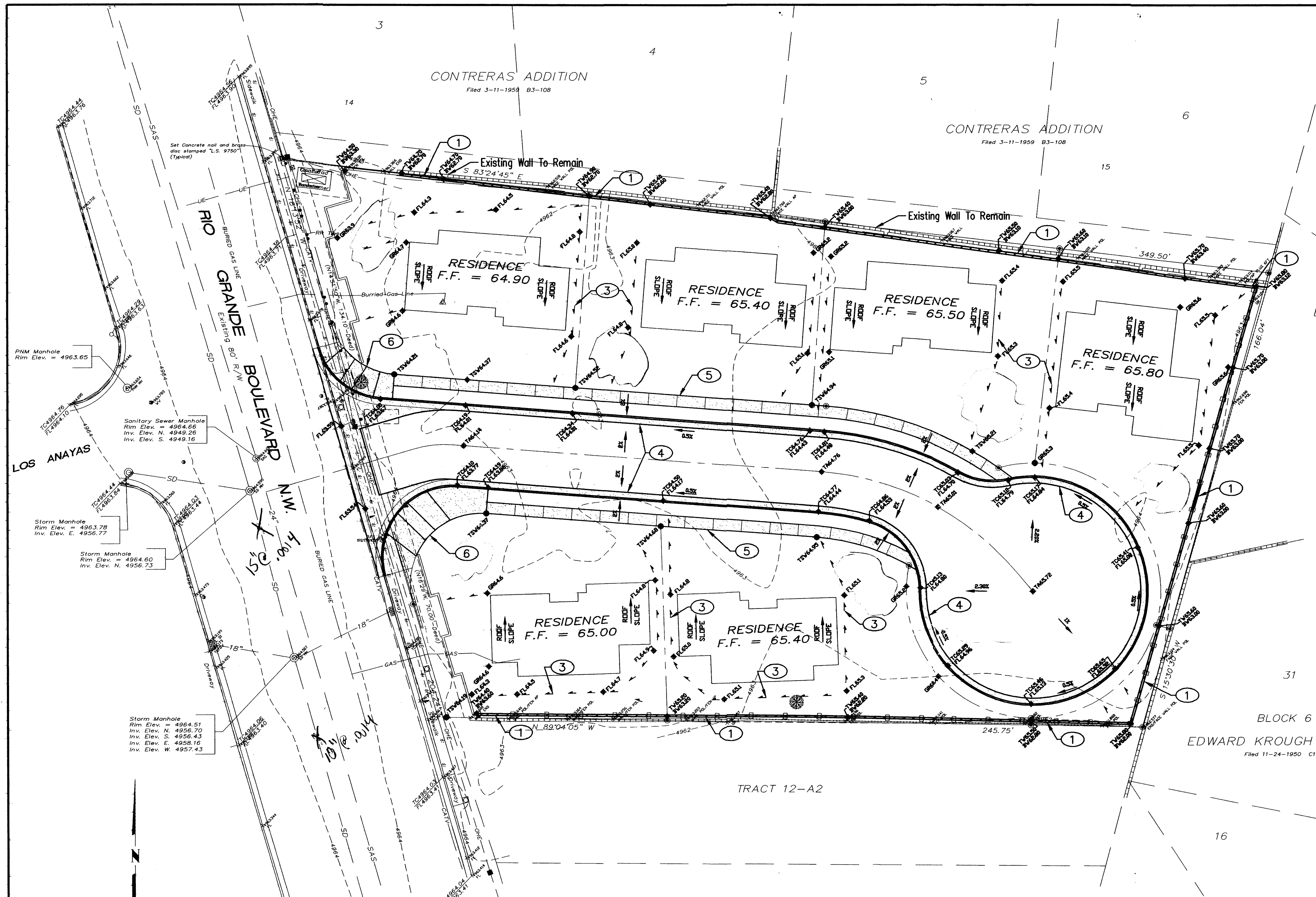


CONSTRUCTION NOTES:

1. CONSTRUCT RETAINING WALL TO NEW GRADES SHOWN.
2. NOT USED
3. GRADE TO DRAIN FROM REAR YARD TO STREET.
4. INSTALL MOUNTABLE CURB, ROLL TYPE PER CITY STD. DWG. 2415A.
5. INSTALL 4' WIDE CONCRETE SIDEWALK PER CITY STD. DWG. 2430.
6. INSTALL (WHEELCHAIR) CURB ACCESS RAMP, CASE II - ADDEQUATE R.O.W. PER CITY STD. DWG. 2441.

LEGEND

5360	NEW CONTOUR GRADE		NEW GRADE BREAK
5362	EXISTING CONTOUR GRADE	x	EXISTING GRADE ELEVATION
	DRAINAGE FLOW DIRECTION	GR56.0	NEW GRADE ELEVATION
TC62.50	NEW TOP OF CURB ELEVATION	FL55.3	FLOWLINE GRADE ELEVATION
FL62.00	NEW FLOWLINE OF CURB ELEVATION	TW95.1	NEW TOP OF WALL ELEVATION
TA60.11	NEW TOP OF ASPHALT ELEVATION	BW93.1	NEW BOTTOM OF WALL ELEVATION
TSW61.87	NEW TOP OF SIDEWALK ELEVATION	TOC93.1	NEW TOP OF CONCRETE ELEVATION
	DRAINAGE SWALE		

UTILITY PRECAUTIONS

THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE 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. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.

LOTS 1 THROUGH 6
VILLEGAS ESTATES

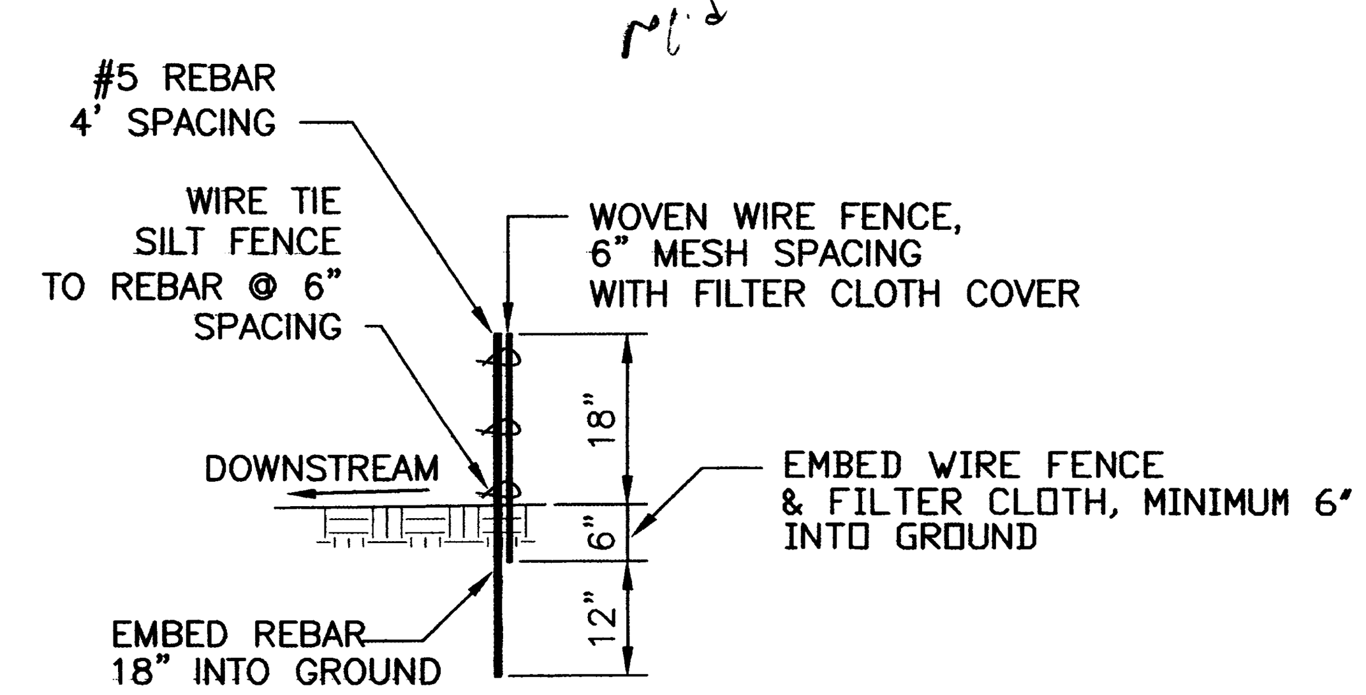
RECEIVED DEC 06 2007 HYDROLOGY SECTION

APPROVED FOR ROUGH GRADING:

NAME DATE

GRAPHIC SCALE
20 0 20 40
(IN FEET)
1 inch = 20ft.

