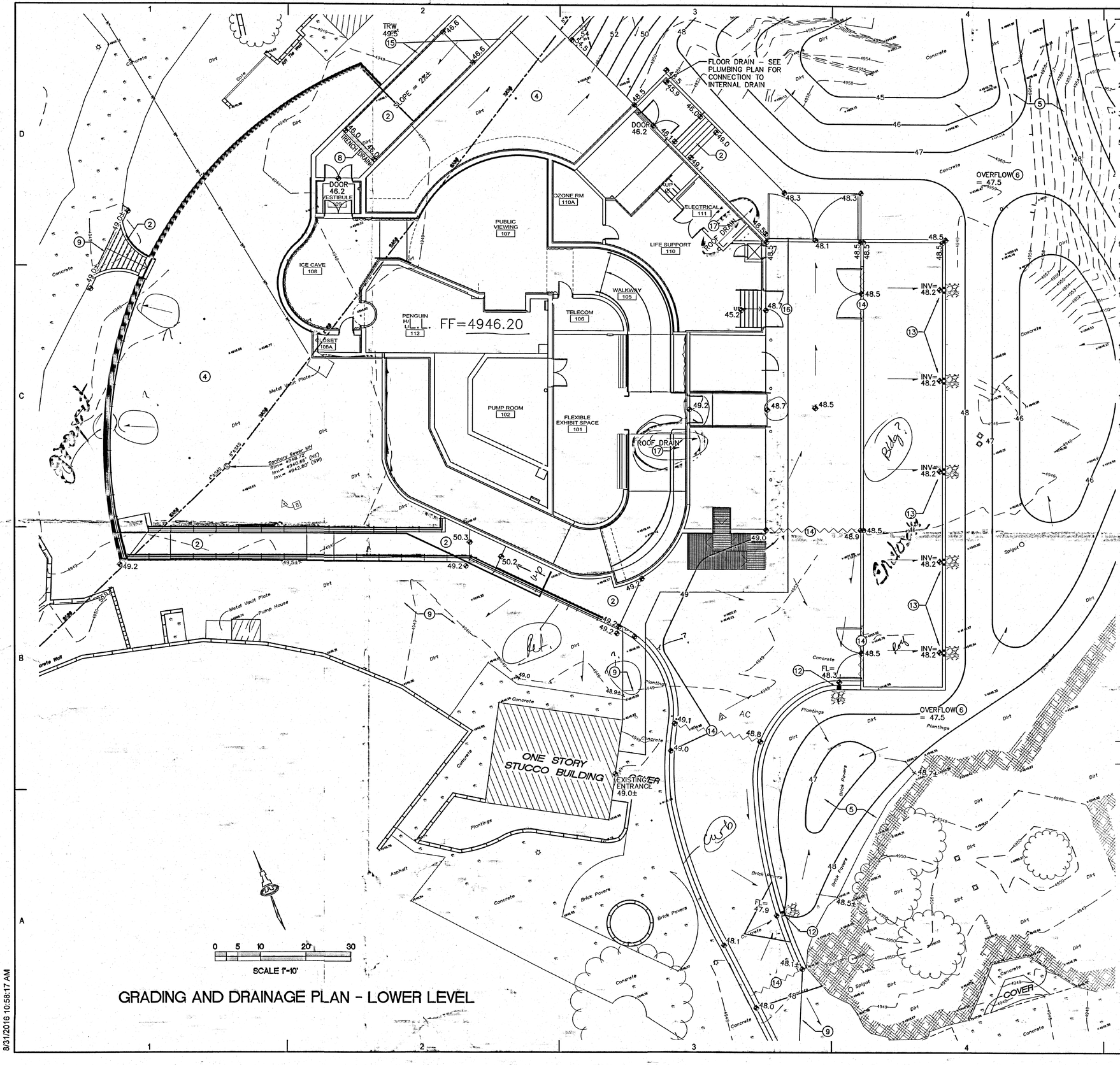
ALBUQUERQUE BIOPARK ZOO
PENGUIN EXHIBIT
Albuquerque, New Mexico

SHEET TITLE

OVERALL GRADING AND DRAINAGE PLAN

SHEET CG-100 OF

8/31/2016 10:58:17 AM



GRADING AND DRAINAGE PLAN – LOWER LEVEL

KEYED NOTES

1. SLOPE CONCRETE TO DRAIN AWAY FROM BUILDING @ 2% MAX (1% MIN). STORMWATER TO SHEETFLOW OVER EDGE OF PLAZA TO LANDSCAPE BELOW. COORDINATE WITH ARCHITECT.
2. CONSTRUCT STEPS AND ADA COMPLIANT RAMP(S) AND WALKWAYS TO ACHIEVE GRADE DIFFERENCES SHOWN. SEE ARCHITECTURAL FOR DETAILS.
3. NOT USED
4. SEE CG-101 FOR UPPER LEVEL GRADES THIS AREA.
5. FINAL SITE LANDSCAPE PLAN TO BE DESIGNED UNDER SEPARATE CONTRACT. CONSTRUCT TEMPORARY STORMWATER RETENTION PONDS BASINS TO ELEVATIONS SHOWN. SEE OVERALL GRADING AND DRAINAGE PLAN (CG-001) FOR FULL EXTENT OF TEMPORARY GRADING.
6. OVERFLOW BETWEEN WATER HARVESTING BASINS = 47.5.
7. NOT USED
8. SEE ARCHITECTURAL FOR TRENCH DRAIN WITHIN WALK LOW POINT THIS AREA. SEE MECHANICAL PLANS FOR CONNECTION TO SANITARY SEWER SYSTEM. cannot put in sewer
9. COORDINATE TRANSITION BETWEEN NEW CONSTRUCTION AND EXISTING CONSTRUCTION WITH ARCHITECT.
10. NOT USED
11. NOT USED
12. PROVIDE 12" WIDE CURB OPENING TO PASS FLOW TO PONDING AREA. INSTALL EROSION PROTECTION AT OUTFALL TO EXTENTS SHOWN.
13. PROVIDE 6"X6" (MIN) OPENING THROUGH WALL AT LOWPOINT. SLOPE CONCRETE TO DRAIN.
14. PAVEMENT GRADE BREAK / WATER BLOCK.
15. CONSTRUCT RETAINING WALLS THIS AREA TO PROTECT LOWER AREAS FROM STORMWATER. TOP OF WALL ELEVATION SHOWN REFERS TO MINIMUM ELEVATION. SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION.
16. GRADE AT DOOR TO LIFE SUPPORT AREA TO BE 48.7 MIN. TO PROTECT FROM STORMWATER. SEE ARCHITECTURAL FOR GRADE TRANSITIONS IN BUILDING.
17. ROOF DISCHARGE LOCATION. SEE PLUMBING PLANS FOR SPECIFIC DISCHARGE LOCATIONS. PROVIDE EROSION PROTECTION WITHIN LANDSCAPING TO BOTTOM OF POND.

LEGEND

- EXISTING CONTOUR
- 56 PROPOSED CONTOUR
- 56.2 PROPOSED SPOT ELEVATION
- FLOW ARROW (PROPOSED)
- FF=4946.20 FINISH FLOOR ELEVATION
- EROSION PROTECTION

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2140 CG-102.dwg Sep 15,2016

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MECHANICAL, ELECTRICAL ENGINEERS:	Bridgers and Paxton Consulting Engineers, Inc
LIFE SUPPORT ENGINEERS:	Alvine and Associates, Inc.

ABQ BIOPARK ZOO BOTANIC GARDEN TINGLEY BEACH AQUARIUM

NO.	DATE	REVISION/REMARKS	BY

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PROJECT NUMBER		16200
PROJECT FILENAME	2140 CG-102.dwg	Sep 15,2016

FRED C. ARFMAN NEW MEXICO 7322 P.E. LICENSED PROFESSIONAL ENGINEER 09.15.16

ALBUQUERQUE BIOPARK ZOO
PENGUIN EXHIBIT
Albuquerque, New Mexico

SHEET TITLE

GRADING AND DRAINAGE PLAN LOWER LEVEL

CG-102

SHEET OF

8/31/2016 10:58:17 AM

GRADING AND DRAINAGE PLAN - UPPER LEVEL

SCALE 1"=10'

KEYED NOTES

1. NOT USED
2. CONSTRUCT STEPS AND ADA COMPLIANT RAMP(S) AND WALKWAYS TO ACHIEVE GRADE DIFFERENCES SHOWN. SEE ARCHITECTURAL FOR DETAILS.
3. SEE ARCHITECTURAL FOR CURB THIS AREA TO ENSURE NO UPPER PLAZA STORMWATER DRAINS ONTO TO LOWER LEVEL RAMP.
4. SEE CG-102 FOR LOWER LEVEL GRADES THIS AREA.
5. FINAL SITE LANDSCAPE PLAN TO BE DESIGNED UNDER SEPARATE CONTRACT. CONSTRUCT TEMPORARY STORMWATER RETENTION PONDS TO ELEVATIONS SHOWN. SEE OVERALL GRADING AND DRAINAGE PLAN (CG-001) FOR FULL EXTENT OF TEMPORARY GRADING.
6. NOT USED
7. INSTALL TWO 12"ø CULVERTS AT INV. = 47.5 (TO EQUALIZE FLOW). PROVIDE EROSION PROTECTION EACH END.
8. NOT USED
9. COORDINATE TRANSITION BETWEEN NEW CONSTRUCTION AND EXISTING CONSTRUCTION WITH ARCHITECT.
10. NOT USED
11. NOT USED
12. NOT USED
13. NOT USED
14. PAVEMENT GRADE BREAK / WATER BLOCK.
15. CONSTRUCT RETAINING WALLS THIS AREA TO PROTECT LOWER AREAS FROM STORMWATER. TOP OF WALL ELEVATION SHOWN REFERS TO MINIMUM ELEVATION. SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION.
16. NOT USED
17. NOT USED

LEGEND

- EXISTING CONTOUR
- 56 — PROPOSED CONTOUR
- 56.2 — PROPOSED SPOT ELEVATION
- FLOW ARROW (PROPOSED)
- FF=4946.20 — FINISH FLOOR ELEVATION
- EROSION PROTECTION
- Ret. walls.

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LIFE SUPPORT ENGINEERS:	Alvine and Associates, Inc.

ABQ BIOPARK
ZOO BOTANIC GARDEN TINGLEY BEACH AQUARIUM

NO.	DATE	REVISION/REMARKS	BY

DESIGNED BY:	BJB	DATE: 9/15/16
DRAWN BY:	BJB	DATE: 9/15/16
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FRED C. ARFMAN NEW MEXICO 7322 LICENSED PROFESSIONAL ENGINEER 09.15.16

ALBUQUERQUE BIOPARK ZOO
PENGUIN EXHIBIT
Albuquerque, New Mexico

SHEET TITLE

GRADING AND DRAINAGE PLAN MAIN LEVEL

CG-101

SHEET OF

ISAACSON & ARFMAN, P.A.
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2140 CG-101.dwg Sep 15,2016

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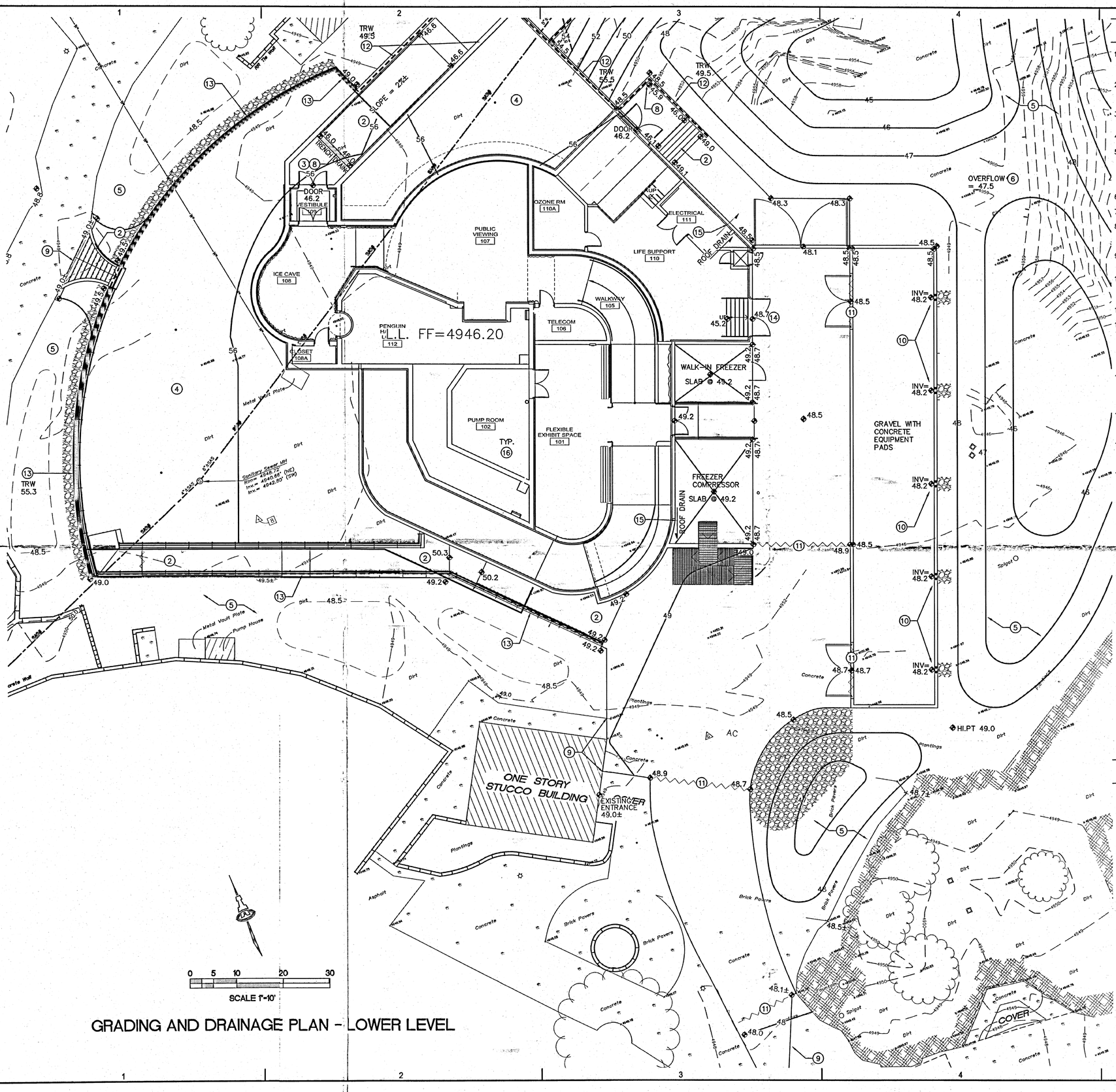