GRADING PLAN
SCALE: 1" = 20'



SILT FENCE DETAIL
SCALE: 1/2" = 1'-0'

A

AS BUILT INFORMATION: CONTRACTOR / WORK STAKED BY / INSPECTOR'S ACCEPTANCE BY / FIELD VERIFICATION BY / DRAWINGS CORRECTED BY — DATE

MICRO-FILM INFORMATION: RECORDED BY / NO. — DATE

BENCH MARKS: BENCHMARK IS AN A.C.S. MONUMENT '3-G121', ELEVATION = 4963.294 (NAD 27)

SURVEY INFORMATION: FIELD NOTES — NO. / BY / DATE

ENGINEER'S SEAL

REMARKS / REVISIONS / DESIGN — NO. / DATE / BY — DESIGNED BY / DRAWN BY / CHECKED BY — DATE

APPLIED ENGINEERING AND SURVEYING, INC.
ENGINEERS AND PLANNERS

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

TITLE: GRADING PLAN
VILLEGAS ESTATES

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.
FOR INFORMATION ONLY				

City Project No.	Zone Map No.	Sheet	Of
TBD	H-13	1	2

DRAINAGE PLAN
THE FOLLOWING ITEMS CONCERNING Tracts 12A1A & 12A1, M.R.G.C.D. MAP 35 on Rio Grande Boulevard NW, NEW MEXICO, GRADING AND DRAINAGE PLAN ARE CONTAINED HEREON:

1. GRADING AND DRAINAGE PLAN
2. VICINITY MAP (H-13)
3. FIRM MAP (35001C0331 D)
4. DRAINAGE CALCULATIONS

EXITING CONDITIONS
AS SHOWN BY THE VICINITY MAP, THE SITE CONTAINS APPROXIMATELY 1.21 ACRES AND IS LOCATED ON THE EAST SIDE OF RIO GRAND BOULEVARD NW, EAST OF LOS ANAYAS STREET NW. THIS SITE HAS CONTAINED AS MANY AS THREE STRUCTURES AT WITH ASSOCIATED DRIVEWAYS AND PAVING. ALL OF THESE STRUCTURES HAVE RECENTLY BEEN REMOVED FOR THIS PROPOSED DEVELOPMENT.

THE SITE TOPOGRAPHY IS FLAT AND IF THE EXISTING SITE EVER OVERFLOWED WITH DRAINAGE WATERS IT APPEARS THE FLOWS WOULD GO IN AN EASTERLY DIRECTION. THE SITE IS CURRENTLY DISTURBED WITH COMPACTION BY HUMAN ACTIVITY.

PROPOSED CONDITIONS
AS SHOWN BY THE PLAN, THE PROJECT CONSISTS OF DEVELOPING SIX NEW LOTS WITH HOMES THAT COULD CONTAIN AS MUCH AS 3000SF WITH ASSOCIATED SIDEWALKS, PARKING AND LANDSCAPING IMPROVEMENTS. A NEW CUL-DE-SAC STREET WILL ALSO BE CONSTRUCTED TO CITY STANDARDS AS PART OF THIS DEVELOPMENT.

PER A MEETING HELD WITH BRAD BINGHAM REGARDING THIS SITE IT IS THE INTENT TO RAISE THIS SITE AND DRAIN TOWARDS RIO GRANDE BOULEVARD. THIS WILL HELP INSURE THAT IF RIO GRANDE BOULEVARD NW SHOULD EXPERIENCE SIGNIFICANT FLOODING IT SHOULD NOT IMPACT THIS SITE. THIS PLAN ALSO SHOWS PROPOSED ELEVATIONS REQUIRED TO PROPERLY DRAIN AND GRADE THIS SITE ALONG WITH REQUIRED DRAINAGE SWALES AND ROOF DIRECTIONS TO INSURE MINIMAL IMPACTS TO ADJACENT NEIGHBORS. ALL DRIVEWAYS AND PARKING AREAS WILL BE CALCULATED AS IF THEY ARE PAVED, LANDSCAPING IS TO BE PROVIDED PER ZONING REQUIREMENTS.

THE CALCULATIONS WHICH APPEAR HEREON, ANALYZE BOTH THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100-YEAR, 6 HOUR RAINFALL RUNOFF FOR PEAK FLOWS AND STORM DURATION FOR VOLUME REQUIREMENTS. THE PROCEDURE FOR 40 ACRE AND SMALLER BASINS AS SET FORTH IN THE REVISION OF SECTION 22.7 HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, DATED JANUARY 1993. THIS D.P.M. PROCEDURE IS USED FOR ANALYZING ONSITE FLOWS.

DOWNSTREAM CAPACITY
PER A MEETING WITH BRAD BINGHAM THE STORM DRAIN IN RIO GRANDE BOULEVARD NW IS LARGE ENOUGH TO HANDLE ADDITIONAL OFFSITE FLOWS ALONG RIO GRANDE BOULVARD NW AND IS DEEP ENOUGH THAT FREE DISCHARGE INTO THIS STORM DRAIN IS NOT AN ISSUE. ALSO REVIEW OF THE FIRM MAP IN THIS AREA INDICATES THERE ARE NO 100-YEAR FLOODPLAINS ALONG RIO GRANDE BOULEVARD ASSOCIATED WITH THIS EXISTING STORM DRAIN OR ANY FLOODPLAINS ADJACENT TO THIS SITE SO FREE DISCHARGE SHOULD NOT BE AN ISSUE.

SINCE THIS SITE HAS BEEN DEVELOPED IN THE PAST WITH RESIDENTIAL HOMES AND WITH THE SMALL INCREASE OF RUNOFF FROM THIS DEVELOPMENT THAT THIS DEVELOPMENT SHOULD NOT FURTHER AGGRAVATE THE EXISTING STORM DRAIN SYSTEMS BASED ON THE ATTACHED CALCULATIONS.

EROSION CONTROL
TEMPORARY EROSION CONTROL WILL BE REQUIRED DURING THE CONSTRUCTION PHASE TO PROTECT DOWNSTREAM PROPERY AND IMPROVEMENTS FROM SEDIMENT AND UNCONTROLLED RUNOFF. THE CONTRACTOR SHALL INCLUDE TEMPORARY EARTH BERMING OR SILT FENCING ALONG THE SOUTH, NORTH, EAST AND WEST SIDE OF THE PROJECT BOUNDARIES TO HOLD RUNOFF DURING CONSTRUTION. THE CONTRACTOR SHALL ALSO PREPARE A STORM WATER POLLUTION PREVENTION PLAN AS PART OF THE NOTICE OF INTENT TO EPA. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROPERLY MAINTAIN THESE FACILITIES DURING THE CONSTRUCTION PHASE OF THE PROJECT.

OFFSITE FLOWS
THERE ARE NO OFFSITE FLOWS THAT ENTER THIS PROPERTY.

DRAINAGE CALCULATIONS
1. PRECIPITATION ZONE = 2
2. DESIGN STORM = DEPTH (INCHES) AT 100-YEAR STORM
   6-HOUR = 2.35 INCHES
   10 DAY = 3.95 INCHES
3. PEAK DISCHARGE (CFS/ACRE) FIR 100-YEAR, ZONE 2, TABLE A-9:
   Q = 1.56 CFS/ACRE SOIL UNCOMPACTED "A"
   Q = 2.28 CFS/ACRE LANDSCAPED "B"
   Q = 3.14 CFS/AC COMPACTED SOIL "C"
   Q = 4.70 CFS/ACRE IMPERVIOUS AREA "D"
   FOR WATERSHEDS LESS THAN OR EQUAL TO 40 ACRES
4. EXCESS PRECIPITATION, E (INCHES), 6 HOUR STORM, ZONE 2, TABLE A-8:
   E = 0.53 INCHES SOIL UNCOMPACTED "A"
   E = 0.78 INCHES LANDSCAPED "B"
   E = 1.13 INCHES COMPACTED SOIL "C"
   E = 2.12 INCHES IMPERVIOUS AREA 'D"
5. EXISTING CONDITIONS ONSITE
   DRAINAGE BASIN OFFSITE "OFF-1" = 1.21ACRES
   EXISTING AND PRE-EXISTING CONDITIONS

TREATMENT	AREA(ACRES)
A	0.53(BACK YARD -UNDISTURBED)
B	0.06(REARYARD-LANDSCAPED)
C	0.53(DRIVEWAY AND FRONT YARD-COMPATED BY HUMAN ACTIVITY)
D	0.09(ROOFS, SIDEWALKS-IMPERVIOUS)

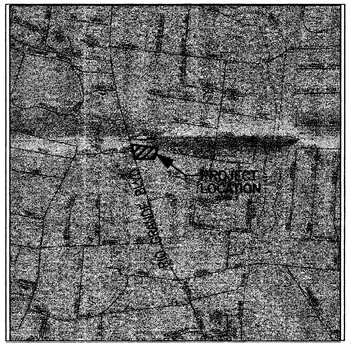
   Q(EXISTING) = (1.56 X 0.53) + (2.28 X 0.06) + (3.14 X 0.53) + (4.70 X 0.09)
   = 3.1CFS EXISTING ONSITE FLOW
   V(EXISTING-6HR) = {(0.53 X 0.53) + (0.78 X 0.06) + (1.13 X 0.53)
   + (2.12 X 0.09)}/ 12} X 43,560 = 4,056CF
   = 0.09AC-FT EXISTING ONSITE VOLUME

6. PROPOSED CONDITIONS ONSITE
   DRAINAGE BASIN "A" = 1.21ACRES TO RIO GRANDE BLVD NW
   IMPERVIOUS BUILDING AREA "D" = 6LOTS X 3,000SF/LOT
   = 18,000SF = 0.41ACRES
   IMPERVIOUS DRIVEWAY AND SIDEWALK AREA "D"= 6LOTS X 600SF/LOT
   =3600SF = 0.08ACRES
   IMPERVIOUS CUL-DE-SAC AREA "D" = 16,211SF = 0.37ACRES
   TOTAL IMPERVIOUS AREA = 0.41 + 0.08 + 0.37ACRES = 0.86ACRES
   REMAINDER OF AREA IS 50% LANDSCAPED AREA "B" AND 50% COMPACTED "C"
   = (1.21 - 0.86)/2 = 0.18ACRES FOR "B" AND "C"

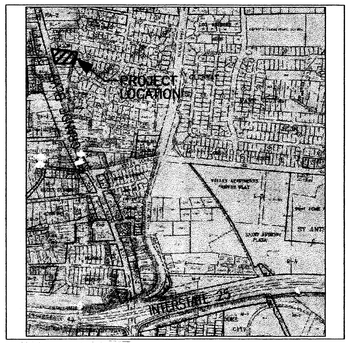
TREATMENT	AREA(ACRES)
A	0
B	0.175
C	0.175
D	0.86

   Q(PROPOSED) = (2.28 X 0.175) + (3.14 X 0.175) + (4.70 X 0.86)
   = 5.0CFS PROPOSED ONSITE FLOW
   Q(INCREASE) = 5.0CFS - 3.1CFS = 1.89CFS INCREASE FROM PRE-EXISTING CONDITIONS

   V(PROPOSED) = ((0.78 X 0.175) + (1.13 X 0.175) + (2.12 X 0.86)}/ 12)
   = 0.18AC-FT = 7,832CF PROPOSED ONSITE VOLUME
   V(INCREASE) = 0.18 - 0.09AC.FT = 0.09ACFT INCREASE FROM PRE-EXISTING CONDITIONS



FIRM MAP 35001C0331D
SCALE: N.T.S.



VICINITY MAP H-13
SCALE: N.T.S.

GRAPHIC SCALE
50 0 50 100
(IN FEET)
1 inch = 50ft.

RECEIVED
NOV 28 2007
HYDROLOGY SECTION

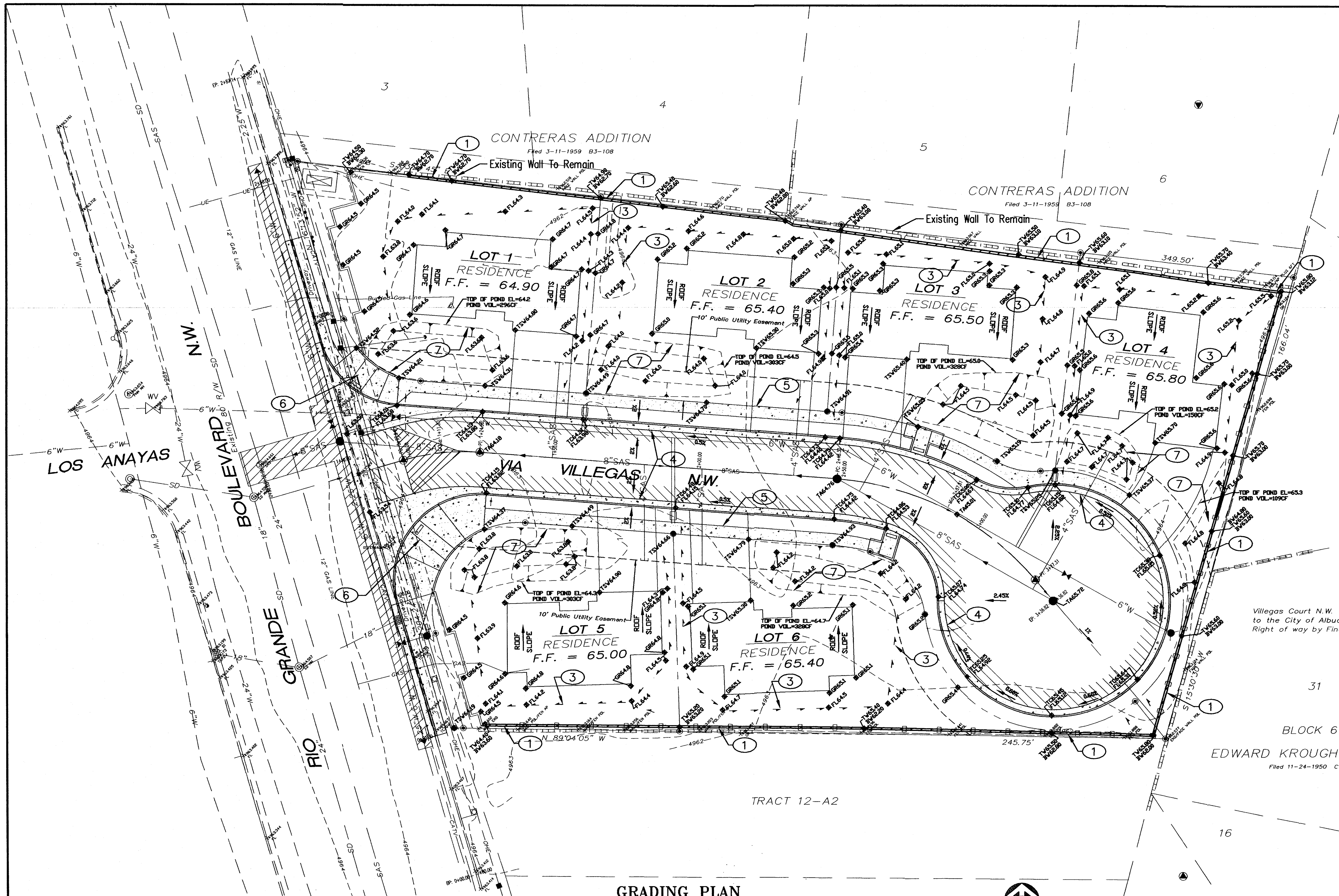
FILE:

VILLEGAS ESTATES
DRAINAGE CALCULATIONS

DATE/REVISIONS:

SHEET NUMBER:
2of2

APPLIED ENGINEERING AND SURVEYING, INC.
ENGINEERS AND PLANNERS
1905 Bluff Drive NE
Office: (505) 400-8125
Albuquerque, New Mexico 87112
Facsimile: (505) 237-8154
email: gabbert47@yahoo.com



GRADING PLAN

SCALE: 1" = 20'

CONSTRUCTION NOTES:

1. CONSTRUCT RETAINING WALL TO NEW GRADES SHOWN.
2. NOT USED
3. GRADE TO DRAIN FROM REAR YARD TO STREET.
4. INSTALL MOUNTABLE CURB, ROLL TYPE PER CITY STD. DWG. 2415A.
5. INSTALL 4' WIDE CONCRETE SIDEWALK PER CITY STD. DWG. 2430.
6. INSTALL (WHEELCHAIR) CURB ACCESS RAMP, CASE II - ADEQUATE R.O.W. PER CITY STD. DWG. 2441.
7. CONSTRUCT RETENTION POND TO LIMITS SHOWN AND GRADES SHOWN FOR A MINIMUM VOLUME OF 265CF. CAPTURE ROOF DRAINAGE WITH CANALES AND DOWNSPOUTS AND DIRECT TO RETENTION POND..

LEGEND

5360	NEW CONTOUR GRADE		NEW GRADE BREAK
5362	EXISTING CONTOUR GRADE		EXISTING GRADE ELEVATION
	DRAINAGE FLOW DIRECTION	GR56.0	NEW GRADE ELEVATION
TC62.50	NEW TOP OF CURB ELEVATION	FL55.3	FLOWLINE GRADE ELEVATION
FL62.00	NEW FLOWLINE OF CURB ELEVATION	TW95.1	NEW TOP OF WALL ELEVATION
TA60.11	NEW TOP OF ASPHALT ELEVATION	BW93.1	NEW BOTTOM OF WALL ELEVATION
TSW61.87	NEW TOP OF SIDEWALK ELEVATION	TOC93.1	NEW TOP OF CONCRETE ELEVATION
	DRAINAGE SWALE		

UTILITY PRECAUTIONS

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LOTS 1 THROUGH 6
VILLEGAS ESTATES

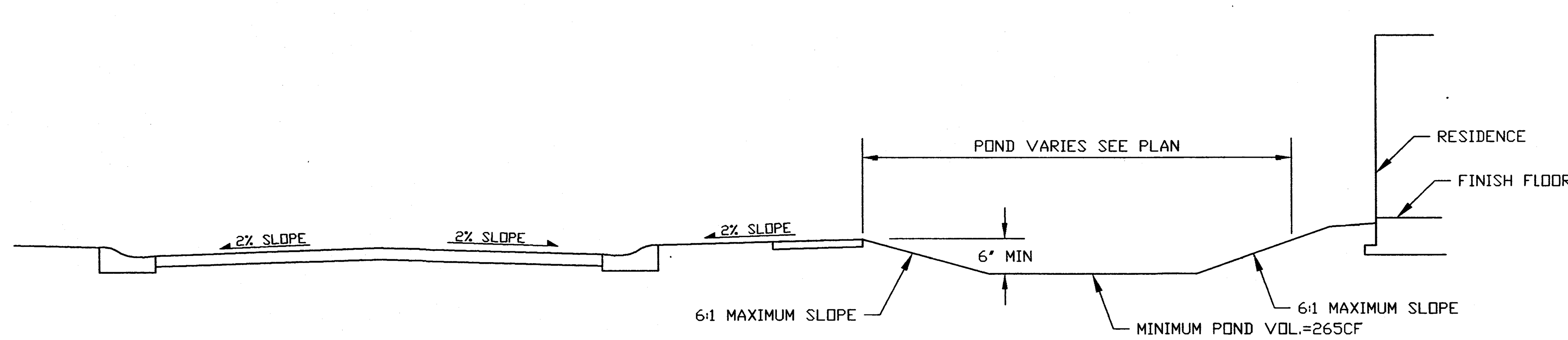
APPROVED FOR ROUGH GRADING:

NAME ____________ DATE ____________

GRAPHIC SCALE

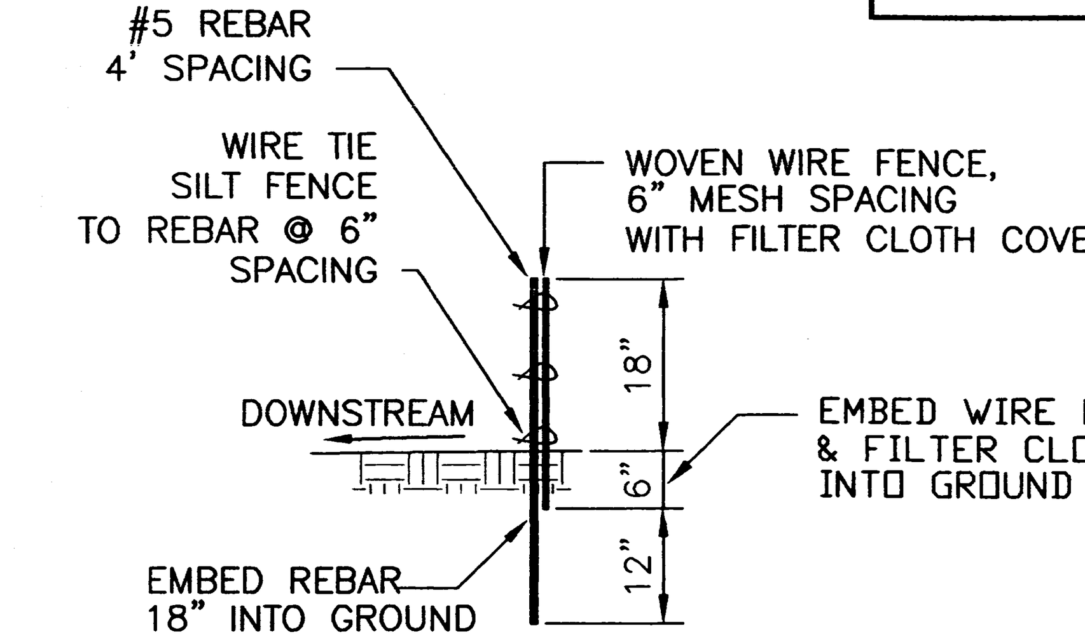
20 0 20 40

(IN FEET)
1 inch = 20ft.



TYPICAL CROSS SECTION THROUGH POND

SCALE: N.T.S.



SILT FENCE DETAIL

A

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

* INSTALL SILT FENCE ALONG THE BACK OF SIDEWALK ALONG RIO GRANDE BLVD. TO KEEP SEDIMENT OUT OF THIS EXISTING STREET.
* THIS PROJECT REQUIRES THE CONTRACTOR TO OBTAIN A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT.

AS BUILT INFORMATION: CONTRACTOR / DATE; WORK STAKED BY / DATE; INSPECTOR'S ACCEPTANCE BY / DATE; FIELD VERIFICATION BY / DATE; DRAWINGS CORRECTED BY / DATE; MICRO-FILM INFORMATION: RECORDED BY / DATE; NO.

BENCH MARKS: BENCHMARK IS AN A.C.S. MONUMENT "3-G12", ELEVATION = 4963.294 (NAVD '29) THE STATION MARK IS A STANDARD ACS BRASS TABLET, STAMPED "3-G12" SET IN TOP OF A CONCRETE POST AT THE WEST SIDE OF THE INTERSECTION OF RIO GRANDE BLVD. N.W. AND MATTHEW AVE. N.W.

SURVEY INFORMATION: FIELD NOTES — NO. / BY / DATE

ENGINEER'S SEAL

REVISIONS: NO. / DATE / REMARKS / BY

DESIGN: DESIGNED BY / DATE; DRAWN BY / DATE; CHECKED BY / DATE

APPLIED ENGINEERING AND SURVEYING, INC.
ENGINEERS AND PLANNERS

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

RECEIVED OCT 28 2013 LAND DEVELOPMENT SECTION

TITLE: **GRADING PLAN**
HACIENDA DON VILLEGAS

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.
FOR INFORMATION ONLY				

City Project No.	Zone Map No.	Sheet	Of
764283	H-13	1	2

DRAINAGE PLAN

THE FOLLOWING ITEMS CONCERNING Tracts 12A1A & 12A1, M.R.G.C.D. MAP 35 on Rio Grande Boulevard NW, NEW MEXICO, GRADING AND DRAINAGE PLAN ARE CONTAINED HEREON:

1. GRADING AND DRAINAGE PLAN
2. VICINITY MAP (H-13)
3. FIRM MAP (35001C0331 D)
4. DRAINAGE CALCULATIONS

EXITING CONDITIONS

AS SHOWN BY THE VICINITY MAP, THE SITE CONTAINS APPROXIMATELY 1.21 ACRES AND IS LOCATED ON THE EAST SIDE OF RIO GRAND BOULEVARD NW, EAST OF LOS ANAYAS STREET NW. THIS SITE HAS CONTAINED AS MANY AS THREE STRUCTURES AT WITH ASSOCIATED DRIVEWAYS AND PAVING. ALL OF THESE STRUCTURES HAVE RECENTLY BEEN REMOVED FOR THIS PROPOSED DEVELOPMENT.

THE SITE TOPOGRAPHY IS FLAT AND IF THE EXISTING SITE EVER OVERFLOWED WITH DRAINAGE WATERS IT APPEARS THE FLOWS WOULD GO IN AN EASTERLY DIRECTION. THE SITE IS CURRENTLY DISTURBED WITH COMPACTION BY HUMAN ACTIVITY.

PROPOSED CONDITIONS

AS SHOWN BY THE PLAN, THE PROJECT CONSISTS OF DEVELOPING SIX NEW LOTS WITH HOMES THAT COULD CONTAIN AS MUCH AS 3000SF WITH ASSOCIATED SIDEWALKS, PARKING AND LANDSCAPING IMPROVEMENTS. A NEW CUL-DE-SAC STREET WILL ALSO BE CONSTRUCTED TO CITY STANDARDS AS PART OF THIS DEVELOPMENT.

PER A MEETING HELD WITH BRAD BINGHAM REGARDING THIS SITE IT IS THE INTENT TO RAISE THIS SITE AND DRAIN TOWARDS RIO GRANDE BOULEVARD. THIS WILL HELP INSURE THAT IF RIO GRANDE BOULEVARD NW SHOULD EXPERIENCE SIGNIFICANT FLOODING IT SHOULD NOT IMPACT THIS SITE. THIS PLAN ALSO SHOWS PROPOSED ELEVATIONS REQUIRED TO PROPERLY DRAIN AND GRADE THIS SITE ALONG WITH REQUIRED DRAINAGE SWALES AND ROOF DIRECTIONS TO INSURE MINIMAL IMPACTS TO ADJACENT NEIGHBORS. ALL DRIVEWAYS AND PARKING AREAS WILL BE CALCULATED AS IF THEY ARE PAVED, LANDSCAPING IS TO BE PROVIDED PER ZONING REQUIREMENTS.

THE CALCULATIONS WHICH APPEAR HEREON, ANALYZE BOTH THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100-YEAR, 6 HOUR RAINFALL RUNOFF FOR PEAK FLOWS AND STORM DURATION FOR VOLUME REQUIREMENTS. THE PROCEDURE FOR 40 ACRE AND SMALLER BASINS AS SET FORTH IN THE REVISION OF SECTION 22.7 HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, DATED JANUARY 1993. THIS D.P.M. PROCEDURE IS USED FOR ANALYZING ONSITE FLOWS.

DOWNSTREAM CAPACITY

PER A MEETING WITH BRAD BINGHAM THE STORM DRAIN IN RIO GRANDE BOULEVARD NW IS LARGE ENOUGH TO HANDLE ADDITIONAL OFFSITE FLOWS ALONG RIO GRANDE BOULVARD NW AND IS DEEP ENOUGH THAT FREE DISCHARGE INTO THIS STORM DRAIN IS NOT AN ISSUE. ALSO REVIEW OF THE FIRM MAP IN THIS AREA INDICATES THERE ARE NO 100-YEAR FLOODPLAINS ALONG RIO GRANDE BOULEVARD ASSOCIATED WITH THIS EXISTING STORM DRAIN OR ANY FLOODPLAINS ADJACENT TO THIS SITE SO FREE DISCHARGE SHOULD NOT BE AN ISSUE.