GRADING AND DRAINAGE PLAN - LOWER LEVEL

KEYED NOTES

1. GRADE CONCRETE TO DRAIN AWAY FROM BUILDING @ GRADES SHOWN. STORMWATER TO SHEETFLOW OVER EDGE OF PLAZA TO LANDSCAPE BELOW.
2. CONSTRUCT STEPS AND ADA COMPLIANT RAMP(S) AND WALKWAYS TO ACHIEVE GRADE DIFFERENCES SHOWN. SEE ARCHITECTURAL FOR DETAILS.
3. NO DISCHARGE FROM UPPER LEVEL MAY DRAIN ONTO LOWER LEVEL RAMP.
4. SEE CG-101 FOR UPPER LEVEL GRADES THIS AREA.
5. FINAL SITE LANDSCAPING TO BE DESIGNED/CONSTRUCTED UNDER SEPARATE CONTRACT. GRADE NATURAL AREAS AS SHOWN TO PROVIDE TEMPORARY STORMWATER WATER HARVESTING AND SEDIMENT CONTROL. SEE OVERALL GRADING AND DRAINAGE PLAN (CG-001) FOR FULL EXTENT OF TEMPORARY GRADING.
6. OVERFLOW BETWEEN WATER HARVESTING BASINS = 47.5.
7. NOT USED THIS SHEET
8. TRENCH DRAIN AND FLOOR DRAIN NOTED WILL BE CONNECTED TO BUILDING SANITARY SEWER SERVICE LINE. SEE PLUMBING PLANS FOR ADDITIONAL INFORMATION.
9. PROVIDE SMOOTH TRANSITION BETWEEN NEW CONSTRUCTION AND EXISTING.
10. CONSTRUCT WALL WITH TURNED BLOCKS @ 10' O.C. (INV. @ OPENING = 48.2) TO DRAIN ENCLOSURE. SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION.
11. PAVEMENT GRADE BREAK / WATER BLOCK.
12. CONSTRUCT BELOW GRADE SITE RETAINING WALL THIS AREA. MINIMUM TOP OF RETAINING WALL (TRW) ELEVATION SHOWN. ELEVATION AT HIGH SIDE AND LOW SIDE OF WALL ARE SHOWN ON SHEETS CG-101 AND CG-102. RETAINING WALLS EXTENDING BELOW ELEVATION 4948.5 ARE TO BE WATERPROOF. SEE ARCHITECTURAL FOR CONSTRUCTION INFORMATION.
13. CONSTRUCT ABOVE GRADE SITE RETAINING WALL THIS AREA (RETAINING BACKFILL FOR UPPER LEVEL). ELEVATION AT HIGH SIDE AND LOW SIDE OF WALL ARE SHOWN ON SHEETS CG-101 AND CG-102. SEE ARCHITECTURAL FOR CONSTRUCTION INFORMATION.
14. GRADE AT DOOR TO LIFE SUPPORT AREA TO BE 48.7 MIN. TO PROTECT FROM STORMWATER. SEE ARCHITECTURAL FOR GRADE TRANSITIONS IN BUILDING.
15. ROOF DISCHARGE FROM INTERNAL ROOF DRAINS TO GRADE. SEE PLUMBING PLANS FOR SPECIFIC DISCHARGE LOCATIONS. PROVIDE EROSION PROTECTION WITHIN LANDSCAPING TO BOTTOM OF POND.
16. SEE CG-101 FOR UPPER LEVEL ROOF DISCHARGE FROM CANALES.

LEGEND

- EXISTING CONTOUR
- 56 PROPOSED CONTOUR
- 56.2 PROPOSED SPOT ELEVATION
- FLOW ARROW (PROPOSED)
- FF=4946.20 FINISH FLOOR ELEVATION
- EROSION PROTECTION
- SITE RETAINING WALL

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ABQ BIOPARK ZOO BOTANIC GARDEN TINGLEY BEACH AQUARIUM

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OCT 06 2016
LAND DEVELOPMENT SECTION

NO.	DATE	REVISION/REMARKS	BY
1	10.05.16	FULL SHEET UPDATE	I&A

DESIGNED BY:	BJB	DATE: 9/15/16
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SUBMITTAL / DATE:	CONSTRUCTION DOCUMENTS	15/16
PROJECT NUMBER		16200
PROJECT FILENAME	2140 CG-102.dwg	Oct 06,2016

FRED C. ARFMAN NEW MEXICO 7322 LICENSED PROFESSIONAL ENGINEER
09.15.16

ALBUQUERQUE BIOPARK ZOO
PENGUIN EXHIBIT
Albuquerque, New Mexico

SHEET TITLE

GRADING AND DRAINAGE PLAN LOWER LEVEL

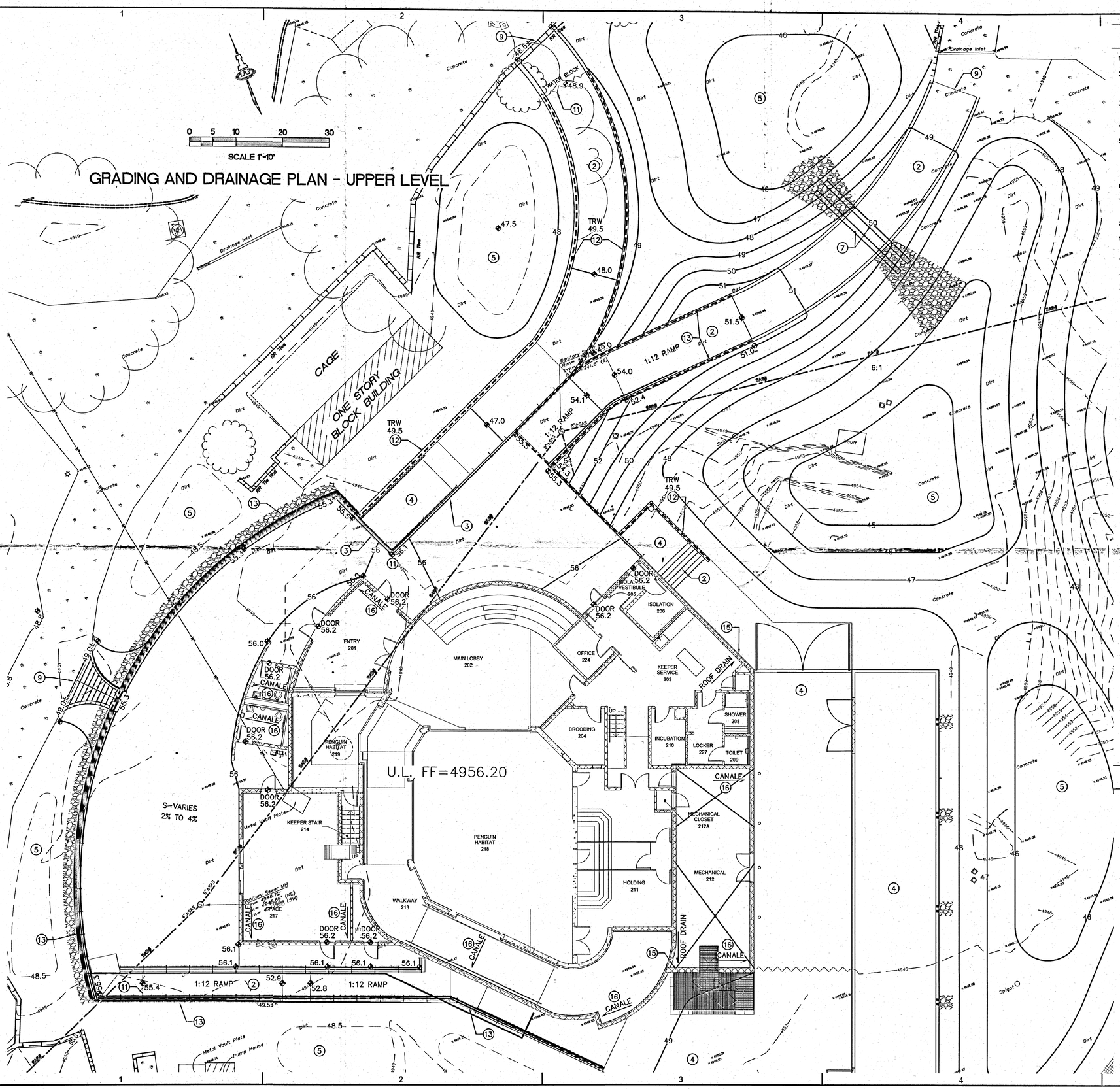
CG-102

SHEET OF

8/31/2016 10:58:17 AM

GRADING AND DRAINAGE PLAN - UPPER LEVEL

SCALE 1"=10'



KEYED NOTES

1. NOT USED
2. CONSTRUCT STEPS AND ADA COMPLIANT RAMP(S) AND WALKWAYS TO ACHIEVE GRADE DIFFERENCES SHOWN. SEE ARCHITECTURAL FOR DETAILS.
3. SLOPE CONCRETE AT ELEVATIONS SHOWN TO ENSURE NO UPPER PLAZA STORMWATER DRAINS ONTO TO LOWER LEVEL RAMP.
4. SEE CG-102 FOR LOWER LEVEL GRADES THIS AREA.
5. FINAL SITE LANDSCAPING TO BE DESIGNED/CONSTRUCTED UNDER SEPARATE CONTRACT. GRADE NATURAL AREAS AS SHOWN TO PROVIDE TEMPORARY STORMWATER WATER HARVESTING AND SEDIMENT CONTROL. SEE OVERALL GRADING AND DRAINAGE PLAN (CG-001) FOR FULL EXTENT OF TEMPORARY GRADING.
6. NOT USED
7. INSTALL TWO 12"ø CULVERTS AT INV. = 47.5 (TO EQUALIZE FLOW). PROVIDE EROSION PROTECTION EACH END.
8. NOT USED
9. PROVIDE SMOOTH TRANSITION BETWEEN NEW CONSTRUCTION AND EXISTING.
10. NOT USED
11. PAVEMENT GRADE BREAK / WATER BLOCK.
12. CONSTRUCT BELOW GRADE SITE RETAINING WALL THIS AREA. MINIMUM TOP OF RETAINING WALL (TRW) ELEVATION SHOWN. ELEVATION AT HIGH SIDE AND LOW SIDE OF WALL ARE SHOWN ON SHEETS CG-101 AND CG-102. RETAINING WALLS EXTENDING BELOW ELEVATION 4948.5 ARE TO BE WATERPROOF. SEE ARCHITECTURAL FOR CONSTRUCTION INFORMATION.
13. CONSTRUCT ABOVE GRADE SITE RETAINING WALL THIS AREA (RETAINING BACKFILL FOR UPPER LEVEL). ELEVATION AT HIGH SIDE AND LOW SIDE OF WALL ARE SHOWN ON SHEETS CG-101 AND CG-102. SEE ARCHITECTURAL FOR CONSTRUCTION INFORMATION.
14. NOT USED
15. ROOF DISCHARGE FROM INTERNAL ROOF DRAINS TO GRADE. SEE PLUMBING PLANS FOR SPECIFIC DISCHARGE LOCATIONS. PROVIDE EROSION PROTECTION WITHIN LANDSCAPING TO BOTTOM OF POND.
16. ROOF DISCHARGE FROM CANALES. PROVIDE EROSION PROTECTION WITHIN LANDSCAPING TO BOTTOM OF POND.

LEGEND

- EXISTING CONTOUR
- 56 — PROPOSED CONTOUR
- 56.2 — PROPOSED SPOT ELEVATION
- FLOW ARROW (PROPOSED)
- FF=4946.20 — FINISH FLOOR ELEVATION
- EROSION PROTECTION
- SITE RETAINING WALL

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2140 CG-101.dwg Oct 06,2016

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STRUCTURAL ENGINEERS:	Chavez - Grieves Consulting Engineers, Inc
MECHANICAL, ELECTRICAL ENGINEERS:	Bridgers and Paxton Consulting Engineers, Inc
LIFE SUPPORT ENGINEERS:	Alvine and Associates, Inc.

ABQ BIOPARK
ZOO BOTANIC GARDEN TINGLEY BEACH AQUARIUM

RECEIVED
OCT 06 2016
LAND DEVELOPMENT SECTION

NO.	DATE	REVISION/REMARKS	BY
1	10.05.16	FULL SHEET UPDATE	I&A

DESIGNED BY:	BJB	DATE: 9/15/16
DRAWN BY:	BJB	DATE: 9/15/16
CHECKED BY:	FCA	DATE: 9/15/16
SUBMITTAL / DATE:	CONSTRUCTION DOCUMENTS	15/16
PROJECT NUMBER		16200
PROJECT FILENAME	2140 CG-101.dwg	Oct 06,2016

FRED C. ARFMAN NEW MEXICO 7322 LICENSED PROFESSIONAL ENGINEER 09.15.16

ALBUQUERQUE BIOPARK ZOO
PENGUIN EXHIBIT
Albuquerque, New Mexico

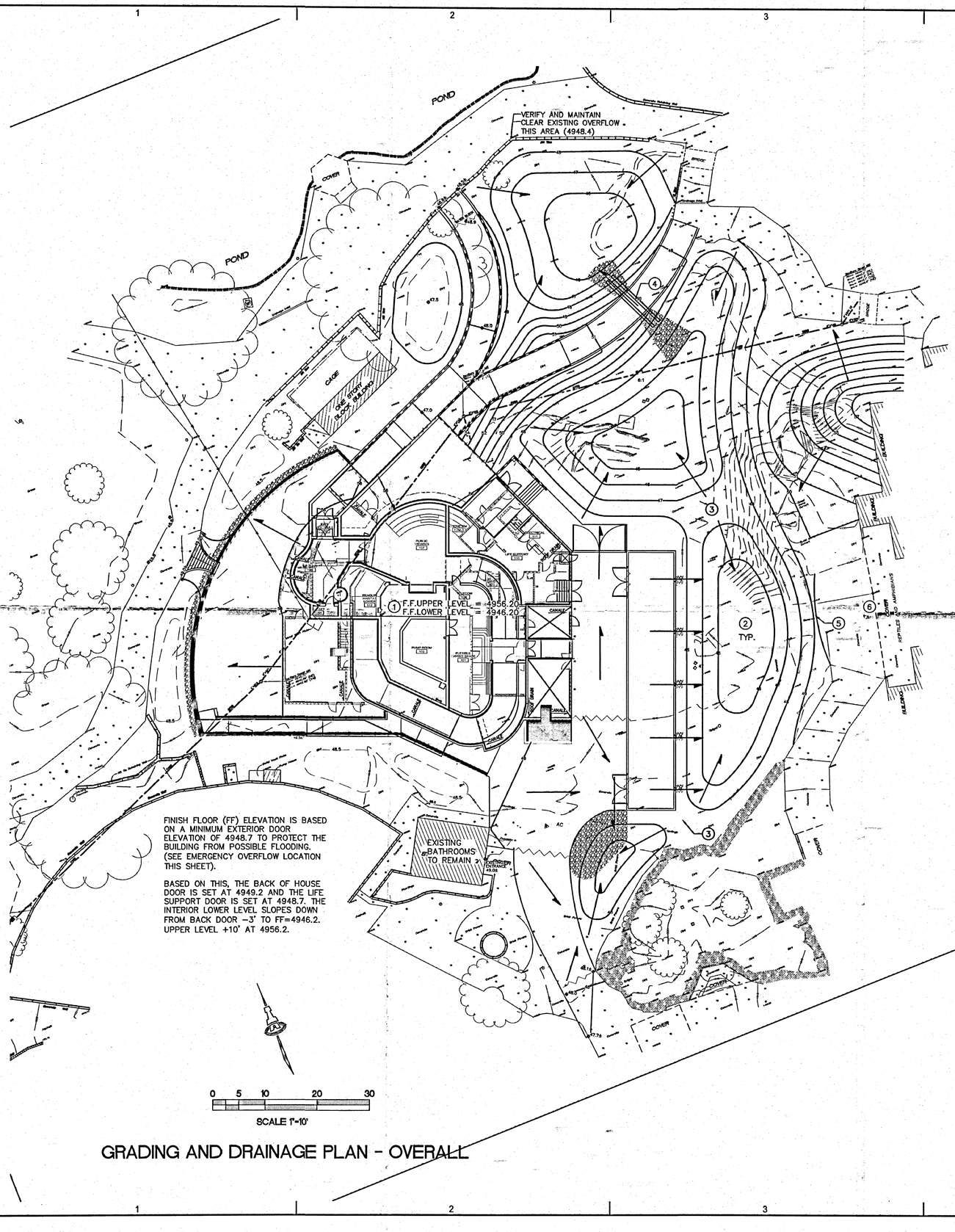
SHEET TITLE

GRADING AND DRAINAGE PLAN MAIN LEVEL

CG-101

SHEET OF

8/31/2016 10:58:17 AM



GRADING AND DRAINAGE PLAN - OVERALL

GENERAL NOTES

A. THE CONTRACTOR SHALL ABIDE BY ALL STATE, LOCAL, AND FEDERAL LAWS, CODES, RULES AND REGULATIONS WHICH APPLY TO THE CONSTRUCTION OF THESE IMPROVEMENTS, INCLUDING EPA AND ADA REQUIREMENTS.

B. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER CONTRACT SHALL, EXCEPT AS OTHERWISE STATED ON OR PROVIDED FOR HEREON, BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS (COA SPEC.).

C. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS FOR THE PROJECT PRIOR TO COMMENCING CONSTRUCTION, OR PRIOR TO OCCUPANCY, AS APPROPRIATE.

D. COORDINATE WORK WITH SITE PLAN, UTILITY PLAN, DEMOLITION PLAN, AND LANDSCAPE PLAN.

E. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING OBSTRUCTIONS, AND CONDITION OF ALL EXISTING INFRASTRUCTURE PRIOR TO CONSTRUCTION. REPORT ALL DISCREPANCIES TO THE ARCHITECT AND VERIFY THE ARCHITECT INTENT BEFORE PROCEEDING.

F. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE SAFETY.

G. THE CONTRACTOR SHALL MAINTAIN RECORD DRAWINGS ON SITE AT ALL TIMES.

H. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED INSPECTIONS OF THE WORK.

I. CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THE PROJECT LIMITS. ANY DAMAGE TO ADJACENT STRUCTURES RESULTING FROM THE CONSTRUCTION PROCESS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING EXISTING CONDITIONS PRIOR TO CONSTRUCTION.

J. THE CONTRACTOR SHALL MAINTAIN ALL BARRICADING AND CONSTRUCTION SIGNING AT ALL TIMES. THE CONTRACTOR SHALL VERIFY THE PROPER LOCATION OF ALL BARRICADING AT THE END AND BEGINNING OF EACH DAY.

K. EXISTING UTILITY LINES ARE SHOWN IN AN APPROXIMATE MANNER ONLY AND MAY BE INCOMPLETE OR OBSOLETE. SUCH LINES MAY OR MAY NOT EXIST WHERE SHOWN OR NOT SHOWN. CONTRACTOR SHALL CONTACT NM-811 FOR UTILITY LINE SPOTS FIVE WORKING DAYS PRIOR TO CONDUCTING SITE FIELD WORK. CONTRACTOR SHALL FIELD VERIFY AND LOCATE ALL UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF NECESSARY DRY UTILITY ADJUSTMENTS.

L. FIVE WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR MUST CONTACT NM811 (811) FOR LOCATION OF EXISTING UTILITIES.

M. ALL SITE PREPARATION, GRADING OPERATIONS, FOUNDATION CONSTRUCTION, AND PAVEMENT INSTALLATION WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT, WHICH WILL BE PROVIDED BY THE OWNER OR ARCHITECT.

N. ALL TRASH, DEBRIS, & SURFACE VEGETATION SHALL BE CLEARED AND LEGALLY DISPOSED OF OFFSITE.

O. VIBRATORY COMPACTION SHALL NOT BE USED OVER IN-PLACE UTILITIES.

P. SOIL TESTING AND INSPECTION SERVICES DURING SITE OPERATIONS ARE REQUIRED. CONTRACTOR SHALL ALLOW TESTING LABS TO INSPECT AND APPROVE COMPACTED SUBGRADES, BACKFILL, AND FILL LAYERS BEFORE FURTHER CONSTRUCTION WORK IS DONE. SHOULD COMPACTION TESTS INDICATE INADEQUATE DENSITY, CONTRACTOR SHALL PROVIDE ADDITIONAL COMPACTION AND TESTING AT THE CONTRACTOR'S SOLE EXPENSE.

Q. ADJUST ANY RIMS OF EXISTING UTILITY FEATURES AS NECESSARY TO MATCH NEW GRADES. UTILITIES IN PAVED AREAS SHALL BE HS-25 TRAFFIC RATED.

R. CONTRACTOR SHALL COMPLY WITH LOCAL REGULATIONS FOR RESEEDING OF DISTURBED AREAS.

GRADING NOTES

a. GRADING SHALL BE PERFORMED AT THE ELEVATIONS AND IN ACCORDANCE WITH THE DETAILS SHOWN ON THIS PLAN.

b. PROPOSED SPOT AND CONTOUR ELEVATIONS SHOWN REPRESENT TOP OF FINISH MATERIAL (I.E. TOP OF CONCRETE, TOP OF CONCRETE BUILDING PAD, TOP OF PAVEMENT MATERIAL, TOP OF LANDSCAPING MATERIAL, ETC.). CONTRACTOR SHALL GRADE, COMPACT SUBGRADE AND DETERMINE EARTHWORK ESTIMATES BASED ON ELEVATIONS SHOWN MINUS FINISH MATERIAL THICKNESSES.

c. IF FIELD GRADE ADJUSTMENTS ARE REQUIRED, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT.

d. THE ENVIRONMENTAL PROTECTION AGENCY (EPA) AND THE CITY OF ALBUQUERQUE REQUIRE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP), AN NDPES PERMIT, AND AN EROSION AND SEDIMENT CONTROL (ESC) PERMIT FOR PROJECTS WHERE CONSTRUCTION ACTIVITIES MEET THE EPA THRESHOLD. (SWPPP, NPDES PERMIT, AND ESC PLAN BY OTHERS.) A CURRENT CITY-APPROVED ESC PERMIT MUST BE INCLUDED WITH THE CONTRACTOR'S SUBMITTAL FOR A ROUGH GRADING, GRADING, PAVING, BUILDING, OR WORK ORDER PERMIT. CONTRACTOR SHALL COORDINATE WITH OWNER TO DETERMINE WHO WILL PREPARE SWPPP AND INSPECT REQUIRED ELEMENTS.

e. ALL NEW PAVEMENT SURFACES SHALL BE CONSTRUCTED WITH POSITIVE SLOPE AWAY FROM BUILDINGS AND POSITIVE SLOPE TOWARD EXISTING AND/OR PROPOSED DRAINAGE PATHS. PAVING AND ROADWAY GRADES SHALL BE ±0.1' FROM PLAN ELEVATIONS. BUILDING PAD ELEVATION SHALL BE ±0.05' FROM PLAN ELEVATION.

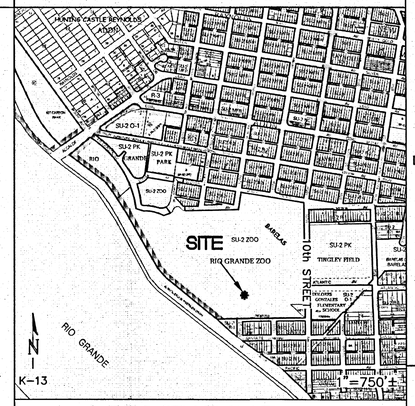
f. WHERE GRADES BETWEEN NEW AND EXISTING ARE SHOWN AS 'MATCH' OR '±', TRANSITIONS SHALL BE SMOOTH.

g. ALL EROSION PROTECTION SHALL BE 6" AVG. DIA. ANGULAR FACED ROCK (F.F. ROCK) PLACED OVER GEOTEX 501 NON-WOVEN GEOTEXTILE (O.E.). NOTE: IF APPROVED BY ENGINEER, ALTERNATIVE EROSION PROTECTION MAY BE SUBSTITUTED.

h. WATER HARVESTING BASIN ELEVATIONS AND SITE STORMWATER CONTROL MEASURES SHOWN ON THIS PLAN SHALL BE STRICTLY ADHERED TO FOR CERTIFICATION PURPOSES.

i. POST-CONSTRUCTION MAINTENANCE FOR STORMWATER FACILITIES WILL BE THE RESPONSIBILITY OF THE FACILITIES OWNER. ENGINEER RECOMMENDS THAT OWNER INSPECT SITE YEARLY AND AFTER EACH RAINFALL TO IDENTIFY NEW AREAS OF EROSION AND INSTALL ADDITIONAL EROSION PROTECTION AS NEEDED BASED ON ACTUAL OCCURRENCES.

VICINITY MAP



PROJECT DATA

PROPERTY: THE SITE IS A PORTION OF THE ALBUQUERQUE RIO GRANDE ZOO PROPERTY LOCATED WITHIN C.O.A. VICINITY MAP K-13. THE SITE IS BOUND TO THE NORTH AND WEST BY THE MAIN PARK AREA AND BANDSTAND POND, AND TO THE SOUTH AND EAST BY EXISTING ANIMAL EXHIBIT.

PROPOSED IMPROVEMENTS: THE PROPOSED IMPROVEMENTS INCLUDE A NEW FACILITY HOUSING THE PENGUIN EXHIBIT WITH ASSOCIATED CONCRETE WALKS AND LANDSCAPING. DRAINAGE IMPROVEMENTS WILL BE CONSTRUCTED TO ADDRESS BUILDING DISCHARGE.

LEGAL: TROPICAL AMERICA AND ADJACENT AREAS, RIO GRANDE ZOO, ALBUQUERQUE, NM

BENCHMARK: VERTICAL DATUM IS BASED UPON THE ALBUQUERQUE CONTROL STATION MONUMENT "12-L14", ELEVATION = 4947.708 FEET (NAVD 1988), AS PUBLISHED.

OFF-SITE: NO OFFSITE FLOW IMPACTS THIS PROPERTY.

FLOOD HAZARD: PER BERNALILLO COUNTY FIRM MAP #333, THE SITE IS LOCATED WITHIN FLOOD ZONE 'X' (SHADED) DESIGNATED AS AREA OF MODERATE FLOOD HAZARD, USUALLY THE AREA BETWEEN THE LIMITS OF THE 100-YEAR AND 500-YEAR FLOODS.

DRAINAGE PLAN CONCEPT: THE PROPOSED AREA TO BE DEVELOPED PREVIOUSLY HOUSED THE TROPICAL AMERICA EXHIBIT AND EXTENSIVE WALKS AND COVERED AREAS. THE TOTAL PROPOSED IMPERVIOUS AREA WILL BE APPROXIMATELY THE SAME AS THE PRE-DEVELOPED CONDITION. HISTORICALLY, THIS AREA UTILIZED FLAT GRADING CONCEPT WHICH DIRECTED STORMWATER TO LOCALIZED WATER HARVESTING AREAS WITHIN THE LANDSCAPING WITH EXCESS OVERFLOWING TO THE NORTH AND SOUTH. THE PROPOSED DEVELOPMENT WILL ALSO UTILIZE WATER HARVESTING BASINS FOR INFILTRATION. EXCESS STORMWATER WILL CONTINUE TO OVERFLOW TO THE NORTH AND SOUTH. LANDSCAPING FOR THIS EXHIBIT WILL BE CONTRACTED SEPARATELY BY OWNER. THE DESIGN WILL BE REQUIRED TO MAINTAIN THE FLAT GRADING CONCEPT WITH OVERFLOW ELEVATIONS AS SHOWN.

KEYED NOTES

KEYED NOTES REFERENCE OVERALL GRADING (SCALE 1:20) AROUND BUILDING. SEE CG-101 AND CG-102 FOR SPECIFIC KEYED NOTES FOR UPPER LEVEL (SHOWN FADED) AND LOWER LEVEL GRADING AND DRAINAGE (SCALE 1:10).