SINCE THIS SITE HAS BEEN DEVELOPED IN THE PAST WITH RESIDENTIAL HOMES AND WITH THE SMALL INCREASE OF RUNOFF FROM THIS DEVELOPMENT THAT THIS DEVELOPMENT SHOULD NOT FURTHER AGGRAVATE THE EXISTING STORM DRAIN SYSTEMS BASED ON THE ATTACHED CALCULATIONS.

EROSION CONTROL

TEMPORARY EROSION CONTROL WILL BE REQUIRED DURING THE CONSTRUCTION PHASE TO PROTECT DOWNSTREAM PROPERY AND IMPROVEMENTS FROM SEDIMENT AND UNCONTROLLED RUNOFF. THE CONTRACTOR SHALL INCLUDE TEMPORARY EARTH BERMING OR SILT FENCING ALONG THE SOUTH, NORTH, EAST AND WEST SIDE OF THE PROJECT BOUNDARIES TO HOLD RUNOFF DURING CONSTRUTION. THE CONTRACTOR SHALL ALSO PREPARE A STORM WATER POLLUTION PREVENTION PLAN AS PART OF THE NOTICE OF INTENT TO EPA. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROPERLY MAINTAIN THESE FACILITIES DURING THE CONSTRUCTION PHASE OF THE PROJECT.

OFFSITE FLOWS

THERE ARE NO OFFSITE FLOWS THAT ENTER THIS PROPERTY.

DRAINAGE CALCULATIONS

1. PRECIPITATION ZONE = 2
2. DESIGN STORM = DEPTH (INCHES) AT 100-YEAR STORM
   6-HOUR = 2.35 INCHES
   10 DAY = 3.95 INCHES
3. PEAK DISCHARGE (CFS/ACRE) FIR 100-YEAR, ZONE 2, TABLE A-9:
   Q = 1.56 CFS/ACRE SOIL UNCOMPACTED "A"
   Q = 2.28 CFS/ACRE LANDSCAPED "B"
   Q = 3.14 CFS/AC COMPACTED SOIL "C"
   Q = 4.70 CFS/ACRE IMPERVIOUS AREA "D"
   FOR WATERSHEDS LESS THAN OR EQUAL TO 40 ACRES
4. EXCESS PRECIPITATION, E (INCHES), 6 HOUR STORM, ZONE 2, TABLE A-8:
   E = 0.53 INCHES SOIL UNCOMPACTED "A"
   E = 0.78 INCHES LANDSCAPED "B"
   E = 1.13 INCHES COMPACTED SOIL "C"
   E = 2.12 INCHES IMPERVIOUS AREA 'D"
5. EXISTING CONDITIONS ONSITE
   DRAINAGE BASIN OFFSITE "OFF-1" = 1.21ACRES
   EXISTING AND PRE-EXISTING CONDITIONS

TREATMENT	AREA(ACRES)
A	0.53(BACK YARD -UNDISTURBED)
B	0.06(REARYARD-LANDSCAPED)
C	0.53(DRIVEWAY AND FRONT YARD-COMPATED BY HUMAN ACTIVITY)
D	0.09(ROOFS, SIDEWALKS-IMPERVIOUS)

   Q(EXISTING) = (1.56 X 0.53) + (2.28 X 0.06) + (3.14 X 0.53) + (4.70 X 0.09)
   = 3.1CFS EXISTING ONSITE FLOW
   V(EXISTING-6HR) = ((0.53 X 0.53) + (0.78 X 0.06) + (1.13 X 0.53)
   + (2.12 X 0.09))/ 12) X 43,560 = 4,056CF
   = 0.09AC-FT EXISTING ONSITE VOLUME

6. PROPOSED CONDITIONS ONSITE
   DRAINAGE BASIN "A" = 1.21ACRES TO RIO GRANDE BLVD NW
   IMPERVIOUS BUILDING AREA "D" = 6LOTS X 3,000SF/LOT
   = 18,000SF = 0.41ACRES
   IMPERVIOUS DRIVEWAY AND SIDEWALK AREA "D"= 6LOTS X 600SF/LOT
   =3600SF = 0.08ACRES
   IMPERVIOUS CUL-DE-SAC AREA "D" = 16,211SF = 0.37ACRES
   TOTAL IMPERVIOUS AREA = 0.41 + 0.08 + 0.37ACRES = 0.86ACRES
   REMAINDER OF AREA IS 50% LANDSCAPED AREA "B" AND 50% COMPACTED "C"
   = (1.21 - 0.86)/2 = 0.18ACRES FOR "B" AND "C"

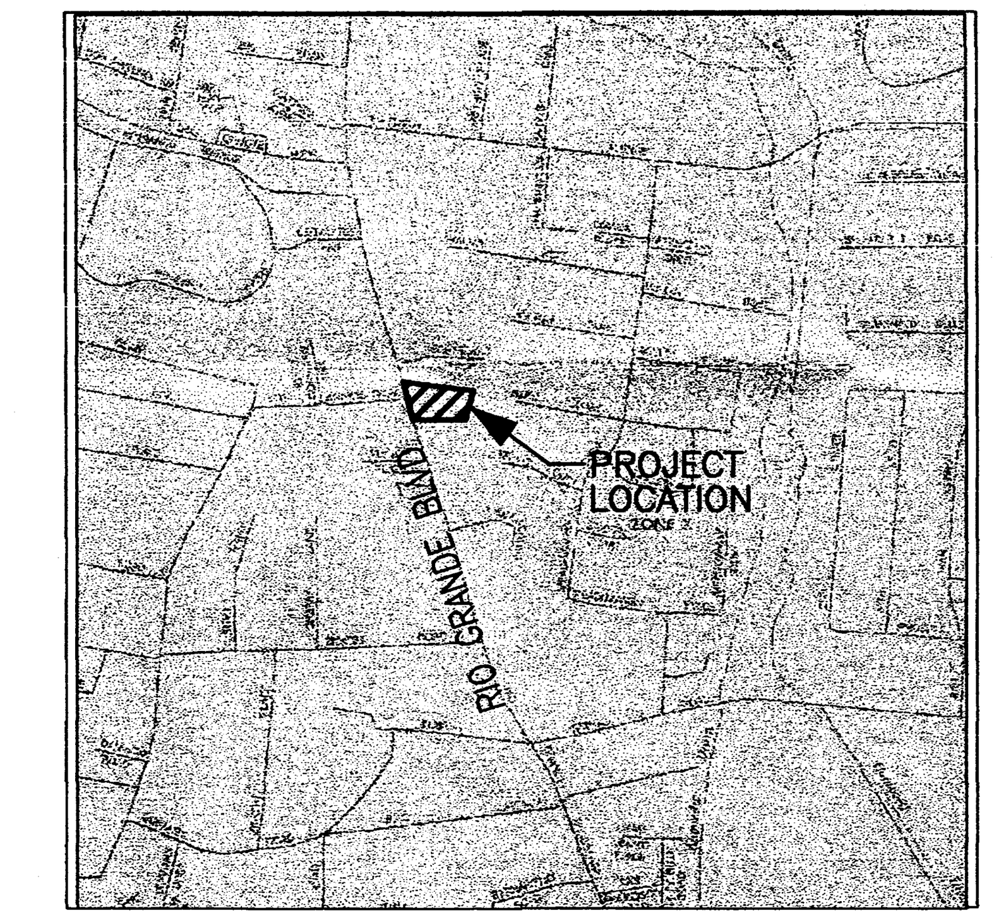
TREATMENT	AREA(ACRES)
A	0
B	0.175
C	0.175
D	0.86

   Q(PROPOSED) = (2.28 X 0.175) + (3.14 X 0.175) + (4.70 X 0.86)
   = 5.0CFS PROPOSED ONSITE FLOW
   Q(INCREASE) = 5.0CFS - 3.1CFS = 1.89CFS INCREASE FROM PRE-EXISTING CONDITIONS

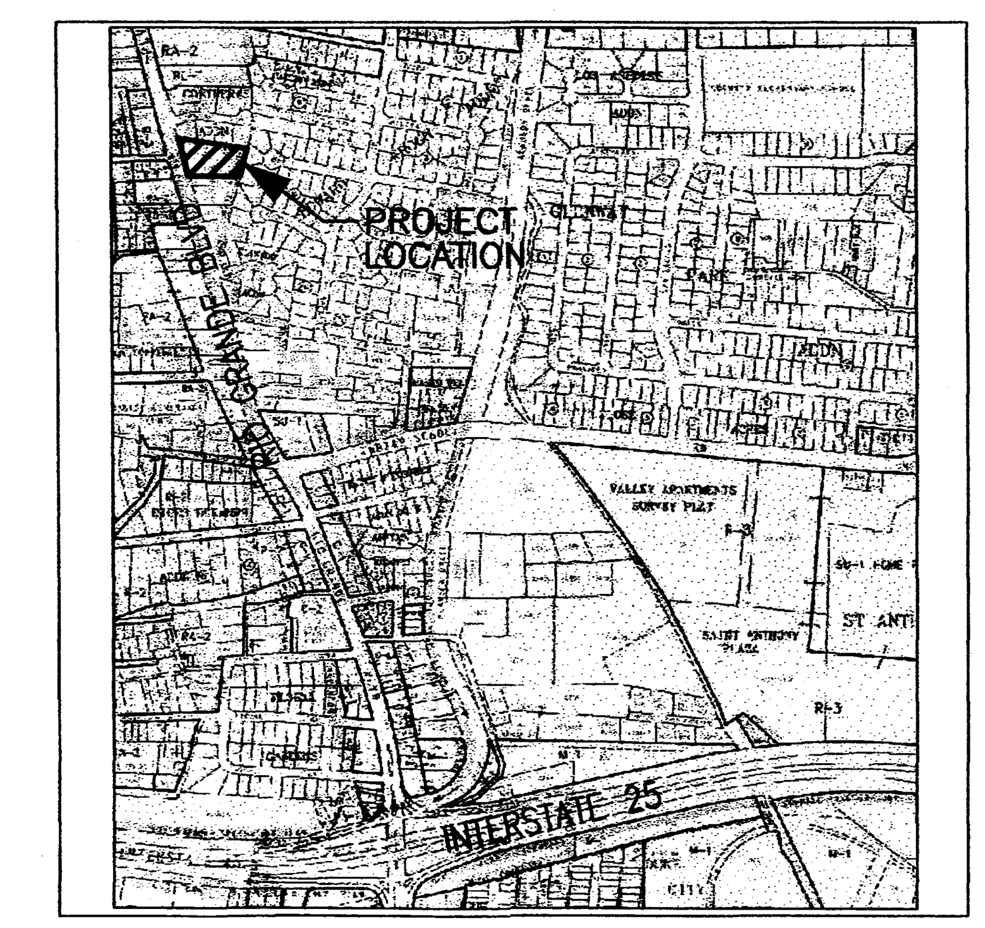
   V(PROPOSED) = ((0.78 X 0.175) + (1.13 X 0.175) + (2.12 X 0.86))/ 12)
   = 0.18AC-FT = 7,832CF PROPOSED ONSITE VOLUME
   V(INCREASE) = 0.18 - 0.09AC.FT = 0.09ACFT INCREASE FROM PRE-EXISTING CONDITIONS

7. PROPOSED VOLUME TO RETAIN ROOF RUNOFF IN FRONT AND SIDEYARDS.
   ASSUME MAXIMUM ROOF AREA = 2000SF FOR TYPICAL LOT
   IMPERVIOUS AREA "D" = 2000SF = 0.0459ACRES
   V(PROPOSED) = ((2.12 X 0.0459)/12) = 0.0081AC-FT = 353CF
   V(EXISTING) = ((0.53 X 0.0459)/12) = 0.0020 AC-FT = 88CF
   DETAIN DIFFERENCE BETWEEN DEVELOPED AND UNDEVELOPED CONDITIONS
   V(DELTA) = 353CF - 88CF =265CF VOLUME REQUIRED

8. PROPOSED VOLUME PROVIDED
   LOT 1: VOL=((372SF +813SF)/2) X 0.5FT = **296CF>265CF OK**
   LOT 2: VOL=((353SF +859SF)/2) X 0.5FT = **303CF>265CF OK**
   LOT 3: VOL=((307SF +1008SF)/2) X 0.5FT = **328CF>265CF OK**
   LOT 4: VOL=((223SF +409SF)/2) X 0.5FT + ((140SF +294SF)/2) X 0.5FT = **267CF>265CF OK**
   LOT 5: VOL=((272SF +831SF)/2) X 0.5FT = **290CF>265CF OK**
   LOT 1: VOL=((311SF +846SF)/2) X 0.5FT = **290CF>265CF OK**



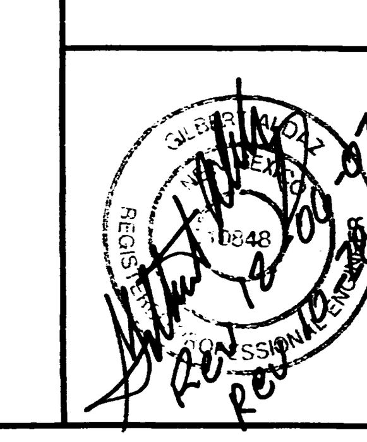
FIRM MAP 35001C0331D
SCALE: N.T.S.



VICINITY MAP H-13
SCALE: N.T.S.

GRAPHIC SCALE
50 0 50 100
(IN FEET)
1 inch = 50ft.

FILE:

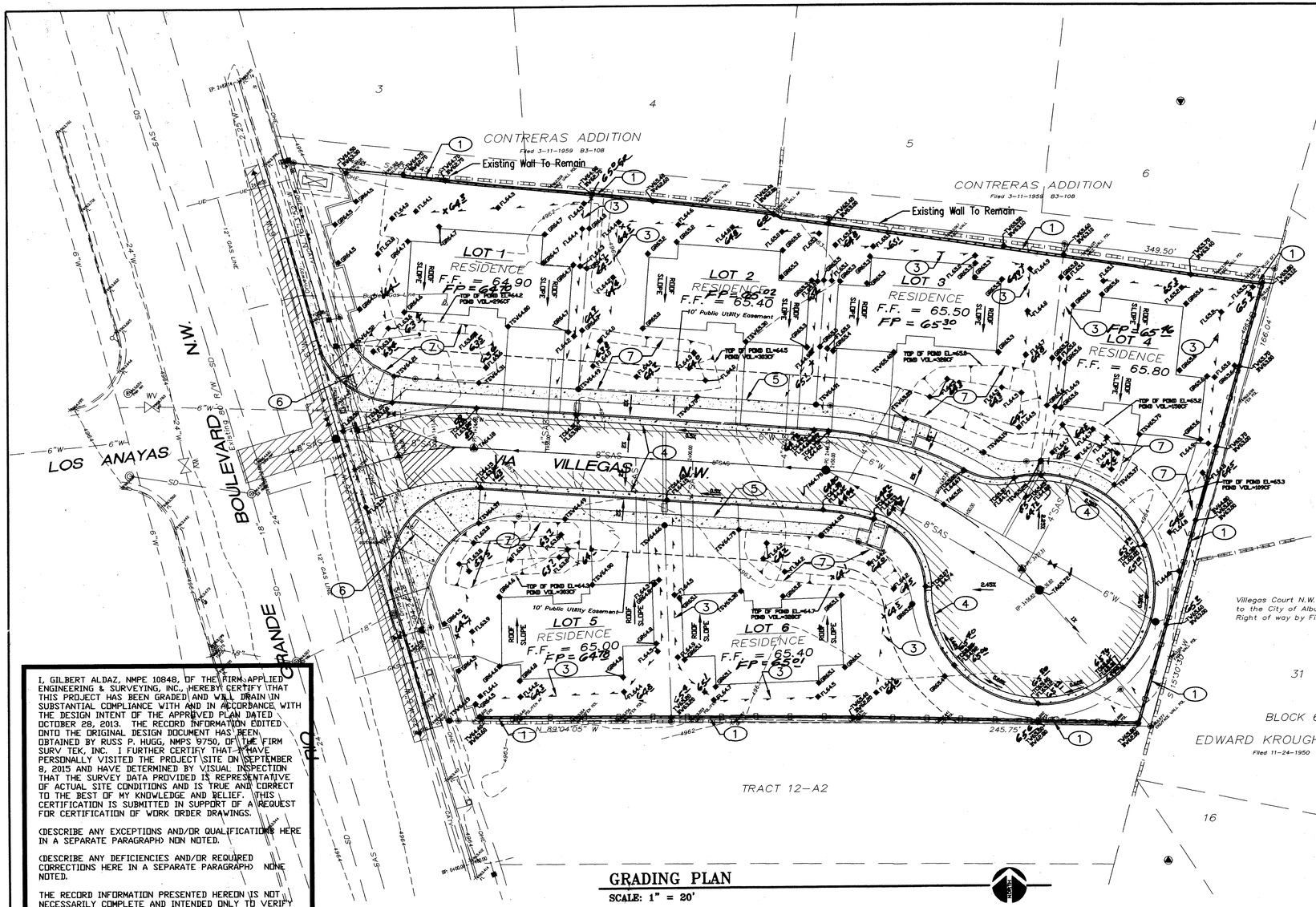


HACIENDA DON VILLEGAS
DRAINAGE CALCULATIONS

APPLIED ENGINEERING AND SURVEYING, INC.
ENGINEERS AND PLANNERS
1605 Blair Drive NE
Albuquerque, New Mexico 87112
Office: (505) 480-8125
Facsimile: (505) 237-8164
email: galdaz47@yahoo.com

DATE/REVISIONS:

SHEET NUMBER: 2of2



CONSTRUCTION NOTES:

1. CONSTRUCT RETAINING WALL TO NEW GRADES SHOWN.
2. NOT USED
3. GRADE TO DRAIN FROM REAR YARD TO STREET.
4. INSTALL MOUNTABLE CURB, ROLL TYPE PER CITY STD. DWG. 2415A.
5. INSTALL 4' WIDE CONCRETE SIDEWALK PER CITY STD. DWG. 2430.
6. INSTALL (WHEELCHAIR) CURB ACCESS RAMP, CASE II - ADEQUATE R.O.W. PER CITY STD. DWG. 2441.
7. CONSTRUCT RETENTION POND TO LIMITS SHOWN AND GRADES SHOWN FOR A MINIMUM VOLUME OF 265CF. CAPTURE ROOF DRAINAGE WITH CANALES AND DOWNSPOUTS AND DIRECT TO RETENTION POND.,

LEGEND

5360 — NEW CONTOUR GRADE	NEW GRADE BREAK
5362 — EXISTING CONTOUR GRADE	X 1364 EXISTING GRADE ELEVATION
DRAINAGE FLOW DIRECTION	GRS60.0 AS-BUILT NEW GRADE ELEVATION
TC62.50 AS-BUILT NEW TOP OF CURB ELEVATION	FL62.00 AS-BUILT FLOWLINE GRADE ELEVATION
FL62.00 AS-BUILT NEW FLOWLINE OF CURB ELEVATION	TW63.1 AS-BUILT NEW TOP OF WALL ELEVATION
TA60.11 AS-BUILT NEW TOP OF ASPHALT ELEVATION	BW63.1 AS-BUILT NEW BOTTOM OF WALL ELEVATION
TSW61.62 AS-BUILT NEW TOP OF SIDEWALK ELEVATION	TOC63.12 AS-BUILT TOP OF CONCRETE ELEVATION
DRAINAGE SWALE	

FP= 65.40 Finish Pad Elevation

UTILITY PRECAUTIONS

THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE 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. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.