1. SEE CG-101 FOR UPPER LEVEL GRADES THIS AREA. SEE CG-102 FOR LOWER LEVEL GRADES THIS AREA.
2. FINAL SITE LANDSCAPE PLAN TO BE DESIGNED UNDER SEPARATE CONTRACT. CONSTRUCT TEMPORARY WATER HARVESTING / SEDIMENT CONTROL BASINS TO ELEVATIONS SHOWN.
3. OVERFLOW BETWEEN WATER HARVESTING BASINS = 47.5.
4. INSTALL TWO 12"ø CULVERTS WITH END SECTIONS. PROVIDE EROSION PROTECTION EACH END.
5. GRADE THIS AREA WITH BERM (TOP OF BERM 49.0) TO PREVENT STORMWATER FROM BACKING UP INTO REPTILE AND AMPHIBIAN AREA.
6. EXISTING STORMWATER FROM THIS AREA WILL CONTINUE TO DRAIN TO THE REPTILE AND AMPHIBIAN AREA.

LEGEND

------	EXISTING CONTOUR
——56——	PROPOSED CONTOUR
◆56.2	PROPOSED SPOT ELEVATION
——→	FLOW ARROW (PROPOSED)
FF=4946.20	FINISH FLOOR ELEVATION
	EROSION PROTECTION

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2140 CG-100.dwg Sep 16,2016

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CONSULTANTS

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ABQ BIOPARK
ZOO BOTANIC GARDEN TINGLEY BEACH AQUARIUM

RECEIVED
OCT 16 2016
LAND DEVELOPMENT SECTION

NO.	DATE	REVISION/REMARKS	BY
1	10.05.16	FULL SHEET UPDATE	I&A

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SUBMITTAL / DATE	CONSTRUCTION DOCUMENTS	15/16
PROJECT NUMBER		16200
PROJECT FILENAME	2140 CG-100.dwg	Sep 16,2016

FRED C. ARFMAN NEW MEXICO 7322 LICENSED PROFESSIONAL ENGINEER 09.15.16

ALBUQUERQUE BIOPARK ZOO
PENGUIN EXHIBIT
Albuquerque, New Mexico

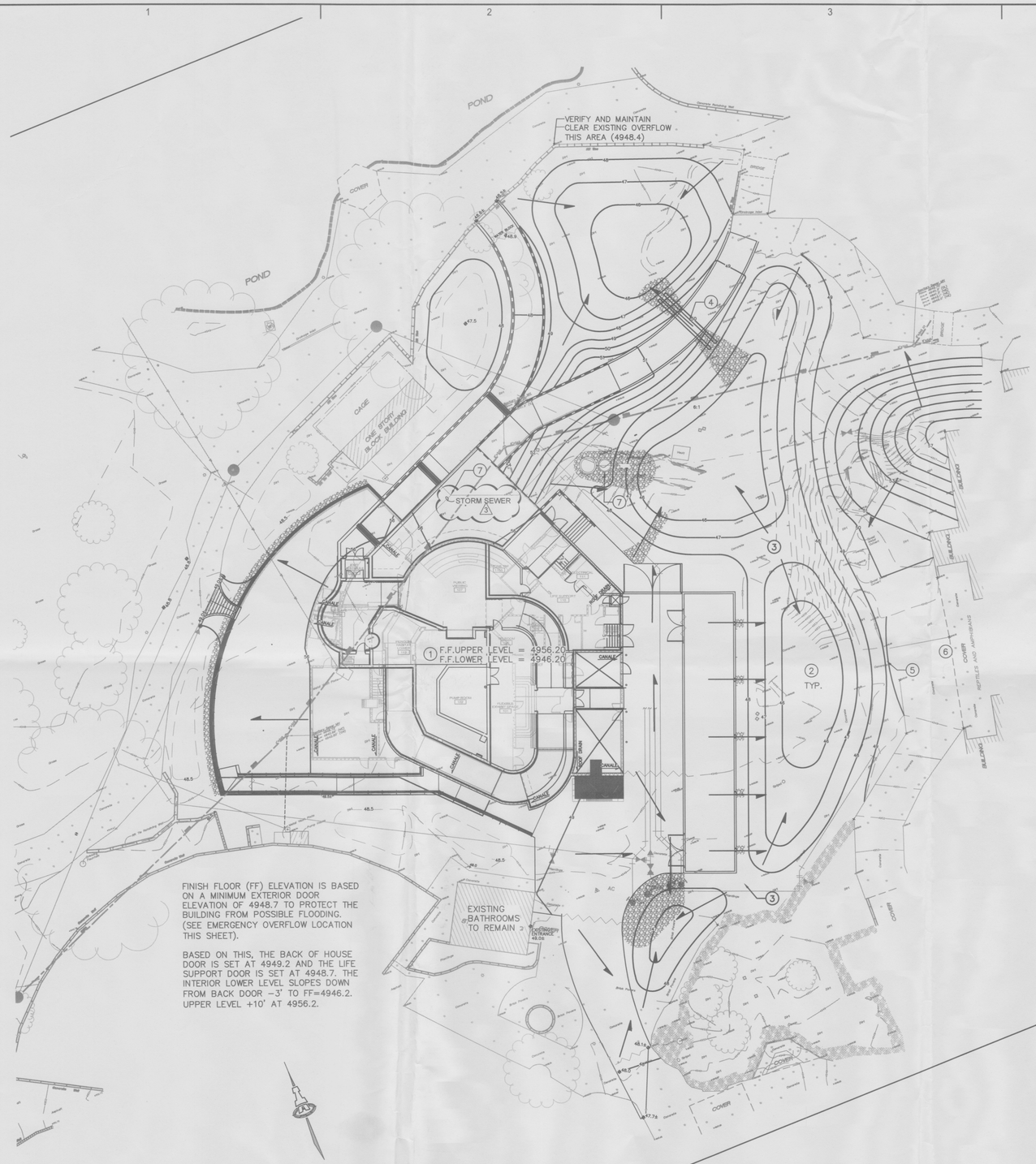
SHEET TITLE

OVERALL GRADING AND DRAINAGE PLAN

CG-100

SHEET OF

8/31/2016 10:58:17 AM



FINISH FLOOR (FF) ELEVATION IS BASED ON A MINIMUM EXTERIOR DOOR ELEVATION OF 4948.7 TO PROTECT THE BUILDING FROM POSSIBLE FLOODING. (SEE EMERGENCY OVERFLOW LOCATION THIS SHEET).

BASED ON THIS, THE BACK OF HOUSE DOOR IS SET AT 4949.2 AND THE LIFE SUPPORT DOOR IS SET AT 4948.7. THE INTERIOR LOWER LEVEL SLOPES DOWN FROM BACK DOOR -3' TO FF=4946.2. UPPER LEVEL +10' AT 4956.2.

GRADING AND DRAINAGE PLAN - OVERALL

8/31/2016 10:58:17 AM

GENERAL NOTES

A. THE CONTRACTOR SHALL ABIDE BY ALL STATE, LOCAL, AND FEDERAL LAWS, CODES, RULES AND REGULATIONS WHICH APPLY TO THE CONSTRUCTION OF THESE IMPROVEMENTS, INCLUDING EPA AND ADA REQUIREMENTS.

B. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER CONTRACT SHALL, EXCEPT AS OTHERWISE STATED ON OR PROVIDED FOR HEREON, BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS (COA SPEC.).

C. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS FOR THE PROJECT PRIOR TO COMMENCING CONSTRUCTION, OR PRIOR TO OCCUPANCY, AS APPROPRIATE.

D. COORDINATE WORK WITH SITE PLAN, UTILITY PLAN, DEMOLITION PLAN, AND LANDSCAPE PLAN.

E. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING OBSTRUCTIONS, AND CONDITION OF ALL EXISTING INFRASTRUCTURE PRIOR TO CONSTRUCTION. REPORT ALL DISCREPANCIES TO THE ARCHITECT AND VERIFY THE ARCHITECT INTENT BEFORE PROCEEDING.

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G. THE CONTRACTOR SHALL MAINTAIN RECORD DRAWINGS ON SITE AT ALL TIMES.

H. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED INSPECTIONS OF THE WORK.

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GRADING NOTES

a. GRADING SHALL BE PERFORMED AT THE ELEVATIONS AND IN ACCORDANCE WITH THE DETAILS SHOWN ON THIS PLAN.

b. PROPOSED SPOT AND CONTOUR ELEVATIONS SHOWN REPRESENT TOP OF FINISH MATERIAL (I.E. TOP OF CONCRETE, TOP OF CONCRETE BUILDING PAD, TOP OF PAVEMENT MATERIAL, TOP OF LANDSCAPING MATERIAL, ETC.). CONTRACTOR SHALL GRADE, COMPACT SUBGRADE AND DETERMINE EARTHWORK ESTIMATES BASED ON ELEVATIONS SHOWN MINUS FINISH MATERIAL THICKNESSES.

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f. WHERE GRADES BETWEEN NEW AND EXISTING ARE SHOWN AS 'MATCH' OR '±', TRANSITIONS SHALL BE SMOOTH.

g. ALL EROSION PROTECTION SHALL BE 6" AVG. DIA. ANGULAR FACED ROCK (F.F. ROCK) PLACED OVER GEOTEX 501 NON-WOVEN GEOTEXTILE (O.E.). NOTE: IF APPROVED BY ENGINEER, ALTERNATIVE EROSION PROTECTION MAY BE SUBSTITUTED.

h. WATER HARVESTING BASIN ELEVATIONS AND SITE STORMWATER CONTROL MEASURES SHOWN ON THIS PLAN SHALL BE STRICTLY ADHERED TO FOR CERTIFICATION PURPOSES.

i. POST-CONSTRUCTION MAINTENANCE FOR STORMWATER FACILITIES WILL BE THE RESPONSIBILITY OF THE FACILITIES OWNER. ENGINEER RECOMMENDS THAT OWNER INSPECT SITE YEARLY AND AFTER EACH RAINFALL TO IDENTIFY NEW AREAS OF EROSION AND INSTALL ADDITIONAL EROSION PROTECTION AS NEEDED BASED ON ACTUAL OCCURRENCES.

VICINITY MAP

PROJECT DATA

PROPERTY: THE SITE IS A PORTION OF THE ALBUQUERQUE RIO GRANDE ZOO PROPERTY LOCATED WITHIN C.O.A. VICINITY MAP K-13. THE SITE IS BOUND TO THE NORTH AND WEST BY THE MAIN PARK AREA AND BANDSTAND POND, AND TO THE SOUTH AND EAST BY EXISTING ANIMAL EXHIBIT.

PROPOSED IMPROVEMENTS: THE PROPOSED IMPROVEMENTS INCLUDE A NEW FACILITY HOUSING THE PENGUIN EXHIBIT WITH ASSOCIATED CONCRETE WALKS AND LANDSCAPING. DRAINAGE IMPROVEMENTS WILL BE CONSTRUCTED TO ADDRESS BUILDING DISCHARGE.

LEGAL: TROPICAL AMERICA AND ADJACENT AREAS, RIO GRANDE ZOO, ALBUQUERQUE, NM

BENCHMARK: VERTICAL DATUM IS BASED UPON THE ALBUQUERQUE CONTROL STATION MONUMENT "12-L14", ELEVATION = 4947.708 FEET (NAVD 1988), AS PUBLISHED.

OFF-SITE: NO OFFSITE FLOW IMPACTS THIS PROPERTY.

FLOOD HAZARD: PER BERNALILLO COUNTY FIRM MAP #333, THE SITE IS LOCATED WITHIN FLOOD ZONE 'X' (SHADED) DESIGNATED AS AREA OF MODERATE FLOOD HAZARD, USUALLY THE AREA BETWEEN THE LIMITS OF THE 100-YEAR AND 500-YEAR FLOODS.

DRAINAGE PLAN CONCEPT: THE PROPOSED AREA TO BE DEVELOPED PREVIOUSLY HOUSED THE TROPICAL AMERICA EXHIBIT AND EXTENSIVE WALKS AND COVERED AREAS. THE TOTAL PROPOSED IMPERVIOUS AREA WILL BE APPROXIMATELY THE SAME AS THE PRE-DEVELOPED CONDITION. HISTORICALLY, THIS AREA UTILIZED FLAT GRADING CONCEPT WHICH DIRECTED STORMWATER TO LOCALIZED WATER HARVESTING AREAS WITHIN THE LANDSCAPING WITH EXCESS OVERFLOWING TO THE NORTH AND SOUTH. THE PROPOSED DEVELOPMENT WILL ALSO UTILIZE WATER HARVESTING BASINS FOR INFILTRATION. EXCESS STORMWATER WILL CONTINUE TO OVERFLOW TO THE NORTH AND SOUTH. LANDSCAPING FOR THIS EXHIBIT WILL BE CONTRACTED SEPARATELY BY OWNER. THE DESIGN WILL BE REQUIRED TO MAINTAIN THE FLAT GRADING CONCEPT WITH OVERFLOW ELEVATIONS AS SHOWN.

(X) KEYED NOTES

KEYED NOTES REFERENCE OVERALL GRADING (SCALE 1:20) AROUND BUILDING. SEE CG-101 AND CG-102 FOR SPECIFIC KEYED NOTES FOR UPPER LEVEL (SHOWN FADED) AND LOWER LEVEL GRADING AND DRAINAGE (SCALE 1:10).

1. SEE CG-101 FOR UPPER LEVEL GRADES THIS AREA. SEE CG-102 FOR LOWER LEVEL GRADES THIS AREA.
2. FINAL SITE LANDSCAPE PLAN TO BE DESIGNED UNDER SEPARATE CONTRACT. CONSTRUCT TEMPORARY WATER HARVESTING / SEDIMENT CONTROL BASINS TO ELEVATIONS SHOWN.
3. OVERFLOW BETWEEN WATER HARVESTING BASINS = 47.5.
4. INSTALL TWO 12"ø CULVERTS WITH END SECTIONS. PROVIDE EROSION PROTECTION EACH END.
5. GRADE THIS AREA WITH BERM (TOP OF BERM 49.0) TO PREVENT STORMWATER FROM BACKING UP INTO REPTILE AND AMPHIBIAN AREA.
6. EXISTING STORMWATER FROM THIS AREA WILL CONTINUE TO DRAIN TO THE REPTILE AND AMPHIBIAN AREA.
7. SEE CG-501 AND CG-502 FOR STORM SEWER SYSTEM. 3

LEGEND

- - - - - -	EXISTING CONTOUR
——56——	PROPOSED CONTOUR
⌖56.2	PROPOSED SPOT ELEVATION
——→	FLOW ARROW (PROPOSED)
FF=4946.20	FINISH FLOOR ELEVATION
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LIFE SUPPORT ENGINEERS:	Alvine and Associates, Inc.