LOTS 1 THROUGH 6
VILLEGAS ESTATES

APPROVED FOR ROUGH GRADING:

NAME _____ DATE _____

I, GILBERT ALDAZ, NMPE 10848, OF THE FIRM APPLIED ENGINEERING & SURVEYING, INC., HEREBY CERTIFY THAT THIS PROJECT HAS BEEN GRADED AND WILL DRAIN IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN DATED OCTOBER 28, 2013. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT HAS BEEN OBTAINED BY RUSS P. HUGG, NMPS 9750, OF THE FIRM SURV TEK, INC. I FURTHER CERTIFY THAT I HAVE PERSONALLY VISITED THE PROJECT SITE ON SEPTEMBER 8, 2015 AND HAVE DETERMINED BY VISUAL INSPECTION THAT THE SURVEY DATA PROVIDED IS REPRESENTATIVE OF ACTUAL SITE CONDITIONS AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED IN SUPPORT OF A REQUEST FOR CERTIFICATION OF WORK ORDER DRAWINGS.

(DESCRIBE ANY EXCEPTIONS AND/OR QUALIFICATIONS HERE IN A SEPARATE PARAGRAPH) NON NOTED.

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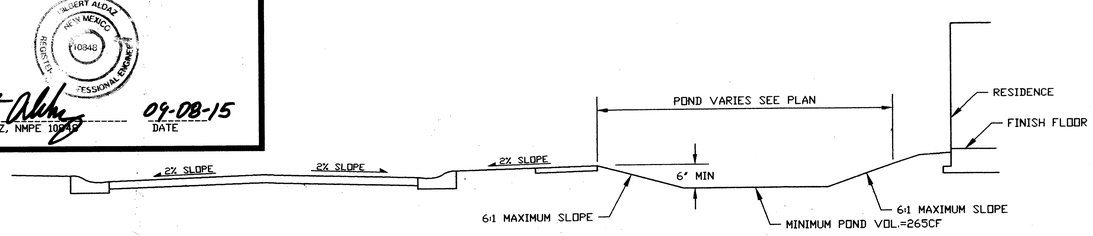
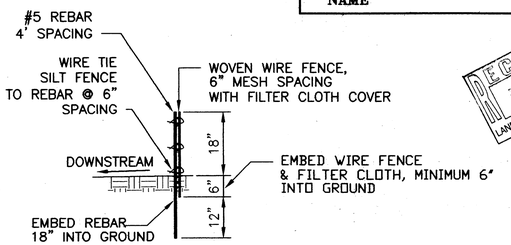
GILBERT ALDAZ, NEW MEXICO, 10848, REGISTERED PROFESSIONAL ENGINEER

GILBERT ALDAZ, NMPE 10848 — DATE 09-08-15

GRADING PLAN
SCALE: 1" = 20'



TYPICAL CROSS SECTION THROUGH POND
SCALE: N.T.S.



SILT FENCE DETAIL
SCALE: 1/2" = 1'-0"

* INSTALL SILT FENCE ALONG THE BACK OF SIDEWALK ALONG RIO GRANDE BLVD. TO KEEP SEDIMENT OUT OF THIS EXISTING STREET.
* THIS PROJECT REQUIRES THE CONTRACTOR TO OBTAIN A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT.

RECEIVED DEC 01 2015 LAND DEVELOPMENT SECTION

GRAPHIC SCALE
20 0 20 40
(IN FEET)
1 inch = 20ft.

APPLIED ENGINEERING AND SURVEYING, INC.
ENGINEERS AND PLANNERS
1400 Bob Price NE, Albuquerque, New Mexico 87112
Office: (505) 237-1406 Facsimile: (505) 237-1406

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

TITLE: GRADING PLAN
HACIENDA DON VILLEGAS

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.
FOR INFORMATION ONLY				

City Project No. 764283 | Zone Map No. H-13 | Sheet 3 Of 7

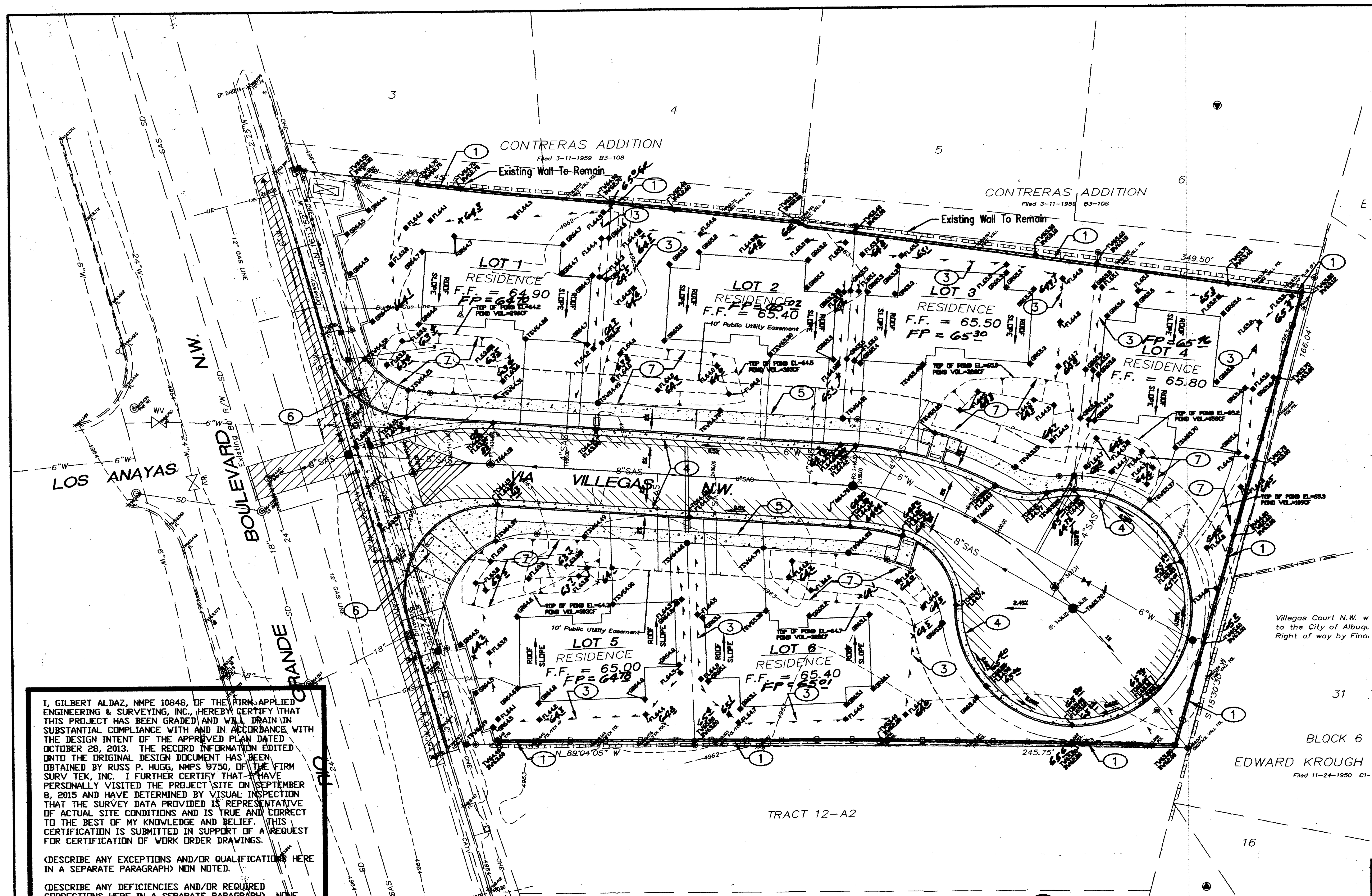
AS BUILT INFORMATION
CONTRACTOR RGS Const, LLC DATE 09/15
WORK STAKED BY Surv-Tek DATE 09/15
ACCEPTANCE BY A.E.S. DATE 09/15
FIELD LOCATION BY A.E.S. DATE 09/15
DRAWINGS CORRECTED BY A.E.S. DATE 09/16
MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS
BENCHMARK IS AN A.C.S. MONUMENT
"3-G12", ELEVATION = 4963.294,
(NAVD) 29) THE STATION MARK IS A
STANDARD ACS BRASS TABLET,
STAMPED "3-G12", SET IN TOP OF A
CONCRETE POST AT THE WEST SIDE
OF THE INTERSECTION OF RIO
GRANDE BLVD. N.W. AND MATTHEW
AVE. N.W.