ABQ BIOPARK
ZOO BOTANIC GARDEN TINGLEY BEACH AQUARIUM

NO.	DATE	REVISION/REMARKS	BY
1	10.05.16	FULL SHEET UPDATE	I&A
3	11.16.16	STORM DRAIN ADDED	I&A

DESIGNED BY: BJB DATE: 9/15/16
DRAWN BY: BJB DATE: 9/15/16
CHECKED BY: FCA DATE: 9/15/16
SUBMITTAL / DATE: CONSTRUCTION DOCUMENTS 15/16
PROJECT NUMBER 16200
PROJECT FILENAME 2140 CG-100.dwg Nov 16,2016

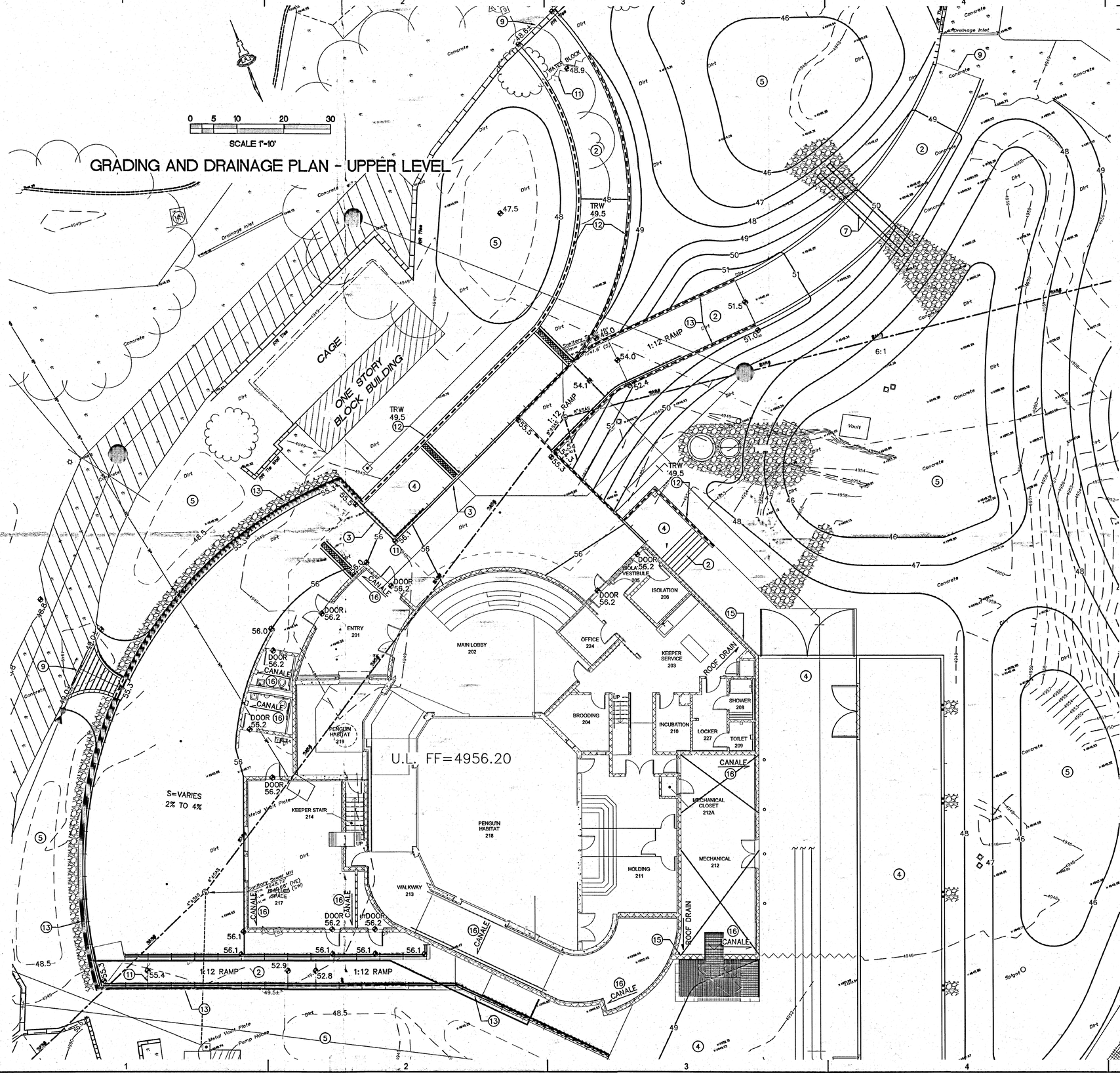
FRED C. ARFMAN
7322
F. C. Arfman
09.15.16

ALBUQUERQUE BIOPARK ZOO
PENGUIN EXHIBIT
Albuquerque, New Mexico

SHEET TITLE

OVERALL GRADING AND DRAINAGE PLAN

SHEET CG-100 OF



KEYED NOTES

1. NOT USED
2. CONSTRUCT STEPS AND ADA COMPLIANT RAMP(S) AND WALKWAYS TO ACHIEVE GRADE DIFFERENCES SHOWN. SEE ARCHITECTURAL FOR DETAILS.
3. SLOPE CONCRETE AT ELEVATIONS SHOWN TO ENSURE NO UPPER PLAZA STORMWATER DRAINS ONTO TO LOWER LEVEL RAMP.
4. SEE CG-102 FOR LOWER LEVEL GRADES THIS AREA.
5. FINAL SITE LANDSCAPING TO BE DESIGNED/CONSTRUCTED UNDER SEPARATE CONTRACT. GRADE NATURAL AREAS AS SHOWN TO PROVIDE TEMPORARY STORMWATER WATER HARVESTING AND SEDIMENT CONTROL. SEE OVERALL GRADING AND DRAINAGE PLAN (CG-001) FOR FULL EXTENT OF TEMPORARY GRADING.
6. NOT USED
7. INSTALL TWO 12"ø CULVERTS AT INV. = 47.5 (TO EQUALIZE FLOW). PROVIDE EROSION PROTECTION EACH END.
8. NOT USED
9. PROVIDE SMOOTH TRANSITION BETWEEN NEW CONSTRUCTION AND EXISTING.
10. NOT USED
11. PAVEMENT GRADE BREAK / WATER BLOCK.
12. CONSTRUCT BELOW GRADE SITE RETAINING WALL THIS AREA. MINIMUM TOP OF RETAINING WALL (TRW) ELEVATION SHOWN. ELEVATION AT HIGH SIDE AND LOW SIDE OF WALL ARE SHOWN ON SHEETS CG-101 AND CG-102. RETAINING WALLS EXTENDING BELOW ELEVATION 4948.5 ARE TO BE WATERPROOF. SEE ARCHITECTURAL FOR CONSTRUCTION INFORMATION.
13. CONSTRUCT ABOVE GRADE SITE RETAINING WALL THIS AREA (RETAINING BACKFILL FOR UPPER LEVEL). ELEVATION AT HIGH SIDE AND LOW SIDE OF WALL ARE SHOWN ON SHEETS CG-101 AND CG-102. SEE ARCHITECTURAL FOR CONSTRUCTION INFORMATION.
14. NOT USED
15. ROOF DISCHARGE FROM INTERNAL ROOF DRAINS TO GRADE. SEE PLUMBING PLANS FOR SPECIFIC DISCHARGE LOCATIONS. PROVIDE EROSION PROTECTION WITHIN LANDSCAPING TO BOTTOM OF POND.
16. ROOF DISCHARGE FROM CANALES. PROVIDE EROSION PROTECTION WITHIN LANDSCAPING TO BOTTOM OF POND.

LEGEND

- EXISTING CONTOUR
- 56 PROPOSED CONTOUR
- 56.2 PROPOSED SPOT ELEVATION
- FLOW ARROW (PROPOSED)
- FF=4946.20 FINISH FLOOR ELEVATION
- EROSION PROTECTION
- SITE RETAINING WALL

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
128 Monroe Street N.E.
Albuquerque, New Mexico 87108
Ph. 505-268-8828 www.iacivil.com
2140 CG-101.dwg Nov 16,2016

Van H. Gilbert Architect PC
ARCHITECTURE • INTERIORS • PLANNING
VHGA
2428 Baylor Dr SE Albuquerque, NM 87106
Tel 505-247-9955 Fax 505-247-1826
E-mail info@vhgarchitect.com
Web Site www.vhgarchitect.com

CONSULTANTS

CIVIL ENGINEER	Isaacson & Arfman, P.A
STRUCTURAL ENGINEERS:	Chavez - Grieves Consulting Engineers, Inc
MECHANICAL, ELECTRICAL ENGINEERS:	Bridgers and Paxton Consulting Engineers, Inc
LIFE SUPPORT ENGINEERS:	Alvine and Associates, Inc.

ABQ BIOPARK
ZOO BOTANIC GARDEN TINGLEY BEACH AQUARIUM

NO.	DATE	REVISION/REMARKS	BY
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PROJECT FILENAME	2140 CG-101.dwg	Nov 16,2016

FRED C. ARFMAN NEW MEXICO 7322 LICENSED PROFESSIONAL ENGINEER 09.15.16

ALBUQUERQUE BIOPARK ZOO
PENGUIN EXHIBIT
Albuquerque, New Mexico

SHEET TITLE

GRADING AND DRAINAGE PLAN MAIN LEVEL

CG-101

SHEET OF

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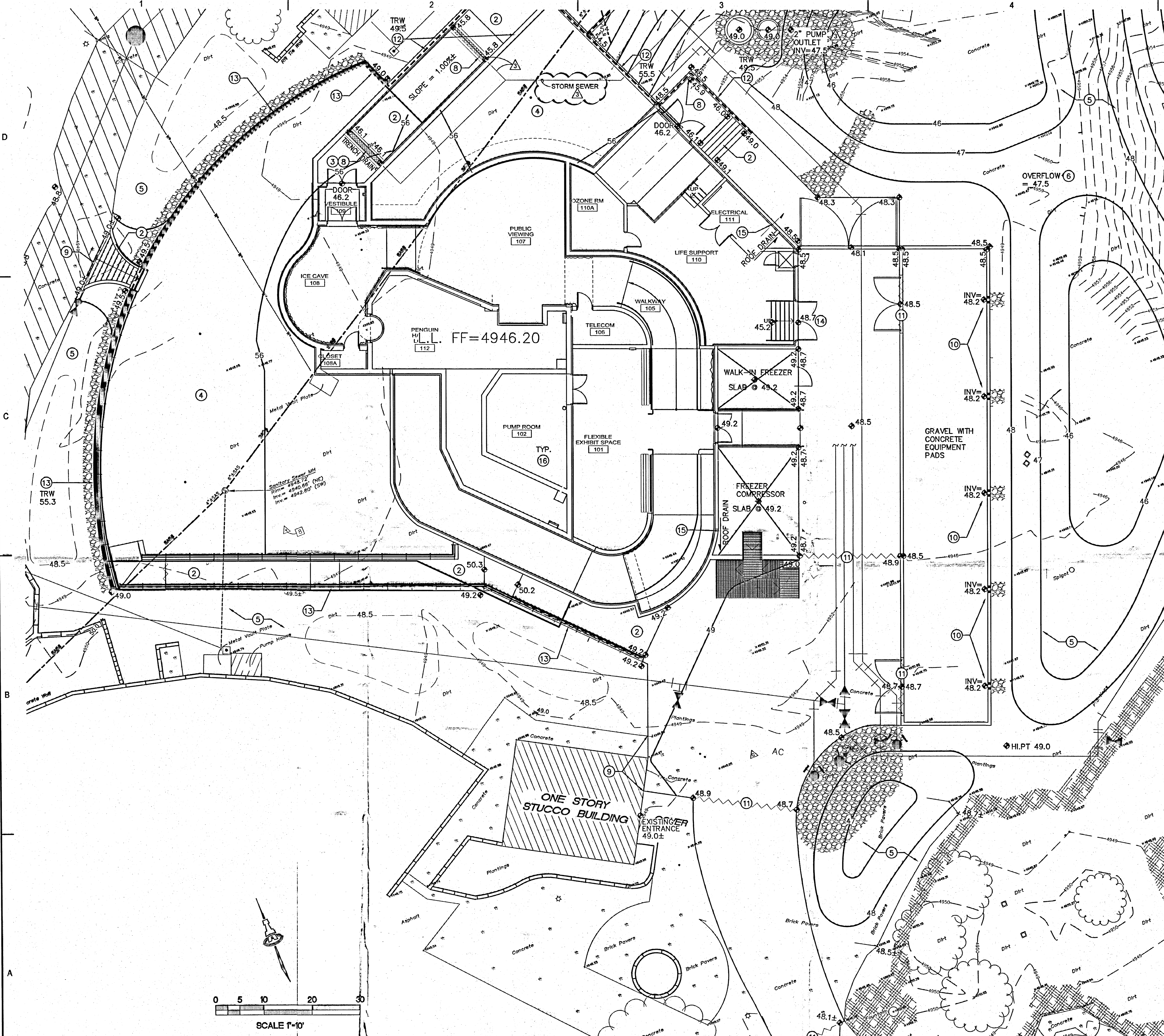

GRADING AND DRAINAGE PLAN - LOWER LEVEL

KEYED NOTES

1. GRADE CONCRETE TO DRAIN AWAY FROM BUILDING @ GRADES SHOWN. STORMWATER TO SHEETFLOW OVER EDGE OF PLAZA TO LANDSCAPE BELOW.
2. CONSTRUCT STEPS AND ADA COMPLIANT RAMP(S) AND WALKWAYS TO ACHIEVE GRADE DIFFERENCES SHOWN. SEE ARCHITECTURAL FOR DETAILS.
3. NO DISCHARGE FROM UPPER LEVEL MAY DRAIN ONTO LOWER LEVEL RAMP.
4. SEE CG-101 FOR UPPER LEVEL GRADES THIS AREA.
5. FINAL SITE LANDSCAPING TO BE DESIGNED/CONSTRUCTED UNDER SEPARATE CONTRACT. GRADE NATURAL AREAS AS SHOWN TO PROVIDE TEMPORARY STORMWATER WATER HARVESTING AND SEDIMENT CONTROL. SEE OVERALL GRADING AND DRAINAGE PLAN (CG-001) FOR FULL EXTENT OF TEMPORARY GRADING.
6. OVERFLOW BETWEEN WATER HARVESTING BASINS = 47.5.
7. NOT USED THIS SHEET
8. SEE CG-501 AND CG-502 FOR STORM DRAIN DETAILS EXTENDING FROM OUTLET OF LOWER LEVEL TRENCH DRAINS (3) AND FLOOR DRAIN AT BOTTOM OF STAIR LANDING TO DUPLEX PUMP SYSTEM.
9. PROVIDE SMOOTH TRANSITION BETWEEN NEW CONSTRUCTION AND EXISTING.
10. CONSTRUCT WALL WITH TURNED BLOCKS @ 10' O.C. (INV. @ OPENING = 48.2) TO DRAIN ENCLOSURE. SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION.
11. PAVEMENT GRADE BREAK / WATER BLOCK.
12. CONSTRUCT BELOW GRADE SITE RETAINING WALL THIS AREA. MINIMUM TOP OF RETAINING WALL (TRW) ELEVATION SHOWN. ELEVATION AT HIGH SIDE AND LOW SIDE OF WALL ARE SHOWN ON SHEETS CG-101 AND CG-102. RETAINING WALLS EXTENDING BELOW ELEVATION 4948.5 ARE TO BE WATERPROOF. SEE ARCHITECTURAL FOR CONSTRUCTION INFORMATION.
13. CONSTRUCT ABOVE GRADE SITE RETAINING WALL THIS AREA (RETAINING BACKFILL FOR UPPER LEVEL). ELEVATION AT HIGH SIDE AND LOW SIDE OF WALL ARE SHOWN ON SHEETS CG-101 AND CG-102. SEE ARCHITECTURAL FOR CONSTRUCTION INFORMATION.
14. GRADE AT DOOR TO LIFE SUPPORT AREA TO BE 48.7 MIN. TO PROTECT FROM STORMWATER. SEE ARCHITECTURAL FOR GRADE TRANSITIONS IN BUILDING.
15. ROOF DISCHARGE FROM INTERNAL ROOF DRAINS TO GRADE. SEE PLUMBING PLANS FOR SPECIFIC DISCHARGE LOCATIONS. PROVIDE EROSION PROTECTION WITHIN LANDSCAPING TO BOTTOM OF POND.
16. SEE CG-101 FOR UPPER LEVEL ROOF DISCHARGE FROM CANALES.

LEGEND

- - - - -	EXISTING CONTOUR
——56——	PROPOSED CONTOUR
56.2	PROPOSED SPOT ELEVATION
——→	FLOW ARROW (PROPOSED)
FF=4946.20	FINISH FLOOR ELEVATION
	EROSION PROTECTION
- - - -	SITE RETAINING WALL

ISAACSON & ARFMAN, P.A.
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2140 CG-102.dwg Nov 16,2016

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CONSULTANTS

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STRUCTURAL ENGINEERS:	Chavez - Grieves Consulting Engineers, Inc
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LIFE SUPPORT ENGINEERS:	Alvine and Associates, Inc.

ABQ BIOPARK
ZOO BOTANIC GARDEN TINGLEY BEACH AQUARIUM

NO.	DATE	REVISION/REMARKS	BY
1	10.05.16	FULL SHEET UPDATE	I&A
3	11.16.16	STORM DRAIN ADDED	I&A

DESIGNED BY: BJB	DATE: 9/15/16
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SUBMITTAL / DATE CONSTRUCTION DOCUMENTS	15/16
PROJECT NUMBER	16200
PROJECT FILENAME 2140 CG-102.dwg	Nov 16,2016

FRED C. ARFMAN NEW MEXICO 7322 LICENSED PROFESSIONAL ENGINEER 07-15-16

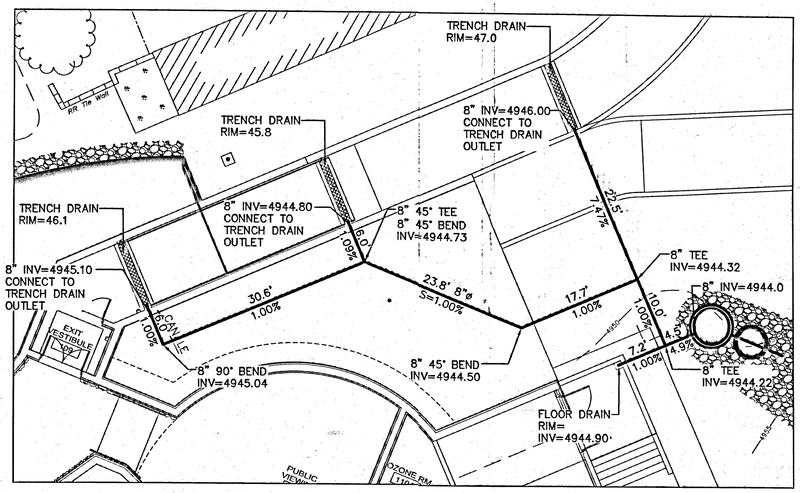
ALBUQUERQUE BIOPARK ZOO
PENGUIN EXHIBIT
Albuquerque, New Mexico

SHEET TITLE

GRADING AND DRAINAGE PLAN LOWER LEVEL

SHEET CG-102 OF

8/31/2016 10:58:17 AM



STORM SEWER SYSTEM

A. INSTALL ALL STORM DRAIN INLETS AND PIPE PER MANUFACTURER'S SPECIFICATIONS.

B. FLOOR DRAIN TO BE 8" ADS INLINE DRAIN WITH 8" OUTLET WITH DUCTILE IRON GRATE PEDESTRIAN GRATE. EXTEND 8" ADS PIPE AND CONNECT TO PROPOSED STORM DRAIN MAIN LINE USING ADS N12WT (WT=WATERTIGHT) TEES AND BENDS.

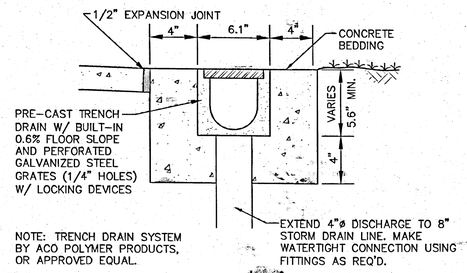
C. ALL STORM DRAIN LINES AND FITTINGS TO BE ADS N-12WT WATERTIGHT.

D. MINIMUM SLOPE = 1.0% UNLESS NOTED.

E. STORM DRAIN SYSTEM WILL REQUIRE REGULAR MAINTENANCE TO ENSURE PROPER FUNCTIONING DURING STORM EVENTS. ENGINEER RECOMMENDS THAT PROPERTY OWNER PUT IN PLACE INSPECTION AND MAINTENANCE CRITERIA SCHEDULED TO OCCUR MONTHLY AND AFTER EACH STORM EVENT.

STORM DRAIN SYSTEM: GENERAL NOTES

SCALE: N.T.S.



NOTE: TRENCH DRAIN SYSTEM BY ACO POLYMER PRODUCTS, OR APPROVED EQUAL.

TRENCH DRAIN IN RAMP TO LOWER LEVEL

3 LOCATIONS

SCALE: N.T.S.

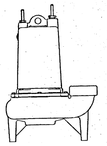
TYPICAL INSTALLATION

DUPLEX SUBMERSIBLE SEWAGE PUMP

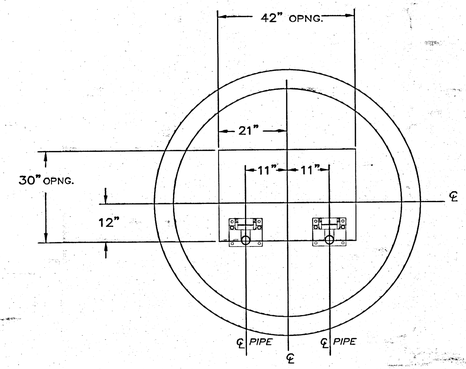
PUMP SERIES: 3MW

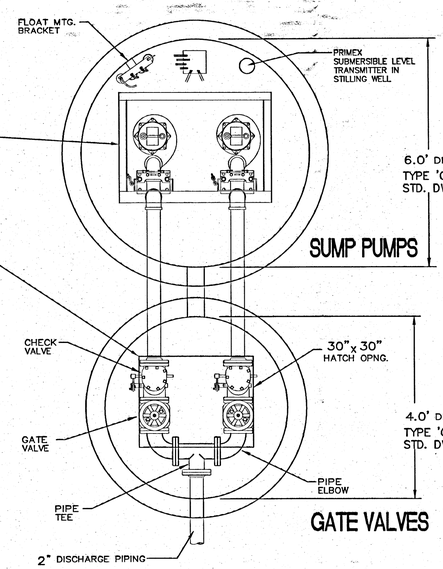
LIFT OUT MODELS: SRA-300

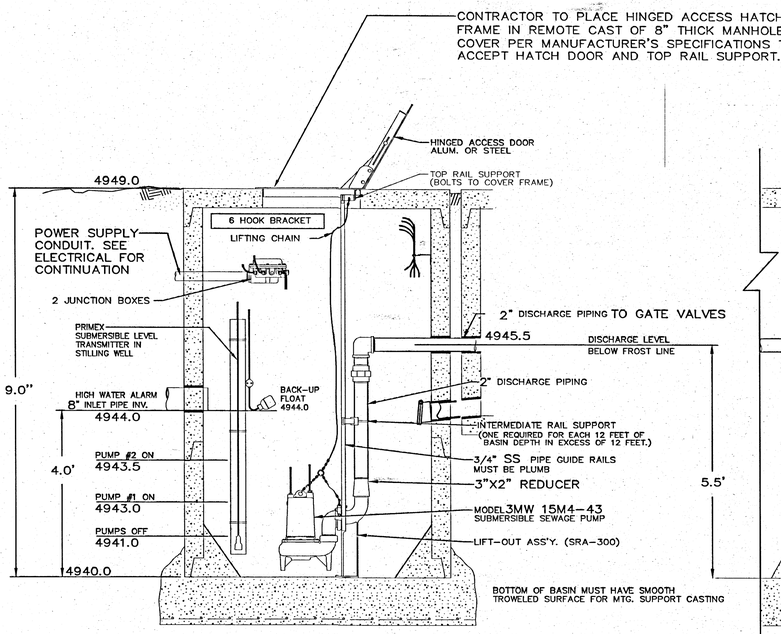
ES-2585B 10MAR97



3MW

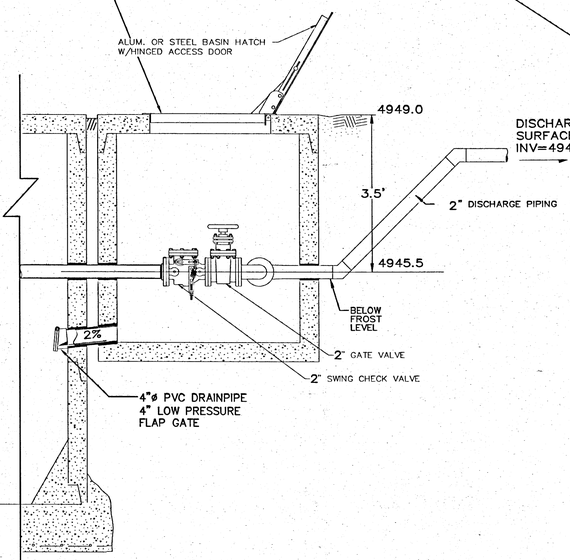






STORM DRAIN SYSTEM: SUMP PUMPS

SCALE: N.T.S.



STORM DRAIN SYSTEM: GATE VALVES

SCALE: N.T.S.

Van H. Gilbert Architect PC
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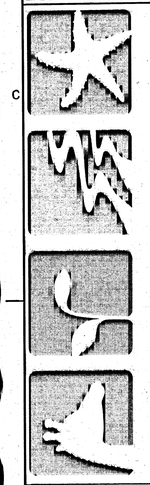
ABQ BIOPARK
ZOO BOTANIC GARDEN TINGLEY BEACH AQUARIUM



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PROJECT NUMBER		16200
PROJECT FILENAME 2140 CG-501.dwg		Nov 16,2016

FRED C. ARFMAN NEW MEXICO 7322 LICENSED PROFESSIONAL ENGINEER
09.15.16

ALBUQUERQUE BIOPARK ZOO
PENGUIN EXHIBIT
Albuquerque, New Mexico

SHEET TITLE

STORM DRAIN
DETAILS 1 OF 2

CG-501

SHEET OF

ISAACSON & ARFMAN, P.A.
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128 Monroe Street N.E.
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Ph. 505-268-8828 www.iacivil.com

2140 CG-501.dwg Nov 16,2016

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SERIES DB PORTABLE HOIST

HALLIDAY PRODUCTS
www.HallidayProducts.com
Phone 800-298-1027
Fax 407-298-4534
Sales@HallidayProducts.com