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

ENGINEER'S SEAL
NEW MEXICO 10848 REGISTERED PROFESSIONAL ENGINEER

NO. DATE REMARKS BY
REVISIONS
DESIGNED BY DATE
DRAWN BY DATE
CHECKED BY DATE



GRADING PLAN

SCALE: 1" = 20'

CONSTRUCTION NOTES:

1. CONSTRUCT RETAINING WALL TO NEW GRADES SHOWN.
2. NOT USED
3. GRADE TO DRAIN FROM REAR YARD TO STREET.
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LEGEND

5360	NEW CONTOUR GRADE		NEW GRADE BREAK
5362	EXISTING CONTOUR GRADE	58.94	EXISTING GRADE ELEVATION
	DRAINAGE FLOW DIRECTION	GR56.0 (56.1 AS-BUILT)	NEW GRADE ELEVATION
TC62.50 (62.40 AS-BUILT)	NEW TOP OF CURB ELEVATION	FL56.0 (55.9 AS-BUILT)	FLOWLINE GRADE ELEVATION
FL62.00 (61.70 AS-BUILT)	NEW FLOWLINE OF CURB ELEVATION	TW95.1 (95.0 AS-BUILT)	NEW TOP OF WALL ELEVATION
TA60.11 (60.00 AS-BUILT)	NEW TOP OF ASPHALT ELEVATION	BW93.1 (93.0 AS-BUILT)	NEW BOTTOM OF WALL ELEVATION
TSW61.87 (61.70 AS-BUILT)	NEW TOP OF SIDEWALK ELEVATION	TOC93.1 (93.0 AS-BUILT)	NEW TOP OF CONCRETE ELEVATION
	DRAINAGE SVALE		

FP= 65.46 Finish Pad Elevation

UTILITY PRECAUTIONS

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LOTS 1 THROUGH 6
VILLEGAS ESTATES

APPROVED FOR ROUGH GRADING:

NAME ____________ DATE ________

I, GILBERT ALDAZ, NMPE 10848, OF THE FIRM APPLIED ENGINEERING & SURVEYING, INC., HEREBY CERTIFY THAT THIS PROJECT HAS BEEN GRADED AND WILL DRAIN IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN DATED OCTOBER 28, 2013. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT HAS BEEN OBTAINED BY RUSS P. HUGG, NMPS 9750, OF THE FIRM SURV TEK, INC. I FURTHER CERTIFY THAT I HAVE PERSONALLY VISITED THE PROJECT SITE ON SEPTEMBER 8, 2015 AND HAVE DETERMINED BY VISUAL INSPECTION THAT THE SURVEY DATA PROVIDED IS REPRESENTATIVE OF ACTUAL SITE CONDITIONS AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED IN SUPPORT OF A REQUEST FOR CERTIFICATION OF WORK ORDER DRAWINGS.

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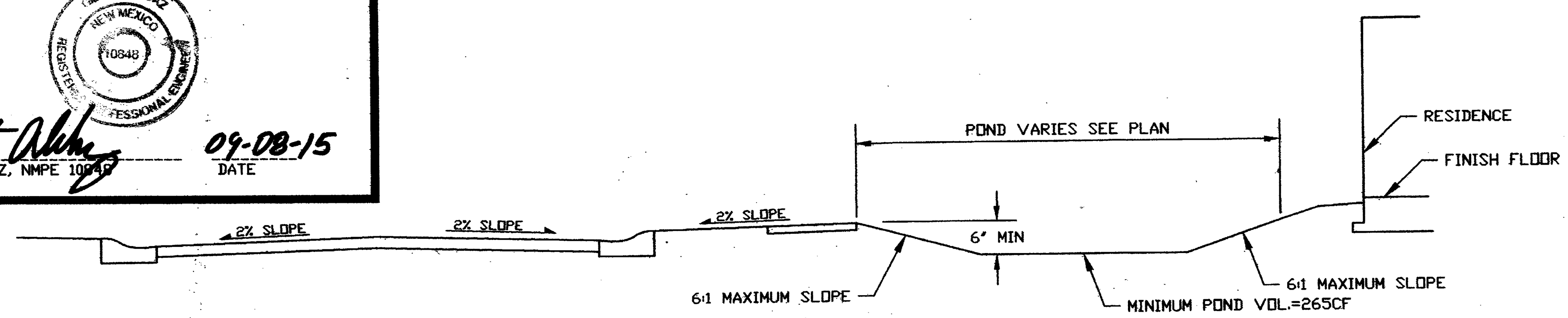
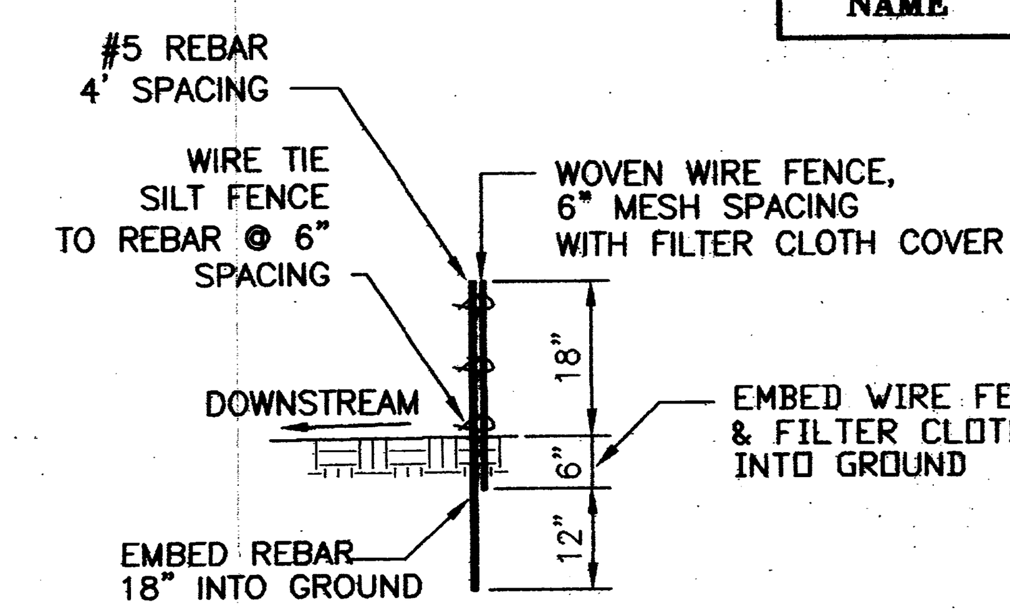
GILBERT ALDAZ NEW MEXICO 10848 REGISTERED PROFESSIONAL ENGINEER

GILBERT ALDAZ, NMPE 10848 — DATE: 09-08-15



TYPICAL CROSS SECTION THROUGH POND

SCALE: N.T.S.



SILT FENCE DETAIL (A)

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

- INSTALL SILT FENCE ALONG THE BACK OF SIDEWALK ALONG RIO GRANDE BLVD. TO KEEP SEDIMENT OUT OF THIS EXISTING STREET.
- THIS PROJECT REQUIRES THE CONTRACTOR TO OBTAIN A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT.

GRAPHIC SCALE: 20 0 20 40 (IN FEET) 1 inch = 20ft.

BENCH MARKS

BENCHMARK IS AN A.C.S. MONUMENT "3-G12", ELEVATION = 4963.294, (NAVD '29) THE STATION MARK IS A STANDARD ACS BRASS TABLET, STAMPED "3-G12", SET IN TOP OF A CONCRETE POST AT THE WEST SIDE OF THE INTERSECTION OF RIO GRANDE BLVD. N.W. AND MATTHEW AVE N.W.

AS BUILT INFORMATION

CONTRACTOR: RGS Const. LLC — DATE 09/15
WORK STAKED BY: Surv-Tek — DATE 09/15
INSPECTOR'S ACCEPTANCE BY: A.E.S. — DATE 09/15
FIELD VERIFICATION BY: A.E.S. — DATE 09/15
DRAWINGS CORRECTED BY: A.E.S. — DATE 09/15

MICRO-FILM INFORMATION — RECORDED BY / DATE

SURVEY INFORMATION — FIELD NOTES: NO. / BY / DATE

ENGINEER'S SEAL

REVISIONS: NO. / DATE / REMARKS / BY — DESIGN DATE, DESIGNED BY, DRAWN BY, CHECKED BY

APPLIED ENGINEERING AND SURVEYING, INC.
ENGINEERS AND PLANNERS

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

TITLE: **GRADING PLAN**
HACIENDA DON VILLEGAS

Design Review Committee	City Engineer Approval	Last Design Update
FOR INFORMATION ONLY		

City Project No.	Zone Map No.	Sheet	Of
764283	H-13	3	7