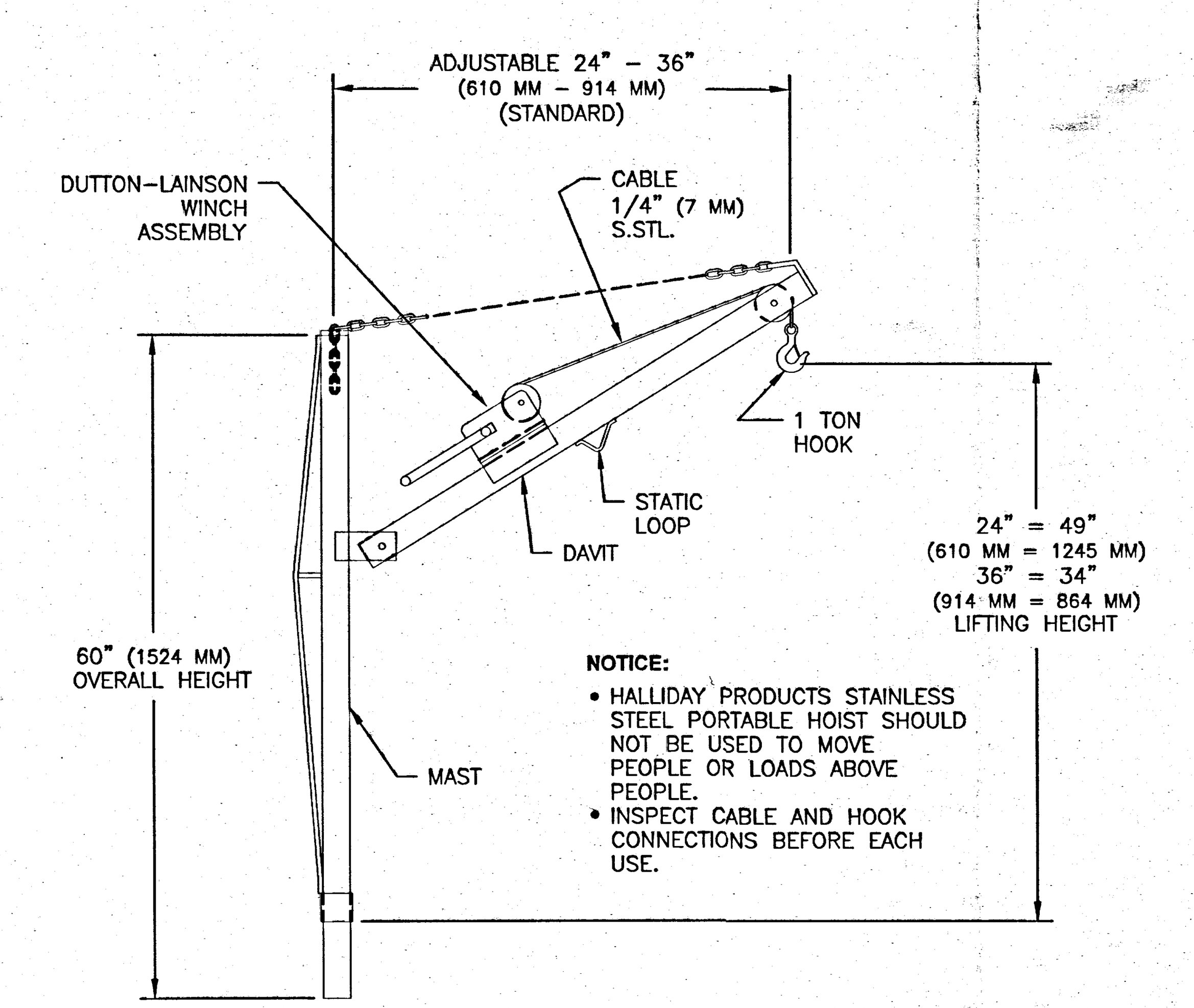
STANDARD FEATURES:

- TYPE-304 STAINLESS STEEL CONSTRUCTION
- 30 FEET (9 METERS) OF 1/4" (7 MM) STAINLESS STEEL CABLE
- GALVANIZED 1 TON HOOK
- DUTTON-LAINSON MARINE GRADE BRAKE WINCH
- ADJUSTABLE REACH IN 1" (25 MM) INCREMENTS
- 3 YEAR GUARANTEE

OPTIONS:

- TYPE-316 CONSTRUCTION
- ADDITIONAL CABLE AVAILABLE (SPECIFY LENGTH)
- STAINLESS STEEL WINCH
- STAINLESS STEEL HOOK
- OTHER REACHES AVAILABLE UPON REQUEST (CONSULT FACTORY)

STANDARD SIZES			
QTY.	MODEL NO.	MAX .LOAD LBS. (KG.)	UNIT WT. LBS. (KG.)
*	D1B36C	300 (136)	73 (33)
	D2B36D	1000 (454)	96 (44)
	D3B36E	1330 (603)	111 (50)



NOTICE:

- HALLIDAY PRODUCTS STAINLESS STEEL PORTABLE HOIST SHOULD NOT BE USED TO MOVE PEOPLE OR LOADS ABOVE PEOPLE.
- INSPECT CABLE AND HOOK CONNECTIONS BEFORE EACH USE.

SER-DB-0 6/5/12

OPTIONAL PROTECTIVE GRATING PANEL

HALLIDAY PRODUCTS
www.HallidayProducts.com
Phone 800-298-1027
Fax 407-298-4534
Sales@HallidayProducts.com

STANDARD FEATURES:

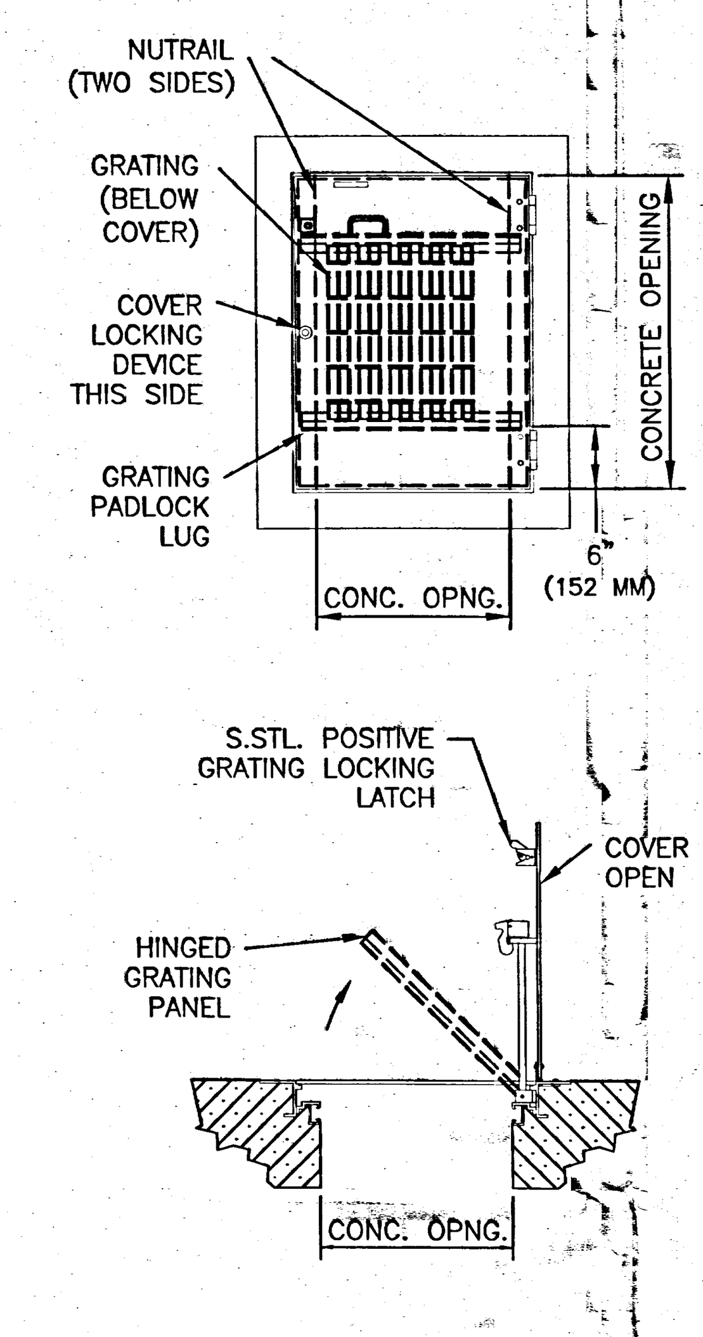
- ALUMINUM "I" BAR CONSTRUCTION
- ALL T-316 STAINLESS STEEL HARDWARE
- LOCKABLE WITH OWNER-SUPPLIED PADLOCK
- HINGED WITH POSITIVE LATCH TO MAINTAIN UPRIGHT POSITION
- LOAD RATED CONSISTENT WITH ACCESS COVER
- VIEW AREA FOR OBSERVATION AND LIMITED MAINTENANCE
- SAFETY ORANGE POWDER-COATED FINISH
- NUTRAIL W/S.STL. SPRING NUTS (300 LBS. PSF [1464 KG. PER METER] LOADED DOORS ONLY)
- LIFETIME GUARANTEE

APPLICATIONS:

THE OPTIONAL PROTECTIVE GRATING PANEL SHOULD BE SPECIFIED FOR APPLICATIONS IN AREAS THAT REQUIRE ADDITIONAL PROTECTION SHOULD THE ACCESS COVER BE LEFT IN THE OPEN POSITION. THIS OPTION SHOULD ALSO BE CONSIDERED WHEN A SINGLE PERSON INSPECTION OF WET WELLS IS DESIRABLE. THE GRATING PANEL HAS PROVISIONS FOR AN OWNER-SUPPLIED PADLOCK THAT WOULD PROVIDE SECONDARY PROTECTION AGAINST UNAUTHORIZED PERSONNEL OPENING THE ACCESS COVER. THIS OPTION IS NOT AVAILABLE FOR ALL ACCESS COVERS MODELS. PLEASE CONSULT THE FACTORY.

HALLIDAY PRODUCTS OPTIONAL PROTECTIVE GRATING PANEL IS EQUIPPED WITH ALL T-316 STAINLESS STEEL HARDWARE. THIS LOCKABLE GRATING PANEL CAN BE FACTORY INSTALLED ON MOST MODELS IN OUR EXTENSIVE LINE OF QUALITY ACCESS COVERS. EACH GRATING PANEL IS POWDER COAT FINISHED IN SAFETY ORANGE COLOR, AND IS EQUIPPED WITH A T-316 STAINLESS STEEL POSITIVE LATCH WITH RELEASE HANDLE THAT SECURES THE GRATING PANEL IN THE OPEN POSITION. THE GRATING SUPPORT LEDGES FEATURE BUILT-IN NUTRAIL. EACH UNIT IS SUPPLIED WITH FOUR STAINLESS STEEL SPRING NUTS TO MOUNT PUMP BRACKETS AND CABLE HOLDERS.

- CONSULT FACTORY FOR ALL PRICING
- FOR ADDITIONAL INFORMATION VISIT US AT: HallidayProducts.com



OPT-GRATE-N 07/29/05

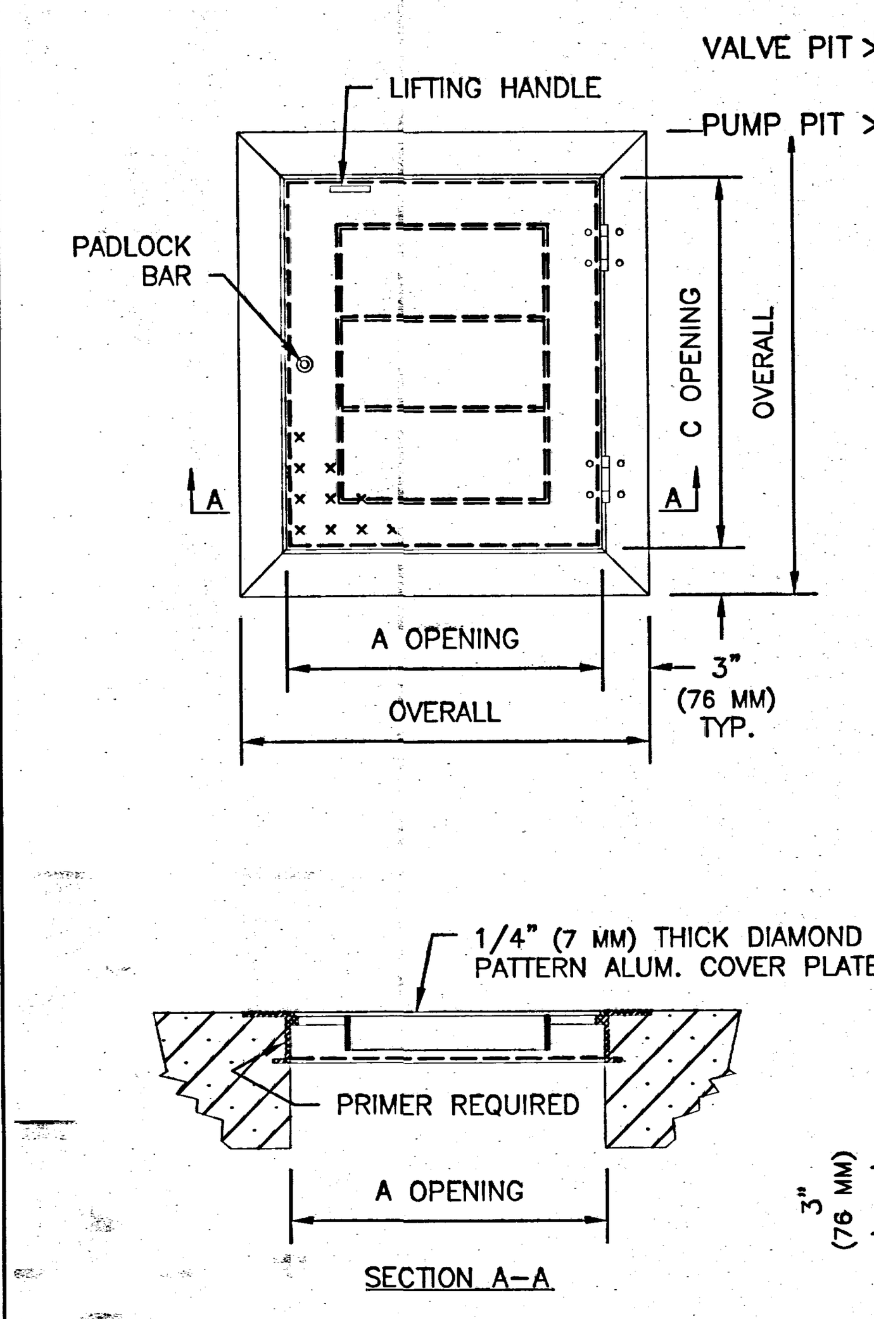
SERIES S1R ACCESS DOOR

HALLIDAY PRODUCTS
www.HallidayProducts.com
Phone 800-298-1027
Fax 407-298-4534
Sales@HallidayProducts.com

STANDARD FEATURES:

- AUTO-LOCK T-316 STAINLESS STEEL HOLD OPEN ARM WITH RELEASE HANDLE
- T-316 STAINLESS STEEL HINGES AND ATTACHING HARDWARE
- NON-CORROSIVE PADLOCK BAR
- SINGLE LEAF CONSTRUCTION
- 300 LBS. PER SQ. FT. LOAD RATING (1464 KG. PER SQ. METER LOAD RATING)
- EXTRUDED ALUMINUM FRAME
- RECESSED LIFTING HANDLE
- LIFETIME GUARANTEE

STANDARD SIZES					
	QTY.	MODEL NO.	A DIM. INCHES (MM)	C DIM. INCHES (MM)	UNIT WT. LBS. (KG.)
		S1R2424	24 (610)	24 (610)	37 (17)
		S1R2430	24 (610)	30 (762)	42 (19)
		S1R2436	24 (610)	36 (914)	48 (22)
		S1R2442	24 (610)	42 (1067)	55 (25)
		S1R2448	24 (610)	48 (1219)	61 (28)
VALVE PIT *		S1R3030	30 (762)	30 (762)	49 (22)
		S1R3036	30 (762)	36 (914)	57 (26)
PUMP PIT *		S1R3042	30 (762)	42 (1067)	64 (29)
		S1R3048	30 (762)	48 (1219)	71 (32)
		S1R3054	30 (762)	54 (1372)	79 (36)
		S1R3060	30 (762)	60 (1524)	87 (39)
		S1R3636	36 (914)	36 (914)	65 (25)
		S1R3642	36 (914)	42 (1067)	79 (36)
		S1R3648	36 (914)	48 (1219)	85 (39)
		S1R3654	36 (914)	54 (1372)	91 (41)
		S1R3660	36 (914)	60 (1524)	100 (45)
		S1R3666	36 (914)	66 (1676)	109 (49)
		S1R3672	36 (914)	72 (1829)	116 (53)
		S1R4242	42 (1067)	42 (1067)	93 (42)

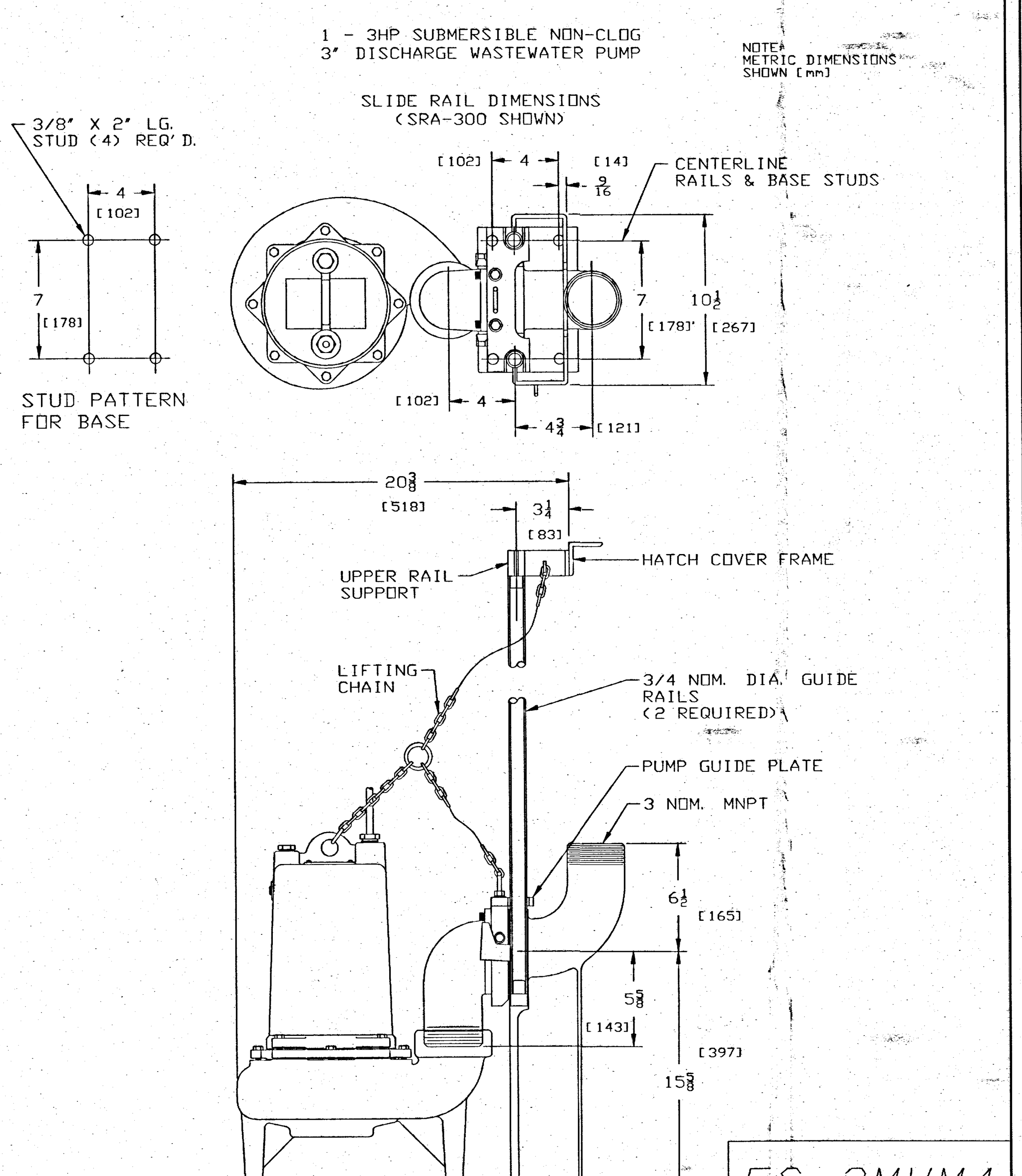


SER-S1R-N 12/11/06

Myers

3MW - 1750 RPM

1 - 3HP SUBMERSIBLE NON-CLOG
3" DISCHARGE WASTEWATER PUMP

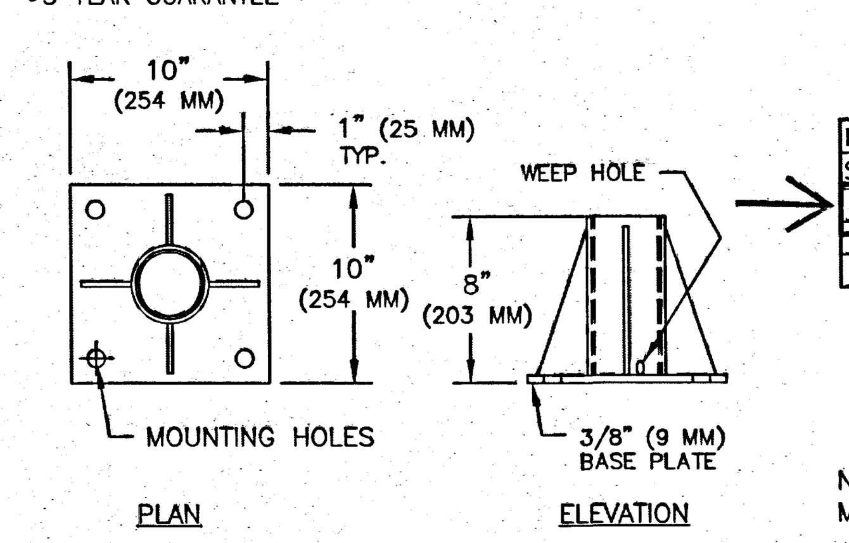


SERIES D HOIST SOCKETS

HALLIDAY PRODUCTS
www.HallidayProducts.com
Phone 800-298-1027
Fax 407-298-4534
Sales@HallidayProducts.com

STANDARD FEATURES:

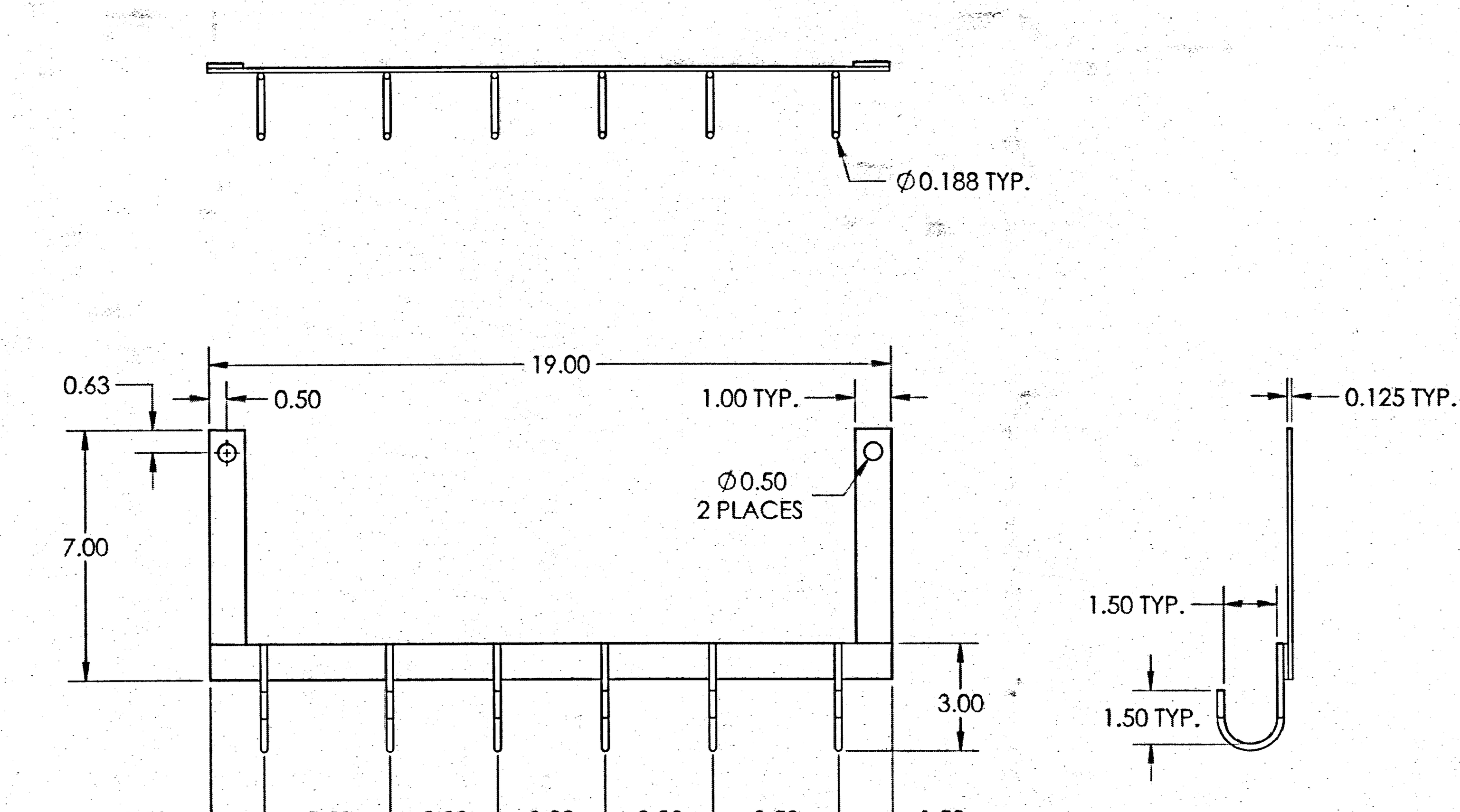
- STAINLESS STEEL TYPE-304 (STANDARD) OR TYPE-316 (OPTIONAL) CONSTRUCTION
- AVAILABLE IN 3 STYLES
- SUPPLIED WITH POLYMER LINING FOR SMOOTHER ROTATION
- 3 YEAR GUARANTEE



FLOOR STYLE HOIST SOCKETS	
SOCKET MODEL #	FOR HOIST MODELS
D1S LINED	D1A AND D1B
D2S LINED	D2A AND D2B
D3S LINED	D3A AND D3B

NOTES:
MOUNTING HOLES ARE ø3/4" (ø19 MM)

SER-D-0 6/5/12



NOTES:
1. COMPONENTS TO BE TIG WELDED TOGETHER AS SHOWN
2. ASSEMBLY CONSISTS OF 2 VERTICAL BARS, 1 HORIZONTAL BAR, AND 6 "J" HOOKS.
3. MATERIAL:
   - VERTICAL BAR - 1.00 X 0.125, 304 SS
   - HORIZONTAL BAR - 1.00 X 0.125, 304 SS
   - "J" HOOK - Ø0.188, 304 SS
4. ALL PARTS IN ASSEMBLY TO BE FREE OF BURRS

REV	CO NUMBER	ENGINEERING APPROVAL
B	8622	T.GEORGE 10-03-16
A	8622	T.GEORGE 09-13-16

APPLICATION

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ±
ANGULAR: MACH ± BEND ± 2°
TWO PLACE DECIMAL ± 0.01
THREE PLACE DECIMAL ± 0.005
INTERPRET GEOMETRIC TOLERANCING PER:
MATERIAL
FINISH
DO NOT SCALE DRAWING

	NAME	DATE
DRAWN	T.GEORGE	09-13-16
CHECKED		
ENG APPR.		
MFG APPR.		
Q.A.		

COMMENTS:

SJE RHOMBUS, INC.
TITLE: BKT, 6 HOOK
SIZE B | DWG. NO. 1051418 | REV B
SCALE: 1:4 | WEIGHT: | SHEET 1 OF 1

Van H. Gilbert Architect PC
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CONSULTANTS

CIVIL ENGINEER	Isaacson & Arfman, P.A
STRUCTURAL ENGINEERS:	Chavez - Grieves Consulting Engineers, Inc
MECHANICAL, ELECTRICAL ENGINEERS:	Bridgers and Paxton Consulting Engineers, Inc
LIFE SUPPORT ENGINEERS:	Alvine and Associates, Inc.

ABQ BIOPARK
ZOO BOTANIC GARDEN TINGLEY BEACH AQUARIUM

NO.	DATE	REVISION/REMARKS	BY
3	11.16.16	STORM DRAIN ADDED	I&A

DESIGNED BY: BJB	DATE:	9/15/16
DRAWN BY: BJB	DATE:	9/15/16
CHECKED BY: FCA	DATE:	9/15/16
SUBMITTAL / DATE CONSTRUCTION DOCUMENTS		15/16
PROJECT NUMBER		16200
PROJECT FILENAME	2140 CG-501.dwg	Nov 16,2016

FRED C. ARFMAN, NEW MEXICO, 7322, LICENSED PROFESSIONAL ENGINEER
09-15-16

ALBUQUERQUE BIOPARK ZOO
PENGUIN EXHIBIT
Albuquerque, New Mexico

SHEET TITLE

STORM DRAIN DETAILS 2 OF 2

SHEET CG-502 OF

8/31/2016 10:58:17 AM